



OPERATION INSTRUCTION MANUAL

MANUFACTURING DATA REPORT

5688B - BIODIESEL ARGENT II BV
1 x Vert. St. Steel Tanks B120300
Cap. ca 198m³ /242m³

ZIEMANN-HOLVRIEKA NV
Wervikstraat 350 - 8930 - MENEN - BELGIUM

C O N T E N T S

Client	: BIODIESEL ARGENT II BV
Order	: 5688B
Name of the tank	: 1 x Vert. St. Steel Tanks B120300 Cap. ca 198m ³ /242m ³
Drawing	: A0051-5688B-0821

- 1- Declaration of conformity**
- 2- Operation Instruction Manual & Safety Instructions**
- 3- Control plan**
- 4- Calculations**
- 5- Material traceability records**
- 6- Welding procedures**
- 7- Certification of welders**
- 8- Non-destructive tests**
- 9- Pressure test on vessel**
- 10- Gauge table**
- 11- Verification nameplate**
- 12- Drawings**

DECLARATION OF CONFORMITY

5688B - BIODIESEL ARGENT II BV
1 x Vert. St. Steel Tanks B120300
Cap. ca 198m³ /242m³

Declaration of conformity

Number: 5688B

Company:



Adress: Wervikstraat 350, B-8930 Menen, Belgium

Phone: 0032 56 51 42 51

Ordernumber: 5688B

Fabrication number: B120300

Client: BIODIESEL ARGENT II BV

Design, Manufacturing and Inspection Code: EN14015

Manufacturing year: 2022

Atmospheric vessel: 1 x Vert. St. Steel Tank B120300

Technical Data:

- single walled
- Main dimensions: Ø6200 mm x 9297 mm
- Capacity: 198000L
- Contents: Biodiesel
- Density: 0.875 kg/l

The vessel is manufactured conform the reprtnumber–delivered by ATLC - Dirk Andries
report number ATLC 19 / 220627 /04

A handwritten signature in blue ink, appearing to read 'Dirk Andries', with a large, sweeping horizontal stroke above the name.

Signature:



Quality - Harald Verhegge



ATLC BV
Schaliënhoeverdreef 20T
B-2800 MECHELEN

GSM: 0471/35.85.70
Tel.: 015/79.65.16
Fax: 015/79.65.10
Email: dirk.andries@atlc.be

ZIEMANN HOLVRIEKA N.V.

Wervikstraat 350
B-8930 MENEN

Uw kenmerk: Biodiesel Argent II/ RVS Tank 5688B/B120300

Ons kenmerk: 800006/WVL/Biodiesel Argent II/r/ RVS Tank 5688B/B120300 / Rapport controle bouw

RAPPORT nummer: 19/220627/04

CONTROLE OP DE BOUW VAN EEN BOVENGRONDSE HOUDER

Datum(s) onderzoek : 13/12/2021 en 10/02 en 8-27/06 en 10/10/2022 en 26/01/2023

Locatie onderzoek : **ZIEMANN HOLVRIEKA N.V., Wervikstraat 350, B-8930 MENEN**
ATLC (dossier)

Aanwezige personen : Dhr. A. Dirven, Dhr. R. Duchateau, Dhr. H. Verhegge, Dhr. S. Holvoet en technici

1. IDENTIFICATIEGEGEVENS EN KENMERKEN HOUDER

Fabrikant	: ZIEMANN HOLVRIEKA	Fabricagenummer:	B120300
Bouwjaar	: 2022	Volgnummer:	5688B
Type	: Verticaal, RVS	Enkelwandig	Ø 6,2 x H 7,5 m
Ontwerpdruk	: -10/+200 mbar	Maximum werkdruk:	Atm.
Proefdruk	: FoW (zie 3 en 4)*	Controle bouw:	ATLC, IWE-BE00130
Ontwerptemperatuur	: +40° C	Constructiecode:	EN 14015 : 2004
Inhoud	: 198000 liter (nominaal)	Constructiemateriaal:	1.4307 (304L)/1.4404 (316L)
Product - dichtheid	: ≤ 0,875 kg/liter, en volgens bestendigheid en vergunning	Corrosietoeslag:	0 mm

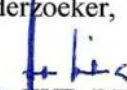
Beknorte beschrijving: Bovengrondse, verticale, cilindrische, enkelwandige RVS opslagtank met vlakke bodem met ankerstoelen voor verankering° en met vast conisch dak (20°)

2. ONDERZOEK**3. INBREUKEN-OPMERKINGEN-NOTA'S**

- ☐ Controle op de bouw van een vaste bovengrondse houder volgens Vlare II, Bijlage 5.17.2.
☒ Controle op de bouw volgens erkende constructiecode: EN 14015 : 2004
Details, onderzoeksresultaten, eventuele opmerkingen en nota's: zie dossier.

4. BESLUIT

Het onderzoek en de uitgevoerde controles overeenkomstig EN 14015 hebben voldoening geschonken. Een hydraulische* beproeving met gevulde houder is nog uit te voeren na transport en definitieve plaatsing, alsook het onderzoek voor ingebruikname volgens de toepasselijke voorschriften, na plaatsing en aansluiting van de beveiligingen en toebehoren.

De onderzoeker,

Ing. D. Andries, IWE-BE 00130



2.	ONDERZOEK
2.1	<u>Basis onderzoek:</u> ☐ Controle op de bouw van een vaste bovengrondse houder overeenkomstig Vlare II, Bijlage 5.17.2. ☒ Controle op de bouw volgens erkende constructiecode: EN 14015 : 2004
2.2	<u>Details onderzoek:</u> ☐ Controle op de bouw van een vaste bovengrondse houder volgens Vlare II, Bijlage 5.17.2. ☒ Controle op de bouw van een vaste bovengrondse houder volgens erkende constructiecode: EN 14015 : 2004 Voorgelegd dossier ZIEMANN HOLVRIEKA, referentie 5688B, met conformiteitsverklaring, berekeningen, controleplan, lasprocedures (WPS/WPAR), lasserkwalificaties, NDO rapportering, materiaalcertificaten EN 10204-3.1 met lay-out en overzichtsjijst, tekening nr. A0051-5688B-0821 en tekeningen detail naamplaat en transport, bedienings- en veiligheidsinstructies, verdere detailgegevens houder, volgens opgave: Hoofdafmetingen houder: - Diameter: 6,2 m - Hoogte: 7,5 m (cilindrische hoogte) / (totale hoogte: 9297m) - Wanddikten: 5 mm (1^{ste} plaatgang), 4 mm (2^{de} tot en met 5^{de} = bovenste plaatgang) - Bodem: dikte 5 mm, met afgeronde opstaande rand ($R=65\text{ mm}$ & $H=80\text{ mm}$) - Dak: Vast conisch dak (20°) met afgeronde dakrand ($R=65\text{ mm}$), dikte dakplaten: 6 mm, met centrale buisstomp ontluchting DN200 en flens PN10 Bijzondere kenmerken: - Mangaten: Mantel (MH01): 1 x DN600, Dak (MH02): 1 x DN600 - Kooiladder (LA), 4 Hijsogen (LL), aarding (EL) - 18 Ankerstoelen (AP) voor verankeringen M24, uitvoering met supplementaire dwarsstaaf $\varnothing 20\text{ mm}$ - Buis DN80 (N14) leeglaat / drain, met bocht onderaan bodem - De houder wordt geïsoleerd en is berekend en bestemd voor opstelling binnen. - Verdere details zie dossier 5688B en uitvoeringsdetails op tekening
2.3	<u>Onderzoeksresultaten:</u> <u>Onderzoekdata controle op de bouw:</u> - <u>13/12/2021:</u> Goedkeuring constructiecode EN 14015 : 2004: aanvaardbaar; werkplaatsbezoek met beoordeling lasprocedures, laswerk en controle materialen en eerste deel voorgelegde documenten. - <u>10/02 en 8-27/06 en 10/10/2022:</u> Vervolg controlebezoeken werkplaatsen met verificatie materialen, inwendig en uitwendig onderzoek, beoordeling NDO (RT & PT & vacuümtesten) en controle tekeningen, berekeningen, lasserkwalificaties en controleplan. - <u>10/10/2022 en 26/01/2023:</u> Vervolg onderzoek met controle uitvoeringsdossier houder met as built documenten, met tekening nr. A0051-5688B-0821 Mod. V, tekeningen detail naamplaat en transport, bedienings- en veiligheidsinstructies, berekeningsnota's EN 14015 houder, aansluitingen, verankeringen en hijsogen (4 'lifting lugs' bovenaan houder), controleplan,



- Vervolg Blz. 2: lasmethodebeschrijvingen (WPS) nrs. WPS 02.2A/03.2A/04.3A/06.1A/08.1A/09A/09.3A/17.2A/21.2A/24A/25.1A/25.2A en 26A en overeenstemmende lasprocedurekwalificaties (WPAR) nrs. 03992 ADM (proces 141 BW) / 03993 ADM (proces 15 BW) / 03994 ADM (proces 15 BW) / 080561 ADM (proces 135 FW) / 03998 ADM (proces 141 BW) / 03999 ADM (proces 141 BW) / 930303 ADM (proces 141 BW) / 03998 ADM (proces 141 FW) / 120209 ADM (proces 141 BW) +0119821 EUN (proces 141 BW) / 930303 ADM (proces 141 BW) / 930303 ADM (proces 141 BW) / 930303 ADM (proces 141 BW) / 930303 ADM (proces 141 BW), gecertificeerd en getekend RWTÜV, AIB-Vinçotte en TÜVNord met overzichtslijst toegepaste WPS en lasprocedures, met kwalificaties lassers volgens EN ISO 9606-1 en operatoren EN 14732 door Apragaz van Jean-Michel Waeye (Nr. 18 / 141), Benjamin Desmarests (Nr. 26 / 141), Rik Catry (Nr. 19 / 15), Laurens Vandeveld (Nr. 16 / 15), Arnaud Delachapelle (38/15), Kitia Kangala (Nr. 04 / 135), Dimitrov Atanas (Nr. 25 / 141); door TÜV Rheinland van Emil Pavlov (141), Mitko Chankov (141), Stoyan Stoyanov (141), Radoslav Dzhagalov (141), Zlatko Stamatov (141), en Doncho Chongarov (141); Materiaalcertificaten EN 10204/3.1 RVS 1.4307 (304L) platen bodem, romp en dak met materiaalbeschrijving (lay-out) inclusief vermelding smeltnummers, en RVS 1.4404 (316L) en RVS 1.4307 (304L) voor buizen, bochten, flenzen en steunen, met tevens een overzichtslijst (traceability records) der materiaalcertificaten; NDO-rapporten: Radiografisch onderzoek (RT): rapport 5688RT-02 van 9/05/2022 met aanduiding filmlocaties op tekening: films 10 x 48 cm nrs. CW41/CW51/CW61 en LW62 aanvaardbaar bevonden en getekend Stefaan Holvoet, RT L.II, BANT cert. 15/066 met lopende geldigheid; Test certificaten Penetrant onderzoek (PT) lasverbindingen ankerstoelen en implantaties buisstompen, alsook 100% bodem-mantelverbinding en 10 % van alle overige kruisverbindingen van de mantel, aanvaardbaar bevonden en getekend Harald Verhegge, PT L.II, BANT cert. 21/025 met lopende geldigheid, alsook testcertificaten betreffende vacuümtesten lasnaden bodem en dak, aanvaardbaar bevonden en getekend Harald Verhegge.
- Ter aanvaarding werden van de opslagtank de conformiteitsverklaring, berekeningen, de uitgevoerde rubrieken van het controleplan, de WPS, de overzichten van de lasprocedures, lasser kwalificaties en materiaalcertificaten, alsook de testrapporten en -certificaten geïmprimeerd en getekend.

3	INBREUKEN – OPMERKINGEN – NOTA’S
3.1	<u>Inbreuken:</u> - Geen betreffende het uitgevoerde onderzoek van de houder
3.2	<u>Opmerkingen:</u> - Geen betreffende het uitgevoerde onderzoek van de houder, mits uitvoering van een geslaagde hydraulische beproeving na transport en definitieve plaatsing, zie ook 3.3..



3.3	Nota's: - Na transport en definitieve plaatsing van de houder, is na plaatsing en aansluiting van de uitrusting, beveiligingen en toebehoren, het aanbrengen van productaanduidingen en waarschuwingen, het onderzoek voor ingebruikname met gevulde houder nog uit te voeren volgens de toepasselijke voorschriften. - Specifieke uitvoering bodem met afgeronde opstaande rand ($R=65\text{ mm}$ & $H=80\text{ mm}$) en 18 ankerstoelen met supplementaire dwarsstaaf $\varnothing 20\text{ mm}$ aanvaardbaar bevonden na geslaagd NDO (100 % PT verbindingen ankerstoelen + 100 % PT bodemmantelverbinding + RT 48 cm inclusief kruising met verticale rompnaad (film CW61)).
4	BESLUIT: zie bladzijde 1

5	ALGEMENE VOORWAARDEN EN MEDEDELINGEN
5.1	<i>De inhoud van dit rapport is een momentopname en weergave van de situatie op het ogenblik van uitvoering van het onderzoek, op basis van de op dat ogenblik gedane vaststellingen.</i>
5.2	<i>Dit rapport mag niet anders dan in zijn geheel vermenigvuldigd worden.</i>
5.3	<i>In deel 2 is enkel de tekst na de aangekruiste vakjes "☒" van toepassing</i>
5.4	<i>Verklaring terminologie in deel 3 van dit rapport:</i> - 3.1. Inbreuken betreffen (ernstige) gebreken of onvolkomenheden die strijdig zijn met de toepasselijke voorschriften en bijgevolg leiden tot afkeur - 3.2. Opmerkingen betreffen minder ernstige gebreken of onvolkomenheden, verklaringen en of beperkingen in verband met het onderzoek en eventueel voorwaarden waaraan nog moet voldaan worden - 3.3. Nota's betreffen gebreken die geen invloed hebben op de besluitvorming, vaststellingen die buiten het kader van het onderzoek vallen maar een potentieel gevaar of veiligheidsrisico aanduiden, of organisatorische gegevens
5.5	<i>Gebruikte afkortingen (in voorkomend geval): NDO: Niet Destructief Onderzoek; RD: Review Documents: Nazicht voorgelegde documenten naar vermelding van vereiste kwalificaties, resultaten en vorm volgens de toegepaste voorschriften, maar waarvoor de oorspronkelijke uitgever of opsteller verantwoordelijk blijft.</i>
5.6	<i>Toepassingsgebied: Eventuele veranderingen aan de gebruiksomstandigheden van de houder, zoals bij verandering van productklasse of -kenmerken, verandering van de uitrusting en of beveiligingen, eventuele aanpassingen of herstellingen, heropstelling, e.a. vereisen bijkomend milieudeskundig onderzoek, en in voorkomend geval is melding aan de bevoegde overheid vereist, of is het bekomen van een nieuwe of gewijzigde vergunning verplicht, zoals o.a. bij verandering van vergunningsklasse. Huidig onderzoek beperkt zich tot de houder voor opslag van producten, andere installatiedelen en andere toepassingen en activiteiten vallen buiten het bestek van dit onderzoek (tenzij uitdrukkelijk vermeld) en onder de verantwoordelijkheid van de exploitant of fabrikant. Worden <u>niet</u> beschouwd als normaal gebruik volgens de voorschriften (niet limitatieve lijst): Het gebruik (of poging tot) buiten de werkingsgrenzen van de houder, het niet respecteren van de voorschriften, het veroorzaken van schade en of ongevallen door oneigenlijk gebruik of onachtzaamheid (zoals het ongelimiteerd doorblazen of vullen op overdruk van de houder, het veroorzaken van overdruk in houder of leidingen, het beschadigen of afrukken van vulleiding of vulmond, het vullen met verkeerde producten of productconcentraties, het lozen van gevaarlijke producten in de omgeving,...), het verborgen houden van gegevens met betrekking tot het onderzoek en gebruik van de houder of het verstrekken van misleidende informatie,....</i>
5.7	<i>Facturering, betalings- en andere voorwaarden zie corresponderend factuur.</i>
6	BIJLAGEN: Geen

OPERATION INSTRUCTION MANUAL & SAFETY INSTRUCTIONS

5688B - BIODIESEL ARGENT II BV
1 x Vert. St. Steel Tanks B120300
Cap. ca 198m³ /242m³

Operation instruction manual and safety instructions



Order Nr.5688B – B120300



Introduction

Dear Client,

This operation instruction manual and the safety instructions in this document contain important information, which is necessary for a correct and safe use of Ziemann-Holvrieka tanks and equipment.

This operation instruction manual and the safety instructions should be read and implemented carefully before start of operation of the tank. This document should be handed over to all involved personnel (for transport, set-up, installation, first-use and further operation including maintenance).

Also during operation, it is important to have a copy of this instruction manual and the safety instructions easily available for the operational personnel.

In this document, which is arranged by topics, you will find important information and instructions for a safe use of our products.

For specific questions or remarks, please contact the manufacturer named in this document.

Ziemann-Holvrieka NV

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1. Product description and technical data

Designation of the tank	1 x Vert. St. Steel Tank B120300
Client	BIODIESEL ARGENT II BV
Manufacturer	ZIEMANN-HOLVRIEKA NV Wervikstraat 350 8930 Menen – Belgium Tel. +32 56 51 42 51
Ziemann-Holvrieka Order-No.	5688B – B120300
Year of Construction	2022
Main Drawing Number	A0051-5688B-0821

Main Design Data and Operational Data:

Calculation Design Code	EN14015
Erection	Indoor
Construction of support	Vertical on a concrete base
Wind Load	10 m/s
Seismic Load	Not to be considered

Tank

Capacity (net/gross)	approx. 198000 Litres
Medium	Biodiesel
Density	0,875 kg/l
Max.allow design overpressure	0,200 bar
Max.allow.(Design) Vacuum	-0.010 bar
Test Pressure	Full of water
Max.allow. design temp	80 °C
Internal Diameter	6200 mm
Total Length / Height	9297 mm
Material acc. EN10028-7	1.4301 / X5 CrNi 18-10 1.4307 / X2 CrNi 18-9

Weight empty (Tare)	10500 kg
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Execution and Equipment	See main drawing and additional technical drawings / documents
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2. General instructions

This operation instruction manual reflects the state of technology at the time this instruction manual has been drawn up.

For possible questions or comments to the tank in question, reference must always be made to the order number. The order number is indicated in point 1. Product Description and Technical Data of this operation instruction manual, and on the nameplate of the tank.

2.1. General

Attention!



The maximum allowable pressure, vacuum, and temperature, as indicated in

1. Product description and technical data of this operation instruction manual are not to be exceeded.

The tank / pressure equipment has been designed for operation in accordance with the specifications.

2.2. Modifications and operation

Adaptations, repairs, changes or modifications to the pressure equipment, tanks or apparatuses only to be made after written approval from Ziemann-Holvrieika. Without this written approval, the client should be aware that he acts for his own risk and account, and that such action will influence the client's (remaining) contractual rights. For example, all guarantees will be void. Please refer to the contract of sale.

Possible modifications have to be incorporated in the tank drawings and one should also notice that some original documents (e.g. declarations of conformity) will not be valid anymore and have to be replaced by new ones.

Personnel in charge of the installation, operation, maintenance, and welding operations must be well skilled and qualified according to the local regulations and requirements, and as requested by the client.

The client or the user will be fully responsible for the consequences of:

- ◆ Lack of maintenance;
- ◆ Unqualified modifications;
- ◆ Operation of the tank not according to this manual, or by unintended actions;
- ◆ Failure to observe the operation and security instructions in this manual;
- ◆ Corrosion damage from whatever structural action.

In all these particular cases, guarantees of Ziemann-Holvrieika (if any, either implicit or explicit) will become void.

2.3. Removal of packaging / protective parts

In order to make sure that certain tank parts or equipment parts remain together during the transport, these parts may be fixed with tape. The tape should be removed prior to erection of tank and equipment and while these parts are still easily accessible. Special attention has to be directed towards possible ventilators and openings to and from anti-vacuum valves. Such kind of openings may in no way remain covered or restricted.

In order to avoid undesirable movements of certain tank parts or equipment parts during the transport (e.g. long slender shafts of agitators, covers of housings, ...), these parts are sometimes supported, tightened or bound together with parts that must be removed before the equipment is taking into use. Make sure that no such parts are blocked or have got stuck in or on the tank, before tank erection and before taking into use.

To avoid any corrosion and to avoid our products getting dirty during transport, an extra protection for transport is sometimes required. Has tape or foil been used, such material should be removed before the erection of the tank or equipment (for reasons of accessibility).

In cases where tanks, equipment or parts thereof must be protected during transport with a thin layer of rust preventive (e.g. paraffin-oil, ensis-oil, ...), this thin protective film must also be removed before taking into use. For this cleaning operation, it is advisable to use a high-pressure cleaning device, with a water temperature of +80 °C or more (with or without the addition of an organic or alkaline solvent, providing that this solvent will not harm the stainless steel surface). Take care: drying drops of water sometimes leave behind visible marks on the surface of the stainless steel. To avoid this, one could dry up the surface after cleaning with a piece of cloth or a rag.

While removing packaging / protective parts, one should take care not to damage the stainless steel surface. Some scouring or abrasive products (e.g. sponges with ScotchBrite) may leave behind visual unattractive marks on a stainless steel surface, and it is therefore recommended not to use these products. Knives used to remove packaging and to cut through tapes and foils, may also cause deep grooves and scratches on the stainless steel surface. As such grooves and scratches are very vulnerable towards corrosion, these should be avoided!

2.4. Inspection of the delivery

On receipt of goods, a check-up should be done to see if the tank or equipment show any damages and if the delivery is in accordance with the sales conditions.

Ziemann-Holvrieka should be contacted immediately if the tank has been damaged and / or is incomplete.

2.5. Bringing into use

Before a tank is brought into use, the client or user has to check with local authorities if there are any additional directives, laws or rules to follow (e.g. licenses, distance rules, ensilages, ventilation, electrical connection, etc.).

Periodical inspection should be arranged for in accordance with local rules.

3. General instructions for transport and installation

3.1. General

These instructions are valid for transport, transshipment, storage in between, loading and unloading of single or multiple walled and/or insulated Ziemann-Holvrieka storage tanks, reservoirs and equipment.

These instructions are a part of our order concerning the execution of the above mentioned works. Deviations from these instructions need to be noted down in writing.

A transport company or a crane entrepreneur who has been authorized to arrange for the transport + erection has to follow the local regulations (on the road, on the working sites, etc.). A competent and skilful execution of the tasks should be provided. Personnel should be elected and afterwards be informed of the tasks to execute and the corresponding regulations / instructions.

Every transport or lifting operation of pressure equipment, tank or apparatus has to be performed in common by at least two qualified persons.

Unless otherwise agreed in writing, the parts which Ziemann-Holvrieka has foreseen for lashing and securing will be marked in yellow on the tanks or equipment of Ziemann-Holvrieka. The parts which are foreseen for attaching lifting equipment will be marked in red (these last parts may obviously also be used for the lashing and securing).

For any sub-contracted transport-, lifting- or installation-operation ordered by the client or user, the client or user is responsible for the distribution of this operation instruction manual and safety instructions to the right people.

3.2. ZIEMANN-HOLVRIEKA products

The products of the Ziemann-Holvrieka Group are made from stainless steel, and are single walled, multiple walled or insulated. Surfaces and parts from stainless steel may not come into direct contact with steel parts containing carbon (traces). The equipment used for lashing, securing and lifting should be protected / coated accordingly.

Lashing, securing and lifting may only be performed from the points reserved for this purpose. Exceptions have to be agreed separately.

Should grinding / cutting be required in the immediate neighbourhood of tanks, pressure equipment and apparatuses, the stainless steel surfaces must be protected (with suitable screens) from sparks and particles flying around. Otherwise, corrosion damages cannot be excluded.

Also construction activities (e.g. with spatters, pickling residues, sparks and particles flying around and falling down, etc.) on the premises of the client or user may cause corrosion damages. It is important that the client or user of the Ziemann-Holvrieka tanks, reservoirs or equipment protects the equipment with suitable screens if such activities should occur. Damages as a consequence of corrosion following on insufficient protection are for risk and account of the client.

3.3. Transport

If arranged by the client:

Ziemann-Holvrieka-tanks and equipment may only be transported by units approved for this purpose (supports, saddles, support shells, etc.). The transport-company has to provide and submit all the required licenses for the transportation. All escort rules, official or private, contained in these licenses have to be impelled by the transport-company.

A survey of the transport route with special care for obstacles, narrow passages, etc. has to be made by the transport-company.

The loading of tanks on transport units, storage in between of tanks and equipment, transshipment or unloading on the construction site may only be performed on the supports reserved for the transport: frames and saddles or shells. Consult if you are in doubt.

3.4. Lifting instructions

The attachment of lifting tools or equipment on Ziemann-Holvrieka – tanks and equipment may only be done to the parts which Ziemann-Holvrieka has foreseen for it (lifting eyes and related parts). The lifting operation must be performed with cranes having a suitable hoisting capability in a stable position (use of suitable spreaders and traverses). Only vertical hoisting or lifting lines are allowed. Two lifting points or lifting eyes are always used as a minimum.

Only approved lifting and hoisting material may be used for lifting or hoisting. Also, the lifting and hoisting material should be capable of carrying the weight of the tanks or equipment. The weight of the empty tank ('tare weight') is for instance mentioned on the nameplate of the tank, or in 1. Product description and technical data of this operation instruction manual.

It is forbidden to perform lifting operations by a wind force > 5 (wind speed $v > 40$ km/hr). A filled tank may never be lifted or turned over. The angle of lifting cables or ropes by a horizontal tank may never be less than 60° in order to avoid intolerable high stresses in the lifting material.

While lifting (insulated) tanks and equipment, the lifting equipment and related parts (e.g. chains, beams, etc.) may not get into contact with parts of the tanks or equipment not foreseen for it, nor with the insulation nor with the cladding. This could cause transport or hoisting damages and consequential corrosion damages.

For most Ziemann-Holvrieka-tanks and equipment, additional instructions will be given. Normally, these instructions can be found on the technical drawings. In the annexes 1 and 2 some examples of this can be seen. Should Ziemann-Holvrieka have issued such additional drawings, these drawings should be handed over to the company entrusted with the transport, the lifting, or the mounting. The transport or lifting operations are to be executed by qualified personnel only.

4. Safety instructions

4.1. General

- ◆ Ziemann-Holvrieka tanks, reservoirs and equipment shall be put into use, handled, and operated by well skilled and qualified personnel only.
- ◆ The client or user is responsible for the correct distribution of the necessary information from this operation instruction manual to the operational personnel.
- ◆ Personnel for operation, inspection and maintenance must wear appropriate and suitable safety clothing. Jewels, loose parts from clothing and hair may be caught by rotating equipment and must be absolutely forbidden.
- ◆ One should always keep an eye on the weather conditions before walking or climbing on a tank (ladders, stairs, platforms, etc.).
- ◆ In confined rooms / tanks / reservoirs or equipment a dangerous atmosphere may occur (dangerous low oxygen content, toxic, explosive or otherwise dangerous contents in the air). The safety precautions for working in confined spaces must always be followed (e.g. working with a safety mask or automatic breathing apparatus).
- ◆ Adequate means must be provided for the draining and venting of pressure equipment where necessary:
 - To avoid harmful effects (escape from steam, CO₂, etc.), vacuum collapse, corrosion and uncontrolled chemical reactions. All stages of operation and testing, particularly pressure testing, must be considered;
 - To permit cleaning, inspection and maintenance in a safe manner.
- ◆ Before filling or pressurising a tank, the user should have made certain that all openings have been connected or blinded in a correct way, and also that the tank has been installed / anchored in a correct way.
- ◆ Adaptations and repairs on tanks, reservoirs and equipment may only be made after approval from Ziemann-Holvrieka (this because the safety may be impaired and the former classification as pressure equipment e.g. may become obsolete).

4.2. Pressure



1. Watch out! Before the storage tanks, pressure reservoirs and equipment are put into use, all necessary safety devices have to be installed as a protection against intolerable overpressure and vacuum.
2. Atmospheric storage tanks are generally equipped with openings and / or facilities, which prevent the development of intolerable high overpressure and vacuum. These openings and/or facilities may not be closed off or otherwise mechanically restricted. A periodic check-up of these openings / facilities is required.
3. Pressure tanks and equipment are generally estimated for higher overpressure and vacuum because the implementation has been made in accordance with the destination. To ensure safe compliance with and restriction of overpressure and vacuum as specified in the working conditions, the pressure tanks and equipment have to be equipped with suitable safety devices (overpressure valves, vacuum valves). In general the tank manufacturer does not supply these safety devices. The client or user therefore has to arrange for suitable safety equipment before putting the installation into use, e.g. procure an adapted overfilling valve to avoid uncontrolled escape of fluid.

4. While tuning the safety devices (against overpressure and vacuum), one has to respect in particular the design specifications of the pressure equipment, tanks or apparatuses. These specifications can be found on the nameplate and in 1. Product Description and Technical Data of this operation instruction manual. Reference should be made to the locally applicable legislation and directives.
5. Likewise, an adequate section (diameter) of the safety devices against overpressure and vacuum must be foreseen by taking into account the functioning of the tank / apparatus and the corresponding pumping capacity for filling and emptying.
6. A periodic check-up of correct functioning of all safety equipment is required (refer to the operation instruction manual of the safety equipment).
7. The setting and functioning of the safety equipment (protection against overpressure and / or vacuum) must be periodically checked (repetition tests). The test interval is regulated by legal or local directives or e.g. based on company experience.
8. Through ventilation openings and / or near safety valves, dangerous vapours or fluids under pressure may escape. Please take care for the direction in which this escape can be blown away.
9. At automatic cleaning of tanks, especially for hot-cold cleaning, the correct operation of the aeration and de-aeration equipment should be monitored. In case of hot-cold cleaning, this aeration and de-aeration equipment must be fully opened. Also, aeration and de-aeration equipment should not be blocked mechanically, by-passed for operational control reasons or otherwise constrained in their function. This could cause heavy damage to tanks / equipment, or injure people. Functional checking and monitoring of this aeration and de-aeration equipment must be done on a regular basis.

4.3. Temperature

1. Usually, low temperatures have little influence on material quality of stainless steel. Only at very low temperatures ($< -50^{\circ}\text{C}$) problems with ductility of stainless steel may occur.
2. At low temperatures the expansion of the medium in the tank should be taken into account. Specific parts of the tank may be pressurised at a higher pressure than the pressure foreseen by Ziemann-Holvrieka. This could possibly cause damages.
3. At low temperatures, sticking of the safety valves by freezing could occur. This should be avoided by placing heat tracing or the like.
4. High temperatures have a high influence on the material strength of stainless steel. Consequently it is important to monitor that the temperature of the medium stays within the temperature limits stated by Ziemann-Holvrieka (e.g. by continuous monitoring of the temperature by a sensor and a periodic calibration of the sensor). See also 1. Product Description and Technical Data.
5. At high temperatures the expansion of the medium in the tank should be taken into account. Temperature variations may result in pressure variations, and so the maximum allowable working pressure could be exceeded, which could possibly cause damages.
6. If there is a fire in the direct neighbourhood of the tank it is the responsibility of the user to consider the possibility of cooling the tank in order to keep temperature within the allowable limits, e.g. by extra external cooling, by suitable coolants, etc.
7. It is the responsibility of the user to take suitable precautions against people touching a very hot or a very cold surface of the tank (e.g. insulation of the tank, limited access to the tank, availability of personal protection for users and local personnel, pictographs for warnings, etc.).

4.4. Inspection of openings and manholes

1. Storage tanks, pressure tanks and equipment are mostly equipped with inspection openings or manholes. Different implementations exist.
2. Manholes and inspection openings are equipped with a cover which can be closed. Inspection openings and manholes may only be opened, when the interior of the tank is in an atmospheric state (without pressure). This is also valid for all other outfit, piping and equipment for measuring and control.
3. Before entering into a tank, one must possibly check or examine the safety of the atmosphere inside the tank. While entering into the tank, the opening has to be secured against a slam shut by either another person or in a mechanical way.
4. Before closing manholes or inspection openings, it must be verified that the gasket and the sealing surface are cleaned and that the gasket is on its proper place. Before closing, it must be checked that there is no one inside. The cover has to be closed carefully and without violence. Before tightening the fasteners, one must check that the cover is centered correctly. Care should also be taken on all fasteners laying back and positioned correctly and on an evenly tightening of all fasteners.
5. Defective covers and their accessories (bolts, locks, gaskets, etc.) must be replaced immediately by original spare parts through suitable personnel. For any information about these parts you can consult the manufacturer of the tank indicated in this operation instruction manual.

4.5. Electric equipment

1. Storage tanks, reservoirs, pressure tanks and apparatuses can be equipped with electric devices (e.g. mixers, lighted sight glasses, measuring equipment, control technology equipment).
2. This equipment may only be used for the purpose intended for.
3. At wrong operation or abuse, danger for body and life of the operator exist as well as the equipment, storage tanks, pressure tanks and equipment may be damaged.
4. Only qualified skilled personnel may execute the electrical connection of mixers and other electric equipment. By the installation and the operation of such generators and equipment, one has to follow the instructions of the manufacturer and all relevant regulations (e.g. European directives, local laws, (inter)national norms, instructions by insurance companies, etc.).
5. It is the responsibility of the user to take care that the tank is effectively earthed before start-up of the tank.
6. At inspection and maintenance work, the electric tension should always be switched off.
7. At inspection and maintenance work, one should never spray water or other liquids on electric motors, switches, switchboards and other electrical components.

5. Malfunctions, possible causes & dangers to be avoided

5.1. General

All remarks stated on the drawings, datasheets, calculations, and in operation instruction manuals must be respected very strictly. The correct and safe working of the tank, reservoir or apparatus depends upon it.

5.2. Overpressure

Possible causes can be:

- Closed off ventilation;
- Ventilation filter stopped up or silted up with liquids or dirt;
- Sticking of a safety valve (caused by freezing, pollution, etc.);
- Inadequate or improper adjusted pressure valve;
- Defect high-level-measurement device;
- Sudden air volume expansion in the tank during a cleaning operation;
- Volume expansion of the medium in the tank due to heating or freezing.

5.3. Vacuum

Possible causes can be:

- Closed off ventilation;
- Sticking of an anti-vacuum-valve (caused by freezing, pollution of the valve, etc.), or an inadequate or improper adjusted anti-vacuum-valve;
- Cold cleaning of a hot tank (shrinking of the air in the tank);
- Cleaning with lye of a tank filled with CO₂.

5.4. Temperature variations

Possible causes can be:

- Climate conditions;
- Incorrect temperature measurement (e.g. defect sensor, sensor not suitable for the application, etc.);
- Missing temperature measurement and / or temperature control;
- Heat or high temperatures in the neighbourhood of the tank (e.g. fire, etc.).

5.5. Corrosion resistance

If the client did not specify the medium in the tank (storage medium, process medium, etc.) to Ziemann-Holvrieka or if he specified the stainless steel himself, then Ziemann-Holvrieka supposes that the client has assessed the risks of corrosion of the materials he ordered. In such cases, or if the client uses the tank to stock other products than specified, Ziemann-Holvrieka will not be responsible for damages as a consequence of corrosion.

- ❑ As a consequence, avoid also using media in high quantities, in high concentrates or for a long period of time. This may possibly damage the corrosion resistance of the stainless steel surface. This has also to be considered during cleaning and / or disinfecting.
- ❑ Avoid damaging and even covering up the surface of the tank by iron particles which may come from cutting, grinding, sawing, spattering, or other operations in the neighbourhood of the tank (for example placing railings, platforms, stairs and ladders around / on the tank). If necessary protect the tank with an adequate screen. This is also required if extreme aggressive atmospheres occur (e.g. while pickling in the neighbourhood).

5.6. Tank support

- Tanks with a flat bottom on a concrete foundation:
The concrete foundation must be adequately dimensioned and sealed up.
- Tanks on a skirt:
If a skirt support is used, it's important to be sure that the bottom ring of the skirt is supported over its full length and width. Such support can be realised by:
 - ❑ Placing the skirt levelly on the self-supporting foundation, using filling material / plates of an adequate width, length, thickness and strength.
 - ❑ Filling the joint between foot ring and foundation with a solid layer of concrete.
- Tanks on legs or support brackets welded to the cylinder:
Tanks on 3 legs or support brackets have an equal load on every support point. If the tank has more than 3 support points, the weight must be equally divided over the support points by:
 - ❑ Using adequate filling material / plates under the legs or support brackets,
 - ❑ Or by adjusting the legs to the correct length.Irregular loads on the legs or brackets may result in cracks and / or stress-corrosion.
- Tanks on saddles:
Tanks on 2 saddles have an equal load on each saddle. If the tank has more than 2 saddles, the weight must be equally divided over the saddles by:
 - ❑ Using adequate filling material / plates under the saddles.Irregular loads on the saddles may result in cracks and / or stress-corrosion.

We advise to check every 6 months (while the tank is empty) the support of the tank and if necessary adjust or add filling material / plates.

In order to avoid collapse of the tank support caused by external heating (e.g. with fire), the user has to take suitable measures.

5.7. Manhole

It is important to check periodically if the manhole or the inspection opening and its sealings are not damaged but still waterproof. A defective gasket should be replaced by an original spare part.

Please contact the manufacturer of the tank mentioned in this document for more information in such cases.

6. Maintenance

6.1. General

Storage tanks, pressure tanks and other equipment must undergo a periodic maintenance by sufficiently trained personnel.

Also the safety instructions according to paragraph 4 of this document should be respected.

The periodic maintenance should be scheduled and executed in conformity with the general requirements which exist within the company of the user.

The maintenance should cover a testing / review of all screw connections, entrance and inspection openings like manholes, and remaining annexes, equipment, flanges and tubes. One should check on tightness, faultless functioning and correct fastening / connection.

Before the tank is taken into use again, defective parts must be replaced with suitable spare parts.

For any information about suitable spare parts you may consult the manufacturer of the tank indicated in this operation instruction manual.

6.2. Cleaning

For each periodic or other cleaning of a tank, one should at least take care of following remarks:

While cleaning the inside of storage tanks, pressure tanks and apparatuses, adequate ventilation during and after the cleaning is required.

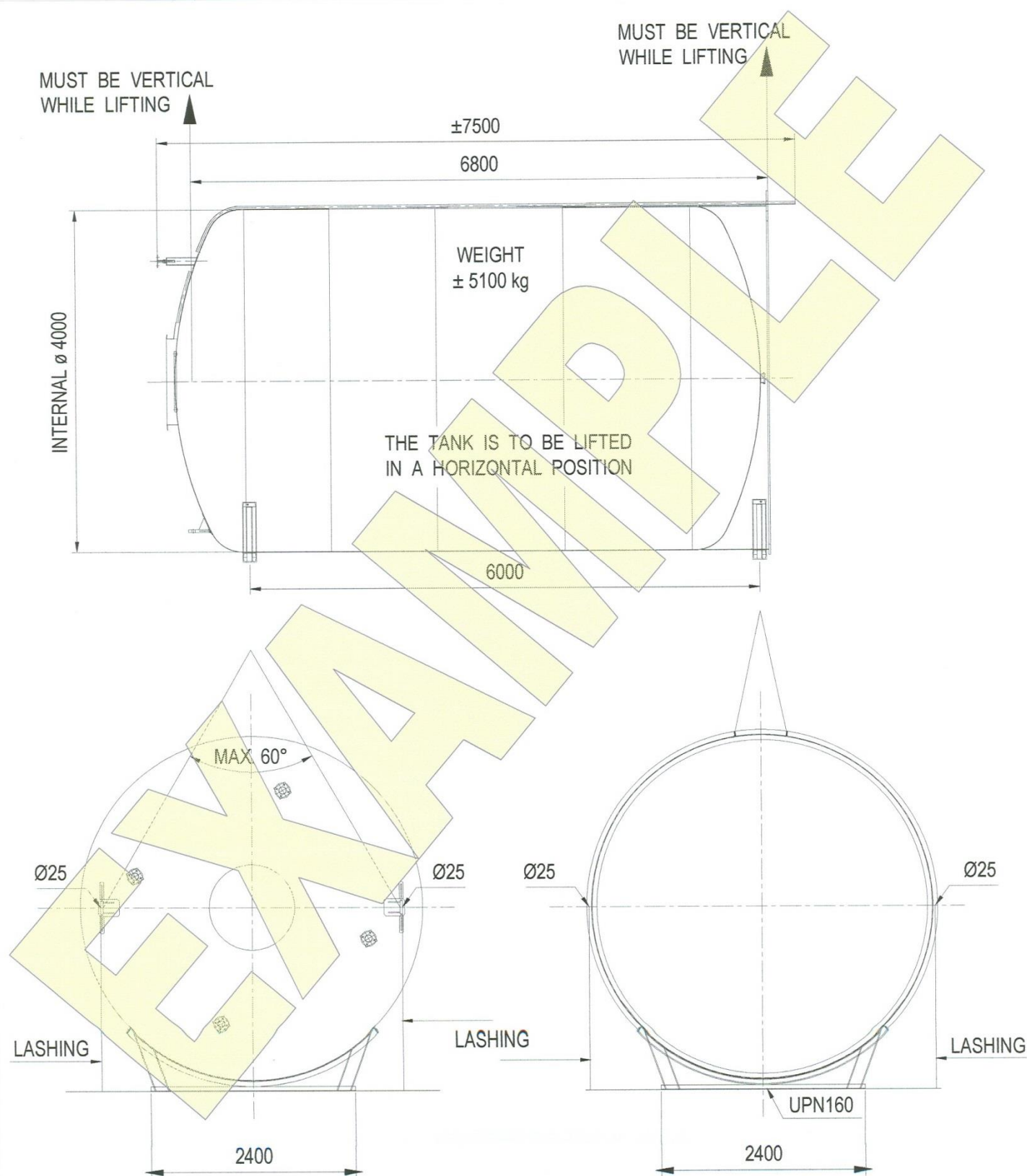
Only cleaning agents which do not affect the material of the tank or equipment may be used.

Before one starts the cleaning, one must be absolutely sure that there are no product residues in the tank which can form a dangerous corrosive mixture with the cleaning agents. It is therefore recommended to pre-rinse the tank with an appropriate product before applying any cleaning agent.

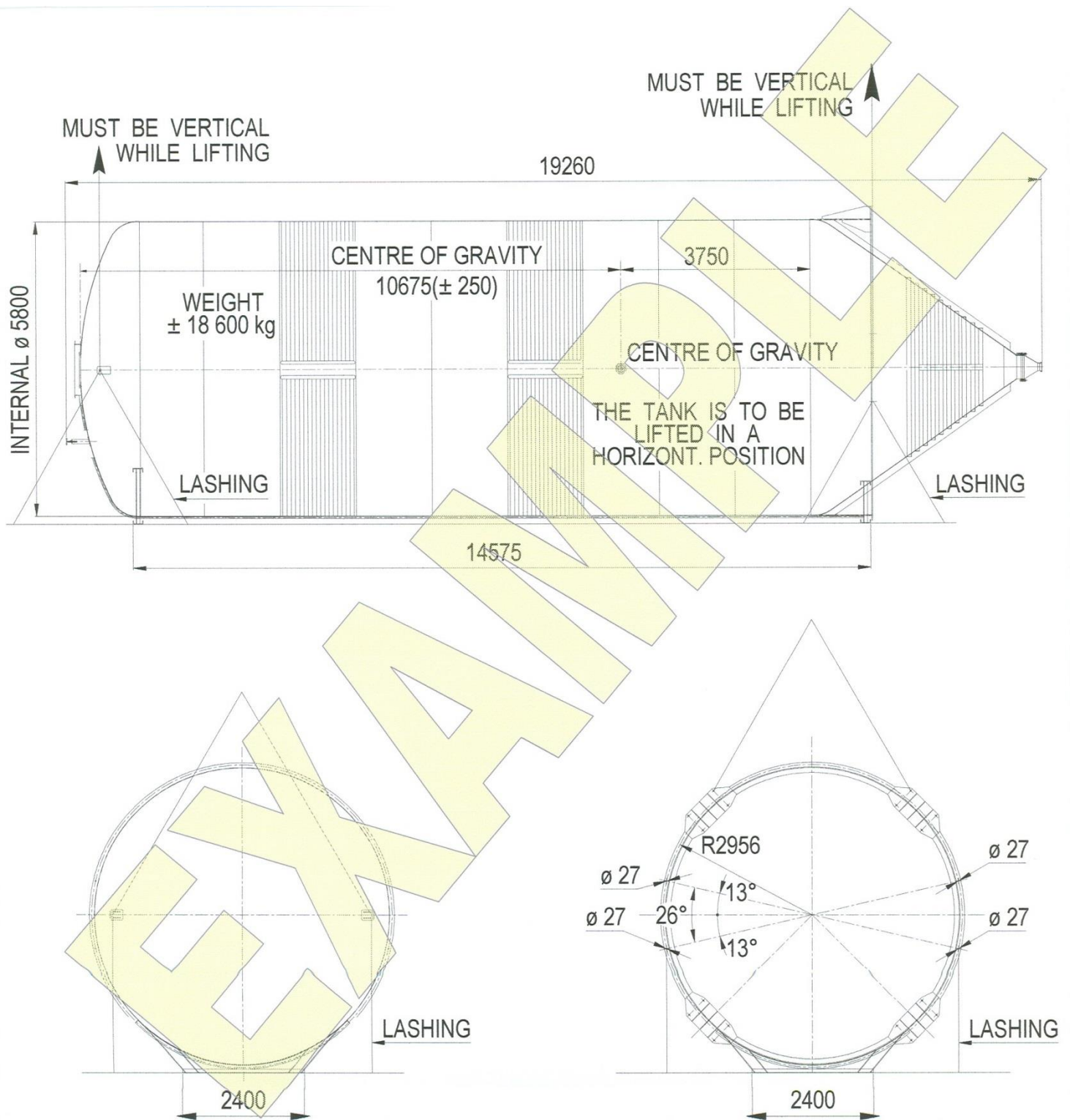
While and after cleaning it is possible that external parts of the tank get warm.

For the cleaning of storage tanks, pressure tanks and other equipment which are to be used for foods, one has to keep the relevant regulations and directives.

Annexe 1



Annexe 2



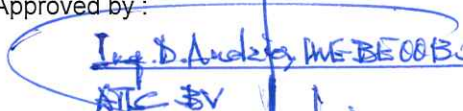
CONTROL PLAN

5688B - BIODIESEL ARGENT II BV
1 x Vert. St. Steel Tanks B120300
Cap. ca 198m³ /242m³

Wervikstraat 350 B-8930 Menen

QUALITY CONTROL PLAN

Drawing Nr. : A0051-5688B-0821

Shop order : 5688B		Client : BIODIESEL ARGENT II BV		Tank Nr: B120300					
P.O. : B120300		Equipment : 1 x Vert. St. Steel Tank B120300		Material : 1.4301 - 1.4307					
Nr.	Description	Standard	Insp.	Doc.	Signature + date	Remarks	Design code : EN14015		
					A B C				
1	Inspection of drawings	EN14015	A+B+C	Yes				A = Inspected by QC Ziemann Holvrieka B = Inspected by client C = Inspected by No Bo  = not applicable	
2	Design	EN14015	A+B+C	Yes					
3	Identification of material certificates	EN 10204 3.1	A+C	Yes					
4	Welding procedure qualification	ISO 15614-1	A+C	Yes					
5	Welders qualification	EN ISO 9606-1 (EN 287-1)	A+C	Yes				  Quality - Harald Verhegge  Date: 24/03/2022	
6	Approval of personnel for non-destructive test	EN 9712	A+C	Yes					
7	Penetrant testing	EN 571-1 + EN1289	A+C	Yes					
8	Radiografic inspection on welds & test reports	EN 17636 cl. A + EN14015	A+C	Yes					
9	Pressure test on piping (heating)	PED 2041/68/EU	A+C	Yes				Date: 24/03/2022	
10	Hydrostatic test on vessel	EN14015 WI-HT01	B	No				on site	Approved by :  Date : 01/23
11	Measurement & orientation nozzles	TOL. 001	A+C	No					
12	Check finish Inside	EN 4288 (Ra) EN970	A+C	No				lc = 0,8	Approved by : Date :
13	Check finish outside	EN970	A+C	No					
14	Verification Nameplate		A+C	Yes					
15	Final inspection completed vessel	following contract	A+C	No					
16	Manufacturing Data Report	EN14015	A+C	Yes					

CALCULATIONS

5688B - BIODIESEL ARGENT II BV
1 x Vert. St. Steel Tanks B120300
Cap. ca 198m³ /242m³

Berekeningen - Calculations

5688B

1 x stainless steel tank

Opslagtank

Cap. Ca. 242m³

Berekeningen - Calculations

EN-14015

- Tankconstructie



EN 14015

Design of a vertical stainless steel storage tank
Calculations according EN 14015

Calculated by: YH
Date: 12-10-21
Purchaser: Argent
Order: 5688B
Drawing: B120300-A0051-5688B-C

Location: Indoor

Tank dimensions:

Shell:

Diameter: D = 6200 mm
Cylindrical height: Hc = 7500 mm
Thickness of insulation: tiss = 50 mm

Roof:

Slope of roof: Alpha = 20 °
Knuckle radius: rR = 65 mm
Thickness of roofplates: tur = 6 mm
Thickness of insulation: tistr = 50 mm
Height of roof: Hr = 1178 mm
Total weight of roof: Gr = 2224 kg

Bottom:

Slope of bottom: sl = 0 mm
Thickness bottomplates: tub = 5 mm
Weight of bottom: Gb = 1248 kg

Tank design:

Total weight: Gt = 10582 kg
Total Height: Ht = 8678 mm
Total capacity: Ct = 226,4 m³

Material:

Type of material:
1% Yield strenght at 20 °C:
Young's modulus at 20 °C:
1% Yield strenght at T °C:
Young's modulus at T °C:

	Material 1	Material 2
	1.4301 C EN 10028-7:2000	
Reb =	260 N/mm ²	N/mm ²
E =	200000 N/mm ²	
Res =	208,2 N/mm ²	
Et =	195500 N/mm ²	

Contained liquid:

Name of liquid: Biodiesel
Density of liquid: w = 1000 kg/m³

Design values:

Design temperature: T = 80 °C
Design pressure: p = 200 mbar
Vacuum: pvO = 10 mbar
Design vacuum: VaO = 12,5 mbar
Windspeed: VwO = 10 m/s
Wind pressure: q = 0,06 kN/m²
Corrosion allowance: c = 0 mm

Loads:

Snow/live load: Fs = 37,0 kN
Uplift force: Fu = 603,8 kN
Horizontal wind force: Fw = 2,25 kN
Extra horizontal force: Fh = 0 kN
Extra vertical force: Fv = 0 kN
Roof loading + selfweight: Pe = 3,40 kN/m²

SHELL DESIGN:

Minimum thickness of each course:

$$t_{calc} = \frac{D}{20 * S} (98 * w * (H - 0,3) + p) + c$$

The equivalent stable height of each course at t_{min}

$$He = h * \sqrt{\left(\frac{t_{min}}{t}\right)^5}$$

Course Number	Height of course (h) [mm]	Total height (H) [mm]	Calculated thickness (tcalc) [mm]	Thickness (t) [mm]	Weight [kg]	He [m]	z tcalc/t	Material
1	1500	1500	0,71	4,0	934,9	1,50	0,18	1,00
2	1500	3000	1,04	4,0	934,9	1,50	0,26	1,00
3	1500	4500	1,37	4,0	934,9	1,50	0,34	1,00
4	1500	6000	1,69	4,0	934,9	1,50	0,42	1,00
5	1500	7500	2,02	5,0	1168,7	0,86	0,40	1,00
Total		7500			4908,4	6,86		

Calculation of the maximum height of the unstiffened shell:

$$K = \frac{95000}{3,563 * V_{wo}^2 + 580 * V_{ao}} = 12,49$$

$$Hp = K * \sqrt{\frac{t_{min}^5}{D^3}} = 25,89 \text{ m}$$

Positions vacuum ring

No vacuum ring needed ($Hp > He$)

(Dimensions in formulas : meter)

ROOF DESIGN:

Radius of curvature of roof:

$$R_1 = \frac{D}{2 * \sin^2 \alpha} = 9,1 \text{ m}$$

Minimum thickness to resist buckling:

$$tr = 40 * R_1 * \sqrt{\frac{10 * Pe}{Et}} = 4,78 \text{ mm}$$

Calculation of the required compression area:

Minimum required area:

$$A = \frac{50 * p * (0,5 * D)^2}{Res / 2 * Tan \alpha} = 2200 \text{ mm}^2$$

Existing area:

Area of roof:

$$Ah = 0,6 * \sqrt{R_1 * tur * tur} = 840 \text{ mm}^2$$

Area of shell:

$$Ac = 0,6 * \sqrt{D * 0,5 * t_{min} * t_{min}} = 267 \text{ mm}^2$$

Extra area:

$$Ae = 1500 \text{ mm}^2$$

Since $Ah + Ac + Ae > A$; the provided area is sufficient.

Bottom design:

Minimum thickness required to resist bending stress:

$$t_b = \sqrt{\frac{1250 * S_{df}}{\frac{1}{9} * Res}} = 1,8 \text{ mm}$$



LIFTING LUGS:

Number of lifting lugs: 8

DESIGN OF THE TANK ANCHORAGE:

Number of anchors: 18
 Size of anchor-bolt : M 24
 Minimum quality : 4,6

Uplift:

Portion of the bottom not acting for uplift:	mdb. =	0,00 m	
Diameter of the bottom acting for uplift:	Dupl. =	6,20 m	
Uplift force due to internal pressure:	Pint. =	603,81 kN	
Anchorforce per anchor due to uplift:		Paupl =	33,55 kN

Wind:

Projected area of shell and roof:	Aproj. =	51,38 m ²	
Design wind speed:	Vwind =	10 m/s	
Windpressure acc to DIN 1055:	Pw =	0,06 kN/m ²	
Wind dragcoefficient:	Ct =	0,7	
Horizontal windforce on roof:	Froof =	0,17 kN	
Windmoment due to Froof:	Mroof =	1,39 kNm	
Horizontal windforce on shell:	Fshell =	2,08 kN	
Windmoment due to Fshell:	Mshell =	7,8036 kNm	
Total windmoment on tank:	Mtank =	9,1919 kNm	
Anchorforce per anchor due to windmoment:		Paw =	0,33 kN

Own weight:

Weightload acting for hold down:		-9157 kg	
Anchorforce per anchor due to weightload		PaG =	-5,09 kN

Extra forces:

Extra horizontal force:	Fhor =	0 kN	
Distance between horizontal force and 0 point	a =	0 mm	
Moment due to extra horizontal force	Mhor =	0 kNm	
Anchorforce per anchor due to extra horizontal force:		Pab =	0,00 kN

Total anchorforce per anchor

Pa = 28,79 kN

Stresse in anchor-bolts

Allowable anchor stess	σ_{al} =	96 N/mm ²
Actual anchorstress	σ_{ac} =	89 N/mm ²

STRESSES DUE TO DESIGN LOADINGS:

Axial stress in the shell	Saxp =	1,20 N/mm ²
Trust pressure on the foundation	Sdf =	0,06 N/mm ²
Bending stress in the bottom	Sbb =	17,96 N/mm ²
Allowable stress	Sal =	138,8 N/mm ²

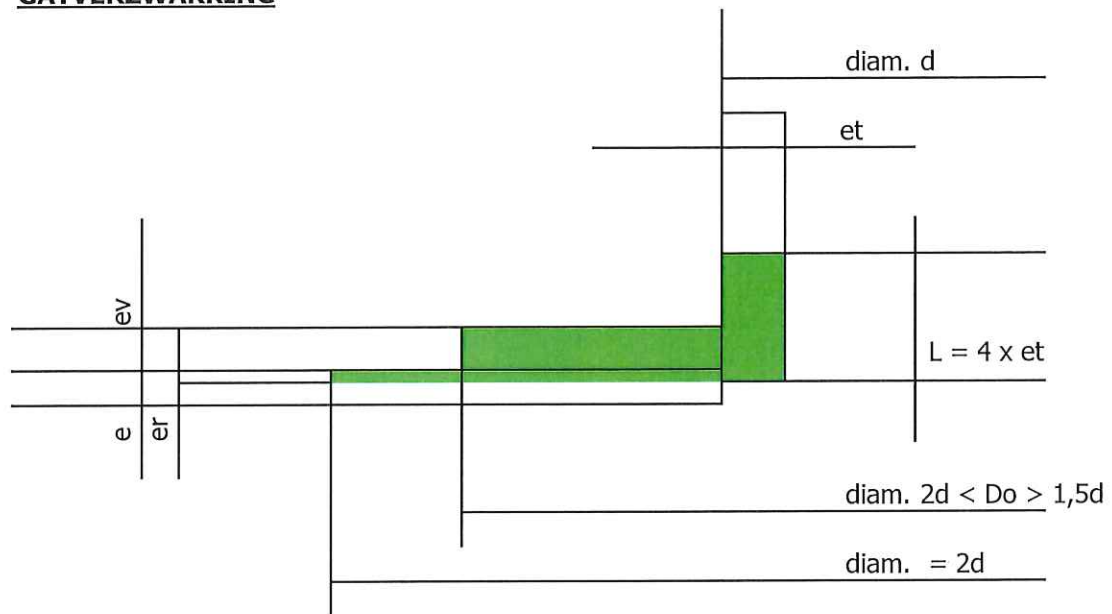


Berekeningen - Calculations

EN-14015

- Aansluitingen

GATVERZWAKKING



Berekende dikte : er mm
 Toegepaste dikte: e mm

Benodigde gatversterking :

$$A = 0,75 \times d \times er$$

Beschikbare gatversterking :

$$A1 = (e - er) \times (Do - d) \quad \text{met } 2d < Do > 1,5d$$

$$A2 = L \times 2 \times et$$

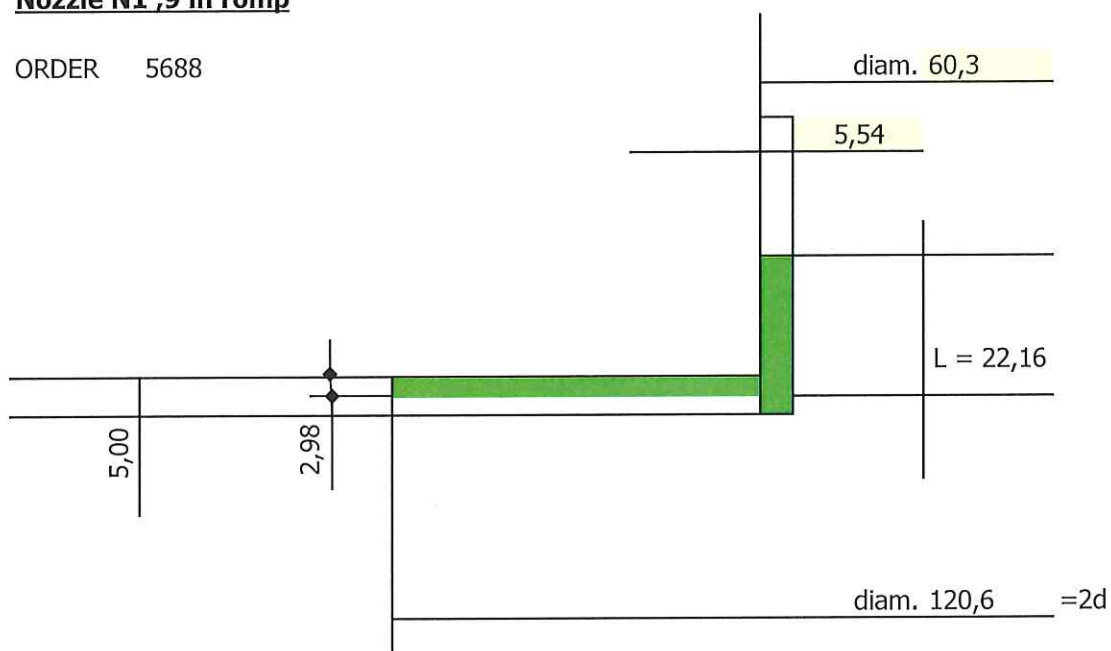
Toegepaste versterking :
 diam. $Do / d \times ev$

$$A3 = (Do - d) \times ev$$

$$A_{\text{tot}} = A1 + A2 + A3 = > A$$

Nozzle N1 ,9 in romp

ORDER 5688



Berekende rompdikte: 2,02 mm
Toegepaste rompdikte: 5,00 mm

Benodigde gatversterking :

$$A = 0,75 \times d \times e \\ = 0,75 \times 60,3 \times 2,02 = 91 \text{ mm}^2$$

Beschikbare gatversterking :

$$A1 = (120,6 - 60,3) \times (5 - 2,02) = 179,69 \text{ mm}^2 \\ A2 = L = 22,16 \times 2 \times 5,54 = 245,53 \text{ mm}^2$$

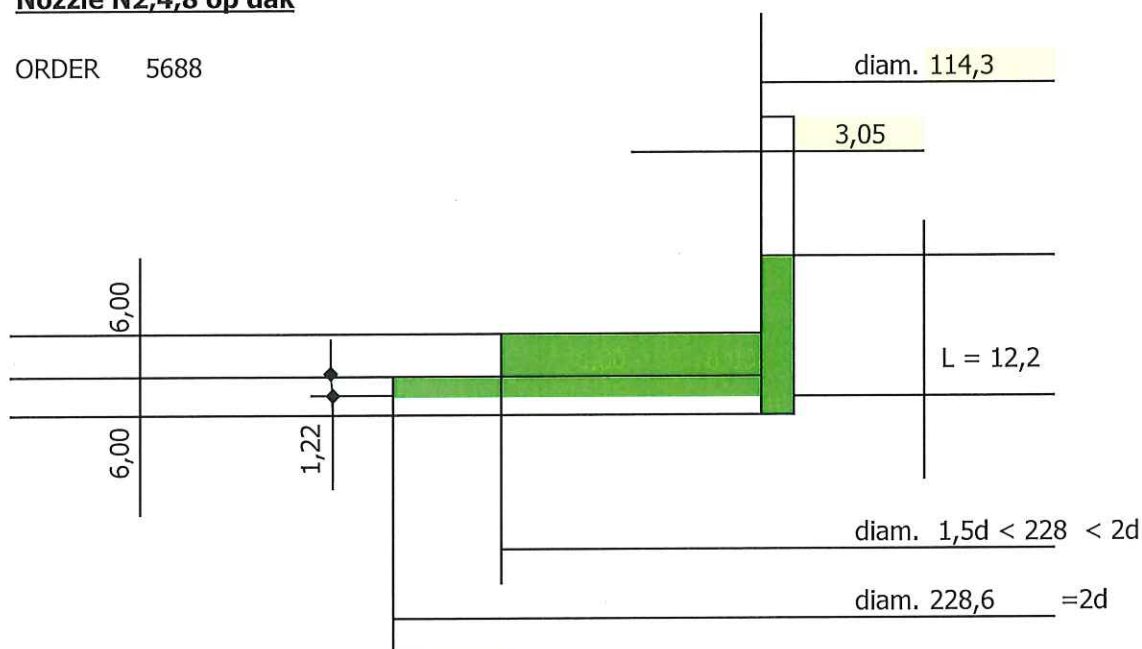
geen versterking nodig

$$A3 = 0,00 \text{ mm}^2$$

$$A_{\text{tot}} = A1 + A2 + A3 = 425 \text{ mm}^2 > 91 \text{ mm}^2$$

Nozzle N2,4,8 op dak

ORDER 5688



Berekende dakdikte :	4,78 mm
Toegepaste dakdikte :	6,00 mm
Toegepaste versterking :	6,00 mm
Buitendiameter versterking :	228 mm

Benodigde gatversterking :

$$A = 0,75 \times d \times e$$
$$= 0,75 \times 114,3 \times 4,78 = 410 \text{ mm}^2$$

Beschikbare gatversterking :

$$A1 = (228,6 - 114,3) \times (6 - 4,78) = 139,45 \text{ mm}^2$$

$$A_2 = L = 12,2 \times 2 \times 3,05 = 74,42 \text{ mm}^2$$

Toegepaste versterking :

diam. 228/114,3 x 6 mm

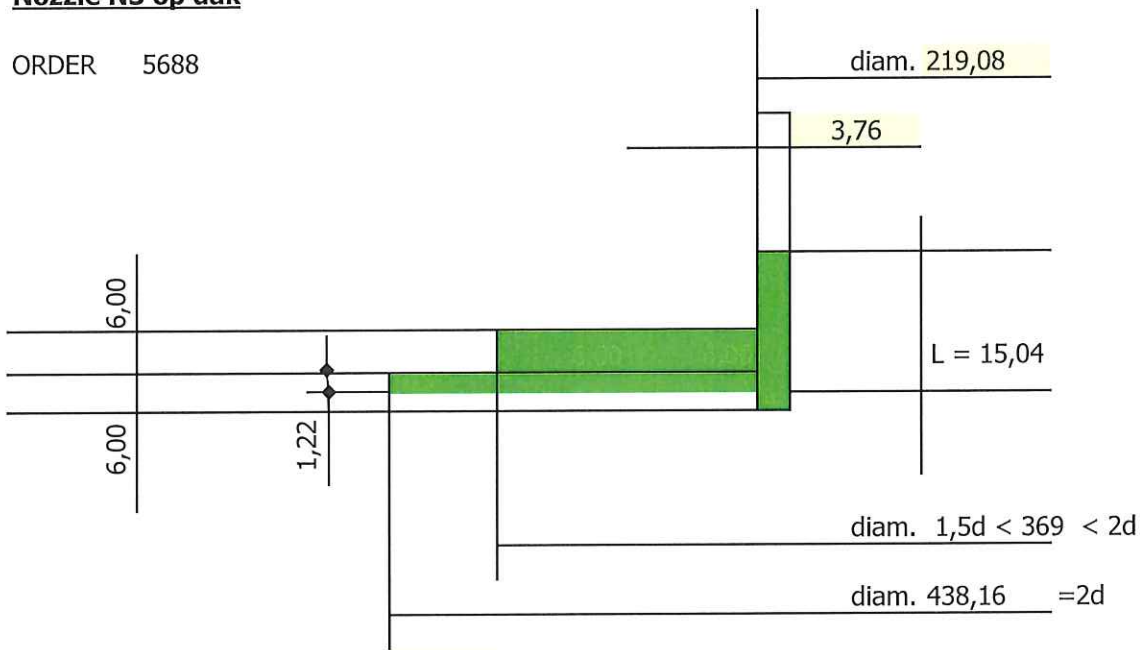
$$A_3 = (228 - 114,3) \times 6 = 682,20 \text{ mm}^2$$

$$A_{tot} = A_1 + A_2 + A_3 = \underline{\underline{896 \text{ mm}^2}} > 410 \text{ mm}^2$$



Nozzle N3 op dak

ORDER 5688



Berekende dakdikte : 4,78 mm
Toegepaste dakdikte : 6,00 mm
Toegepaste versterking : 6,00 mm
Buitendiameter versterking : 369 mm

Benodigde gatversterking :

$$A = 0,75 \times d \times e \\ = 0,75 \times 219,08 \times 4,78 = 785 \text{ mm}^2$$

Beschikbare gatversterking :

$$A1 = (438,16 - 219,08) \times (6 - 4,78) = 267,28 \text{ mm}^2 \\ A2 = L = 15,04 \times 2 \times 3,76 = 113,10 \text{ mm}^2$$

Toegepaste versterking :

diam. 369/219,08 x 6 mm

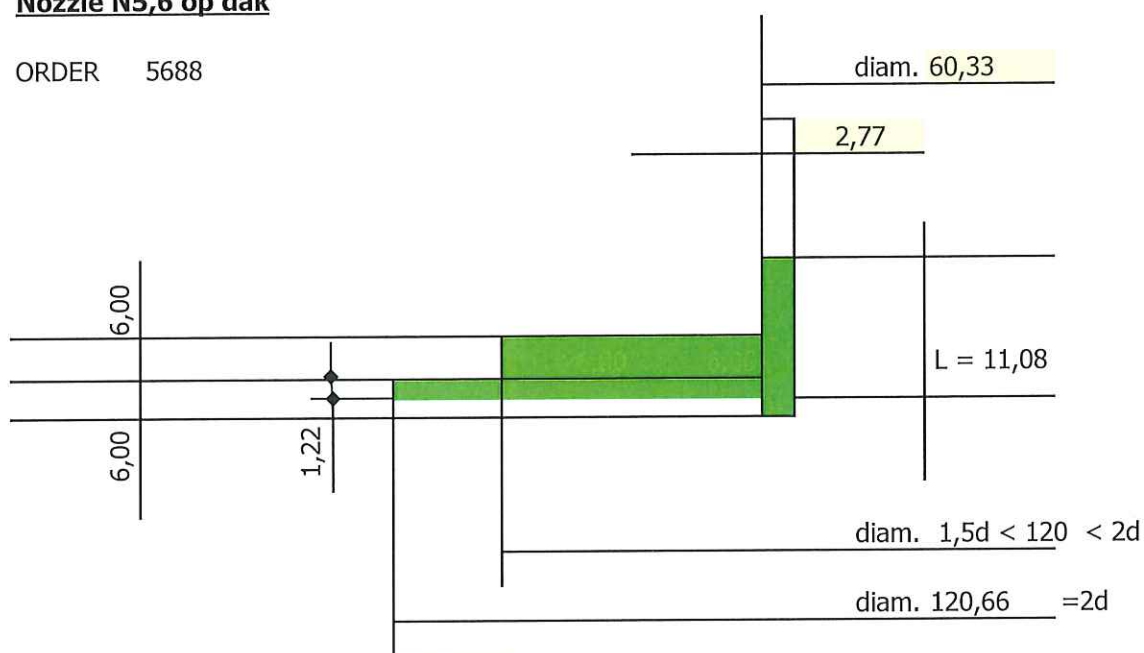
$$A3 = (369 - 219,08) \times 6 = 899,52 \text{ mm}^2$$

$$A_{\text{tot}} = A1 + A2 + A3 = 1.280 \text{ mm}^2 > 785 \text{ mm}^2$$

Handwritten signature or mark.

Nozzle N5,6 op dak

ORDER 5688



Berekende dakdikte :	4,78 mm
Toegepaste dakdikte :	6,00 mm
Toegepaste versterking :	6,00 mm
Buitendiameter versterking :	120 mm

Benodigde gatversterking :

$$A = 0,75 \times d \times e$$
$$= 0,75 \times 60,33 \times 4,78 = 216 \text{ mm}^2$$

Beschikbare gatversterking :

$$\begin{aligned} A1 &= (120,66 - 60,33) \times (6 - 4,78) = 73,60 \text{ mm}^2 \\ A2 &= L = 11,08 \times 2 \times 2,77 = 61,38 \text{ mm}^2 \end{aligned}$$

Toegepaste versterking :

diam. 120/60,33 x 6 mm

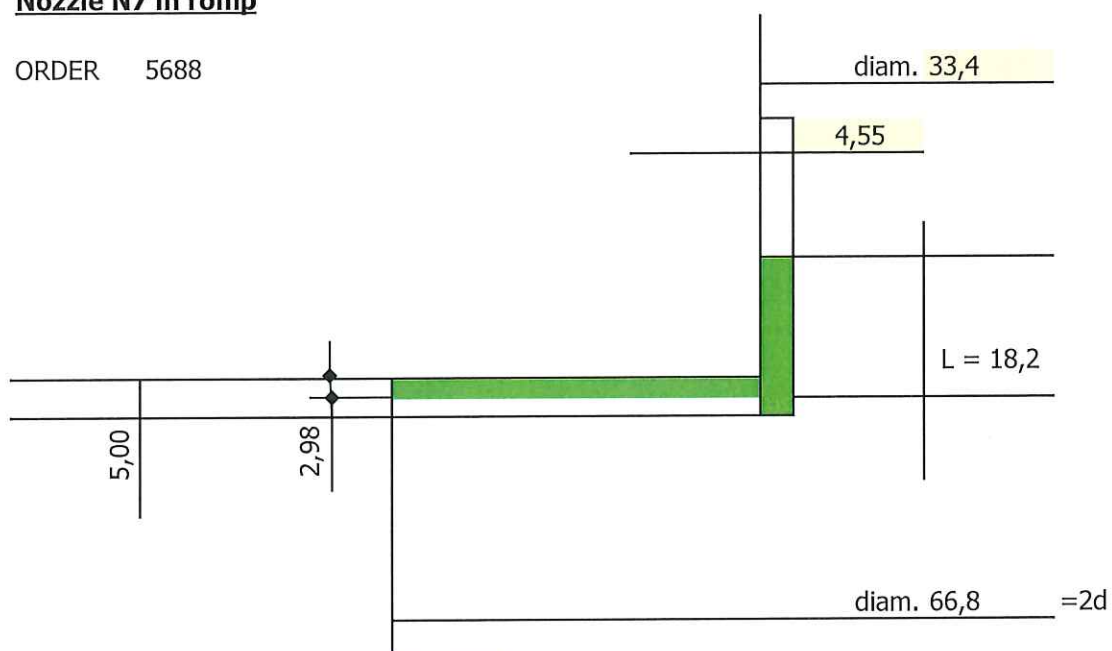
$$A_3 = (120 - 60,33) \times 6 = 358,02 \text{ mm}^2$$

$$A_{\text{tot}} = A_1 + A_2 + A_3 = \underline{493 \text{ mm}^2} > 216 \text{ mm}^2$$



Nozzle N7 in romp

ORDER 5688



Berekende rompdikte: 2,02 mm
Toegepaste rompdikte: 5,00 mm

Benodigde gatversterking :

$$A = 0,75 \times d \times e \\ = 0,75 \times 33,4 \times 2,02 = 51 \text{ mm}^2$$

Beschikbare gatversterking :

$$A1 = (66,8 - 33,4) \times (5 - 2,02) = 99,53 \text{ mm}^2 \\ A2 = L = 18,2 \times 2 \times 4,55 = 165,62 \text{ mm}^2$$

geen versterking nodig

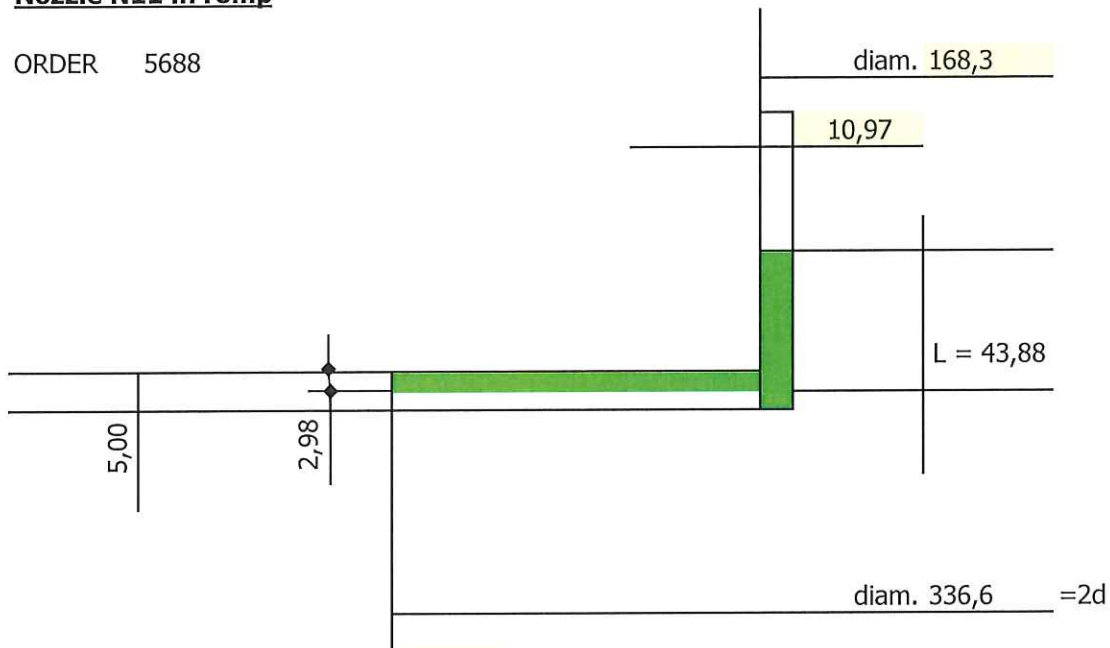
$$A3 = 0,00 \text{ mm}^2$$

$$A_{\text{tot}} = A1 + A2 + A3 = 265 \text{ mm}^2 > 51 \text{ mm}^2$$

RA

Nozzle N11 in romp

ORDER 5688



Berekende rompdikte: 2,02 mm
Toegepaste rompdikte: 5,00 mm

Benodigde gatversterking :

$$\begin{aligned} A &= 0,75 \times d \times e \\ &= 0,75 \times 168,3 \times 2,02 = 255 \text{ mm}^2 \end{aligned}$$

Beschikbare gatversterking :

$$\begin{aligned} A1 &= (336,6 - 168,3) \times (5 - 2,02) = 501,53 \text{ mm}^2 \\ A2 &= L = 43,88 \times 2 \times 10,97 = 962,73 \text{ mm}^2 \end{aligned}$$

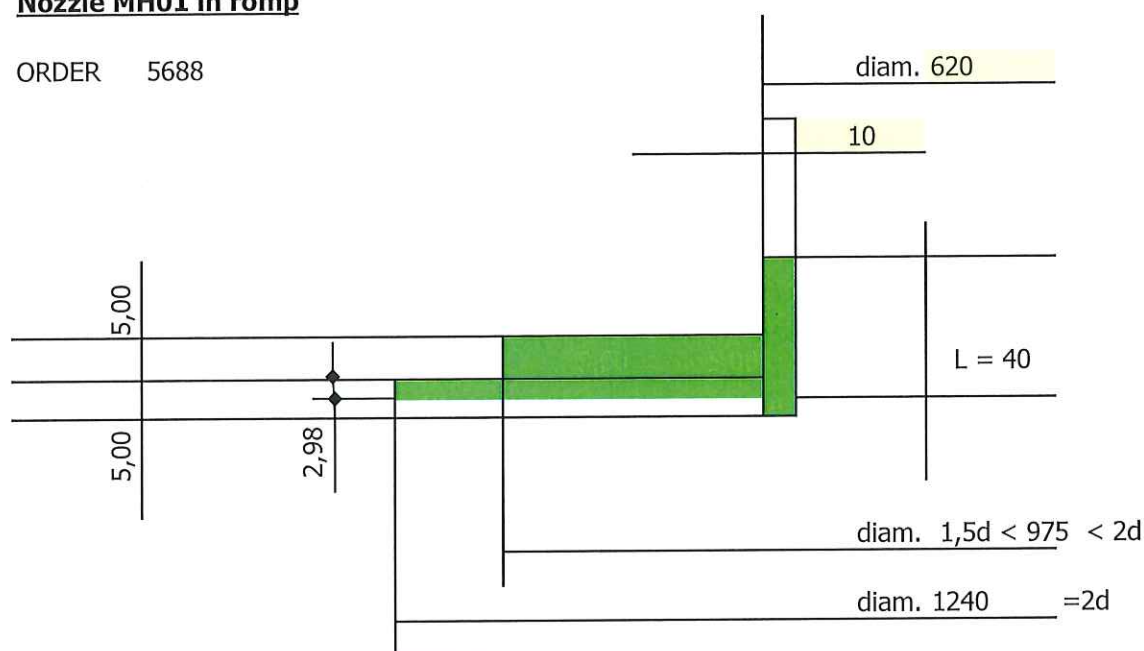
geen versterking nodig

$$A3 = 0,00 \text{ mm}^2$$

$$A_{\text{tot}} = A1 + A2 + A3 = \underline{1.464 \text{ mm}^2} > 255 \text{ mm}^2$$

Nozzle MH01 in romp

ORDER 5688



Berekende rompdikte:	2,02 mm
Toegepaste rompdikte:	5,00 mm
Toegepaste versterking :	5,00 mm
Buitendiameter versterking :	975 mm

Benodigde gatversterking :

$$A = 0,75 \times d \times e$$
$$= 0,75 \times 620 \times 2,02 = 939 \text{ mm}^2$$

Beschikbare gatversterking :

$$\begin{aligned} A1 &= (1240-620) \times (5 - 2,02) = 1.847,60 \text{ mm}^2 \\ A2 &= L = 40 \times 2 \times 10 = 800,00 \text{ mm}^2 \end{aligned}$$

Toegepaste versterking :
diam. 975/620 x 5 mm

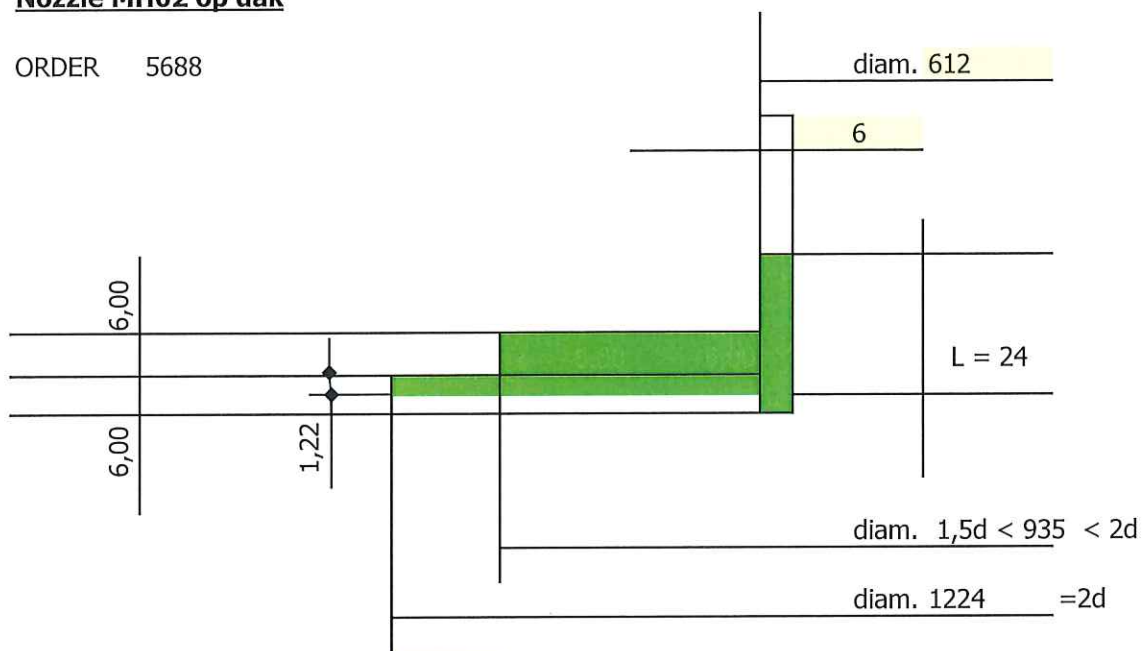
$$A3 = (975-620) \times 5 = 1.775,00 \text{ mm}^2$$

$$A_{\text{tot}} = A_1 + A_2 + A_3 = \overline{4.423 \text{ mm}^2} > 939 \text{ mm}^2$$



Nozzle MH02 op dak

ORDER 5688



Berekende dakdikte : 4,78 mm
Toegepaste dakdikte : 6,00 mm
Toegepaste versterking : 6,00 mm
Buitendiameter versterking : 935 mm

Benodigde gatversterking :

$$A = 0,75 \times d \times e \\ = 0,75 \times 612 \times 4,78 = 2.194 \text{ mm}^2$$

Beschikbare gatversterking :

$$A1 = (1224 - 612) \times (6 - 4,78) = 746,64 \text{ mm}^2 \\ A2 = L = 24 \times 2 \times 6 = 288,00 \text{ mm}^2$$

Toegepaste versterking :
diam. 935/612 x 6 mm

$$A3 = (935 - 612) \times 6 = 1.938,00 \text{ mm}^2$$

$$A_{\text{tot}} = A1 + A2 + A3 = \underline{2.973 \text{ mm}^2} > 2194 \text{ mm}^2$$

Berekeningen - Calculations

Lifting Lugs

A handwritten signature in blue ink, consisting of a stylized 'S' or 'J' shape with a horizontal line extending to the right.

Ordernr: 5688
 Klant: Argen Energy
 Tek N°: B020300-A0051-5688A-0821

Dimensions and data

Tank Dimensions

L1 =	7770 [mm]	(distance from top lifting lug to tailing lug)
L3 =	4300 [mm]	(distance tailing lug to center of gravity)
L2 =	3470 [mm]	(distance top lug to center of gravity)
L4 =	3275 [mm]	(distance tailing lug to vertical axis of tank = $R_{\text{tank}} + \text{height lifting lug}$)
W _L =	15750 [kg]	(weight of empty tank * overall load faktor = 1,5)
W _L =	154508 [N]	

Lifting lug dimensions

# number of lugs	2	
Calculation for top- or tailing lug?	top	[Top / Tail]
t =	thickness shell	5 mm
t _L =	thickness lug	20 mm
A =	width lug	100 mm
L ₁ =	Lenght lug	360 mm
Dc =	distance pin-hole center to X-axis (left side lug) =	50 mm
L ₃ =	width lug-edge to center lug at center pin-hole =	50 mm
L ₄ =	width lug-edge to center lug underside eyepad =	50 mm
L ₅ =	width lug-edge to center lug at gusset plate =	mm
R ₃ =	distance pin-hole center to top lug =	50 mm
D ₁ =	diametre pin-hole	40 mm
D ₃ =	diametre eye-pad	mm
t _p =	thickness eye-pad	mm

Welding group

L _x	= length weld strip [mm]
Y _n	= distance center of gravity strip to X-axis [mm]
X _n	= distance center of gravity strip to Y-axis [mm]
I _{x-n}	= moment of inertia (pro mm weld thickness) strip around X _z -axis [mm ⁴ /mm]
I _{y-n}	= moment of inertia (pro mm weld thickness) strip around Y _z -axis [mm ⁴ /mm]
O	= orientation weld strip, X = parallel to Z _x -axis, Y = parallel to Z _y -axis
X _z	= largest distance of weld strip to gravity point along X-axis
Y _z	= largest distance of weld strip to gravity point along Y-axis
r _z	= $(X_z^2 + Y_z^2)^{1/2}$

N° strip	L _x	Y _n	X _n	O	I _{x-n}	I _{y-n}	X _z	Y _z	r _z
1	215	107	0	x	24886	1182003	66,93396	11	68
2	215	107	100	x	24886	1587663	166,934	11	167
3	100	50	0	y	297196	164569	40,56604	96	104
4				y	0	0			
5									
6									
7									
8									
9									
10									
530					max radius of weld=				167

B =	welding height lug	215 mm
G =	height from gusset to center pin hole	87 mm
w =	welding thickness	6 mm

Material specs

F _m = Tensile strenght of lug material	530 N/mm ²
F _y = minimum specified yield stress lug material =	240 N/mm ²
F _B = maximum allowable bending stress = F_y/S_F =	180 N/mm ²
F _T = maximum allowable Tension stress = F_y/S_F =	120 N/mm ²
F _s = maximum allowable shear stress(pin-hole) = F_y/S_F =	120 N/mm ²
F _s = maximum allowable shear stress = F_y/S_F =	120 N/mm ²
F _p = maximum allowable bearing stress = F_y/S_F =	216 N/mm ²
F _w = maximum allowable stress on weld = $F_m/(S_F * 3^{1/2})$	175 N/mm ²

Safety faktor S _f
1,3
2,0
2,0
2,0
1,1
1,75



Ordernr: 5688
Klant: Argen Energy
Tek N°: B020300-A0051-5688A-0821

Calculations

Loads during lifting at lifting angle Theta.

T_0 = total load on tailing lug P_0 = total load on top lug
 T_L = longitudinal load on tailing lug P_L = longitudinal load on top lug
 T_T = transverse load on tailing lug P_T = transverse load on top lug

θ = angle between vertical axis tank and floor

θ	0	10	20	30	40	50	60	70	80	90	MAX
T_0	69001	64228	59824	55496	50973	45930	39884	31974	20352	0	
T_T	0	11153	20461	27748	32765	35184	34541	30046	20043	0	35184
T_L	69001	63252	56216	48061	39048	29523	19942	10936	3534	0	69001
P_0	85506	90280	94684	99011	103534	108577	114623	122533	134156	154508	
P_T	85506	88908	88974	85746	79312	69792	57312	41909	23296	0	88974
P_L	0	15677	32384	49506	66550	83175	99267	115144	132117	154508	154508

Lifting lug calculation

section modulus = $Z = (A^2 \times t_L) / 6 = 33333,33 \text{ mm}^3$
 A_p = Net section at pin hole = $2 \times L_3 \times t_L + 2 \times t_p (D_3 - D_1) = 2000 \text{ mm}^2$
 A_{nx} = Net section at side pin-hole = $t_L \times (D_c - D_1/2) + 2 \times t_p \times [(D_3 - D_1)/2] = 600 \text{ mm}^2$
 A_{ny} = Net section at top of lug = $t_L \times (R_3 - D_1/2) + 2 \times t_p \times [(D_3 - D_1)/2] = 600 \text{ mm}^2$
Moment at lug $M_L = P_T \times E + P_L \times (L_3 - D_c)$ Nmm = worst case moment P_L an P_T same sign
Bending stress in lug $\sigma_b = M_L / Z =$ N/mm²
Tension at underside lug $\sigma_L = P_L / (2 \times L_4 \times t_L) =$ N/mm²
 τ_p = shear stress at pin-hole = $P_T / (A_p) =$ N/mm²
 τ_{Lx} = shear stress at side of lug = $P_L / (2 \times A_{nx}) =$ N/mm²
 τ_{Ly} = shear stress at top of lug = $P_T / (A_{ny}) =$ N/mm²
 σ_p = pin bearing stress = $P_T / D_3 \times (t_L + 2 \times t_p)$ or $P_T / (D_1 \times t_L) =$ N/mm²

θ = angle between vertical axis tank and floor

θ	0	10	20	30	40	50	60	70	80	90	MAX
M_L	4061539	4223130	4226245	4072940	3767306	3315132	2722305	1990673	1106554	0	4,23E+06
σ_b	122	127	127	122	113	99	82	60	33	0	127
σ_L	0	4	8	12	17	21	25	29	33	39	39
τ_p	0	4	8	12	17	21	25	29	33	39	39
τ_{Lx}	0	7	13	21	28	35	41	48	55	64	64
τ_{Ly}	71	74	74	71	66	58	48	35	19	0	74
σ_p	53	56	56	54	50	44	36	26	15	0	56

Max loads from above table.

σ_b	127 N/mm ²	< allowable
σ_L	39 N/mm ²	< allowable
τ_p	39 N/mm ²	< allowable
τ_{Lx}	64 N/mm ²	< allowable
τ_{Ly}	74 N/mm ²	< allowable
σ_p	56 N/mm ²	< allowable

Ordernr: 5688
 Klant: Argen Energy
 Tek N°: B020300-A0051-5688A-0821

Weld Calculation

Center of gravity welding group

distance of Z to X-axis = 96,2 mm
 distance of Z to Y-axis = 40,6 mm

Inertia moments of the joint

I_{xz} = moment of inertia weld group around X_z -axis [mm^4/mm] 3,47E+05 [mm^4/mm]
 I_{yz} = moment of inertia weld group Y_z -axis [mm^4/mm] 2,93E+06 [mm^4/mm]
 I_{pz} polair moment of inertia = $I_{pz} = I_{xz} + I_{yz}$ [mm^4/mm] 3,28E+06 [mm^4/mm]

Applied forces and moments.

L_{Tx} = distance center of gravity to center pin-hole X-direction= -9 mm
 L_{Ty} = distance center of gravity to center pin-hole Y-direction= 214 mm
 Moment at center of gravity welding group $M_w = P_T \cdot L_{Ty} + P_L \cdot L_{Tx}$ Nmm = worst case moment P_L an P_T same sign
 f_{wx} = max. force on weld in X-direction = $P_T/L_w + (Y_z \cdot M_w)/I_{pz}$ N/mm
 f_{wy} = max. force on weld in Y-direction = $P_L/L_w + (X_z \cdot M_w)/I_{pz}$ N/mm
 f_w = max. combined force on weld = $(F_{wx}^2 + F_{wy}^2)^{1/2}$
 Y_z = distance to X-as from critical point in welding group 11 mm
 X_z = distance to Y-as from critical point in welding group 167 mm

θ = angle between vertikal axis tank and floor

θ	0	10	20	30	40	50	60	70	80	90	MAX
M_w	9138664	9428304	9356507	8930801	8162709	7066875	5657082	3935981	1866605	-728809	9,43E+06
f_{wx}	111	115	115	110	102	89	73	52	28	-2	115
f_{wy}	465	494	507	501	478	438	381	309	220	109	507
f_w	478	508	519	513	489	447	388	313	221	109	519

Max load from above table.

f_w = 519 N/mm

Minimum needed weld size = f_w/F_w = 2,97 mm

Used weld size = 6 mm < allowable

Handwritten signature or mark.

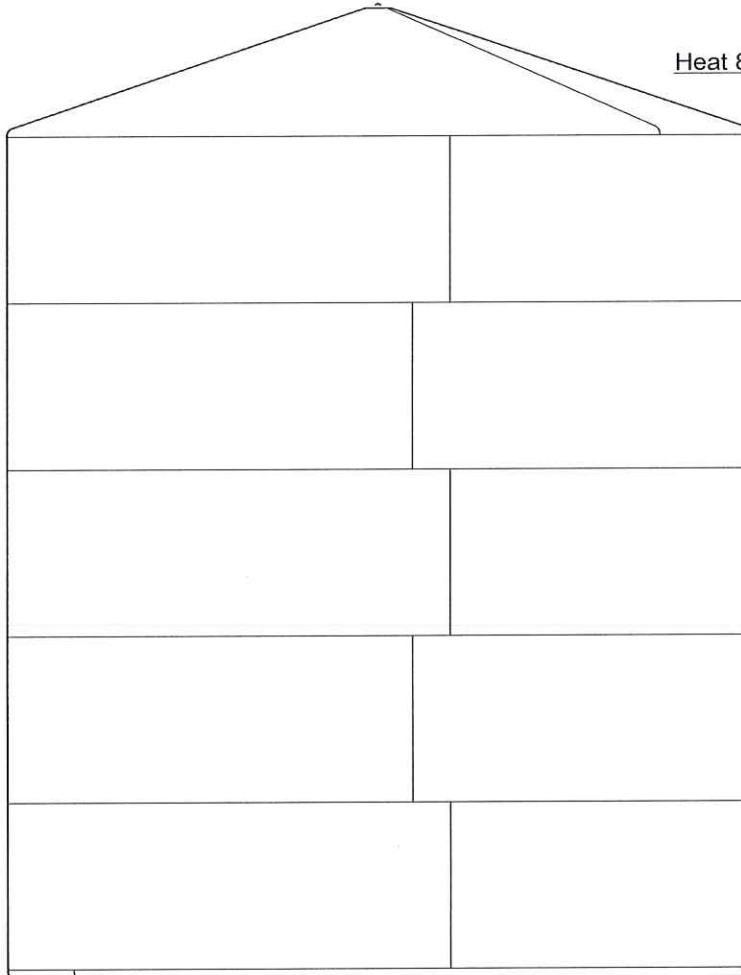
MATERIAL TRACEABILITY RECORDS

5688B - BIODIESEL ARGENT II BV
1 x Vert. St. Steel Tanks B120300
Cap. ca 198m³ /242m³



LAYOUT MATERIAL

ORDER Nr **5688A: B020300**
5688B: B120300



Heat 893185 - 463896 1.4307 Cert 03

Heat 142133 1.4307 Cert 02

Heat 142133 1.4307 Cert 02

Heat 142133 1.4307 Cert 02

Heat 142133 1.4307 Cert 02

Heat 128035 1.4307 Cert 01

Heat 127109 - 128035 -133077 1.4307 Cert 01

MATERIAL TRACEABILITY RECORDS

Manufacturer : Ziemann-Holvrieka nv Year built : 2022 Tank n° B120300
 Shop order nr. : 5688B Drawing nr. : A0051-5688B-0821 Client : BIODIESEL ARGENT II BV
 Design approval : ATLC Design appr. Nr. : ATLC 19/220627/04

Herewith we declare: for the production of 1 x Vert. St. Steel Tank B120300

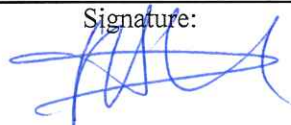
the materials are used according to the following list being provided with the matching material test certificates.

Pos.	Part of vessel	Material type	Delivered by	Cert.	Heat Nr.	Cert. Nr.
1	Flat bottom	Øins.6200*5 R=65 H=80mm 1.4307	APERAM	3.1	127109 - 128035 -133077	Cert 01
2	Shell	Øins.6200*5 H=1500mm 1.4307	APERAM	3.1	128035	Cert 01
3	Shell	Øins.6200*4 H=1000mm 1.4307	APERAM	3.1	142133	Cert 02
4	Top	Øins. 6200*6 ∠=20° R=65mm 1.4307	OUTOKUMPU - APERAM	3.1	893185 - 463896	Cert 03
5	Flange	DN100 PN16 EN1092-1 Type 11 1.4306	CHANDAN	3.1	CH-11800	Cert 04
6	Pipe DN100 (Connection to Z020100)	Ø114,3*3,05 1.4306	FROCH	3.1	AQC050463	Cert 05
8	Flange	DN100 PN16 EN1092-1 Type 11 1.4306	CHANDAN	3.1	CH-11800	Cert 04
9	Pipe DN100 (Radar)	Ø114,3*3,05 1.4306	FROCH	3.1	AQC050463	Cert 05
11	Flange	DN200 PN10 EN1092-1 Type 11 1.4404	VIRAJ	3.1	116001	Cert 06
12	Pipe DN200 (Vent)	Ø219,08*3,76 1.4404	FROCH	3.1	APS070146	Cert 07
15	Flange	DN100 PN16 EN1092-1 Type 11 1.4306	CHANDAN	3.1	CH-11800	Cert 04
16	Pipe DN100 (Crude biodiesel)	Ø114,3*3,05 1.4306	FROCH	3.1	AQC050463	Cert 05
18	Flange	DN50 PN16 Type 11 1.4306	VIRAJ	3.1	61718	Cert 08
19	Pipe DN50 (Catalyst connection)	Ø60,33*2,77 1.4306	YC INOX	3.1	PCB040019	Cert 09
21	Flange	DN50 PN16 Type 11 1.4306	VIRAJ	3.1	61718	Cert 08
22	Pipe DN50 (High level)	Ø60,33*2,77 1.4306	YC INOX	3.1	PCB040019	Cert 09
26	Flange DN600	Ø785/620*22 1.4306	OUTOKUMPU	3.1	510228	Cert 10
27	Pipe DN600	Ø620*10 1.4306	MARCEGAGLIA	3.1	0LDC	Cert 11
29	Blindflange DN600	Ø785*16 1.4306	ARCELOR MITTAL	3.1	76241	Cert 12
35	Flange	DN50 PN16 EN1092-1 Type 11 1.4306	EBITZ	3.1	58146 - 58218	Cert 13
36	Pipe DN50 80Sch (Spare)	Ø60,33*5,54 1.4306	SURAJ	3.1	FF-5781	Cert 14

Inspection according to EN14015

Smaller, pressure containing parts like stanchions etc. are produced using tested materials according to the drawing. These materials are delivered according to the valid requirements and supplied with the matching test certificates. The material test certificates are available for inspection. The particular certificates are filed for at least 10 years. Copies are available upon request.

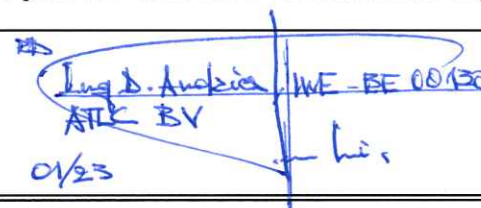
Signature:



Insp. Auth. :

Signature :

Date :


 Ing. B. Andrija / WE-BE 00130
 ATLC BV
 01/23

Date : 30/01/2023

Tank n° *B120300*
Client : *BIODIESEL ARGENT II BV*

Date : 30/01/2023

Cert 01

 Correspondentieadres: Aperam Genk Swinnenwijerweg 5, Poort Genk 7523 3600 Genk, Belgium Tel. +32 (0)89 30 21 11		MILL CERTIFICATE BS EN 10204/3.1 CERTIFICAT DE RECEPTION NF EN 10204/3.1 ABNAHMEPRUEFZEUGNIS DIN EN 10204/3.1										N-Nr-N 21K0033875-01 V01											
		Certified acc.PED 2014/68/EU Annex I 4.3 by Certification Body 0036 of TUV SUD Industrie Service GmbH with cert.No.:314/2007/MUC.Renounced of counter signature agreed by TÜV SÜD (9/5/2007).Approved acc.AD 2000-Merkblatt W0/TRD 100 by TÜV SÜD Industrie Service GmbH.Confirmation letter from TÜVSÜD Industrie Service GmbH of 07/05/2010 about the uniformity of coils acc.AD2000 W2 4.1.1										40333L 40334L 40335L 40336L											
Manufacturer's works order number N° de la commande usine productrice Werksauftragsnummer 80698356/03-25118/003/03		Surveyor's mark Cachet de l'expert Stempel des Werkssachverstaendigen 		Purchaser and/or consignee Client et/ou destinataire Besteller und/oder Empfaenger ZIEMANN HOLVRIEKA N.V. WERVIKSTRAAT 350 8930 MENEN BELGIE						Purchaser's order number N° de commande client Kundenbestellnummer 20906													
Product - Produit - Erzeugnis COIL, COLD ROLLED, FINISH 2 B COIL, LAMINE A FROID, FINI 2 B COIL,KALTGEWALZT,GEGLUEHT+GEBEIZT,LEICHT NACHGEWALZT		Steel designation Désignation de l'acier Stahlbezeichnung EN 10088-2-2014 1.4307 EN 10028-7-2016 1.4307 ASTM A 240-2020 TYPE 304L ASME SA 240-2019 TYPE 304L		Finish Présentation Ausfuehrung 2B 2B 2B 2B		Steelmaking process Mode d'élaboration de l'acier - Stahlherstellungverfahren Prod.proces: Electric arc furnace - VOD/AOD - Continuous casting Proc.fabric.: Four à arc - VOD/AOD - Coulée continue Fertigungsablauf: Elektro-Ofen - VOD/AOD - Stranggussanlage						Product delivery condition Etat de livraison du produit - Lieferzustand Solution Annealing Hypertrempe 1050 °C Lösungsglühen Forced air-water/air forcé-eau Geblaease Luft-Wasser											
40333L-40334L-40335L-40336L																							
Identification of the product Identification du produit - Identifizierung des Erzeugnisses MELTED IN BELGIUM, MADE IN BELGIUM		Dimensions Dimensions - Abmessungen Thickness Epaisseur - Staerke 5.00 mm						Width Largeur - Breite 1500.00 mm		Length Longueur - Laenge		Number of pieces Nb de pièces - Stueckzahl 4											
Coil n. N.Bobine - Band Nr. 12710945		Heat n. N.Coulée - Schmelz Nr. 127109		Any supplementary requirements Prescriptions supplémentaires - Zusätzliche Anforderungen		Net weight Poids net - netto Gewicht 21140 KG																	
CHEMICAL ANALYSIS - ANALYSE CHIMIQUE - CHEMISCHE ZUSAMMENSETZUNG																							
Required -Exigé %mini Anforderung. %maxi		C		Si		Mn		Ni		Cr		Mo		Ti		N		S		P			
Cast Analysis Analyse coulee Analyse Schmelze		0.028		0.47		1.50		8.05		18.12		0.077		0.001		0.033							
Positive material identification carried out : OK Tests de vérification de la conformité de la nuance fournie : OK Verwechslungpruefung wurde durchgefuehrt : OK																							
Location (1)		MECHANICAL PROPERTIES - PROPRIETES MECANIKES - MECHANISCHE WERTE EN ISO 6892-1 B / A-SA 370																					
Direction (2)		Room temperature - Température ambiante - Raumtemperatur																					
Required Exigé Anforderung		Yield or proof strength Limite d'élasticité Dehngrenze MPa				Tensile Strength Résistance à la traction Zugfestigkeit MPa				Elongation after fracture Allongement après rupt. Bruchdehnung %				Hardness Dureté Haerte		Yield or proof strength Limite d'élasticité Dehngrenze MPa				Tensile str. Résist. MPa Zugfestigkeit		Elongation % Allongement. Bruchdehnung	
1 T		Rp0.2%		Rp1%		Rm		A5		50mm		HRBW		Rp0.2%		Rp1%		Rm		A5			
Obtained Obtenu Ergebnisse		220		250		520 700		45		45		92											
Impact strength test Essai de résilience Kerbschlagzaehigkeitstest		Corrosion test Test de corrosion Korrosionstest				Roughness EN ISO 4288				E0.2(T)/R(T) %													
C40 (°C)		C44				EN ISO 3651/2 - A:OK				0.34		50		C52		C53		C54		C55			
C42		D51				Internal cleanliness:				A:		B:		C:		D:		C57					
Location of the sample (1) Emplacement de l'échantillon Lage des Probenabschnittes 1. Front - Début - Anfang 2. Back - Fin - Ende 3. Middle - Milieu - Mitte		The delivery is in accordance with the order La fourniture est conforme aux exigences de la commande Die lieferung entspricht den Bestellbedingungen				Packing list Avis d'expédition LieferscheinNummer 2021046838-25118				Organisation inspection Organisme et/ou service contrôle Ueberwachungsabteilung Quality Department 8/9/2021 The inspector Le responsable Der Werkssachverstaendige  R. Vliegen													
Direction of the test pieces (2) Orientation des éprouvettes Probenrichtung T. Transverse - Travers - Quer L. Longitudinal - Long - Laengs		Marking, inspection and measurement : without objection Contrôle de marquage, d'aspect et de dimensions : satisfaisants Pruefung der Stempelung, des Oberflaechenaspekts und der Abmessungen : ohne Beanstandung																					

Cert 01

 Correspondentieadres: Aperam Genk Swinnenwijerweg 5, Poort Genk 7523 3600 Genk, Belgium Tel. +32 (0)89 30 21 11		MILL CERTIFICATE BS EN 10204/3.1 CERTIFICAT DE RECEPTION NF EN 10204/3.1 ABNAHMEPRUEFZEUGNIS DIN EN 10204/3.1										N-Nr-N 21K0035378-01 V01							
		Certified acc.PED 2014/68/EU Annex I 4.3 by Certification Body 0036 of TUV SUD Industrie Service GmbH with cert.No.:314/2007/MUC.Renounced of counter signature agreed by TÜV SÜD (9/5/2007).Approved acc.AD 2000-Merkblatt W0/TRD 100 by TÜV SÜD Industrie Service GmbH.Confirmation letter from TÜVSÜD Industrie Service GmbH of 07/05/2010 about the uniformity of coils acc.AD2000 W2 4.1.1																	
Tech.Req.:AD 2000 W2 -- AD 2000 W10 -- EN 13445-2																			
Manufacturer's works order number N° de la commande usine productrice Werksauftragsnummer 80698356/03-25118/003/03				Surveyor's mark Cachet de l'expert Stempel des Werkssachverstaendigen 		Purchaser and/or consignee Client et/ou destinataire Besteller und/oder Empfaenger ZIEMANN HOLVRIEKA N.V. WERVIKSTRAAT 350 8930 MENEN BELGIE						Purchaser's order number N° de commande client Kundenbestellnummer 20906							
Product - Produit - Erzeugnis COIL, COLD ROLLED, FINISH 2 B COIL, LAMINE A FROID, FINI 2 B COIL,KALTGEWALZT,GEGLUEHT+GEBEIZT,LEICHT NACHGEWALZT										Customer article number N.article client Artikelnummer des Kunden									
Steel designation Désignation de l'acier Stahlbezeichnung EN 10088-2-2014 1.4307 EN 10028-7-2016 1.4307 ASTM A 240-2020 TYPE 304L ASME SA 240-2019 TYPE 304L		Finish Présentation Ausfuehrung 2B 2B 2B 2B		Steelmaking process Mode d'élaboration de l'acier - Stahlherstellungverfahren Prod.proces: Electric arc furnace - VOD/AOD - Continuous casting Proc.fabric.: Four à arc - VOD/AOD - Coulée continue Fertigungsablauf: Elektro-Ofen - VOD/AOD - Stranggussanlage						Product delivery condition Etat de livraison du produit - Lieferzustand Solution Annealing Hypertrempe 1050 °C Lösungsglühen Forced air-water/air forcé-eau Geblase Luft-Wasser									
40343L-40344L-40345L-40346L-40347L																			
Identification of the product Identification du produit - Identifizierung des Erzeugnisses MELTED IN BELGIUM, MADE IN BELGIUM				Dimensions Dimensions - Abmessungen Thickness B09 Epaisseur - Staerke 5.00 mm						Width B10 Largeur - Breite 1500.00 mm		Length B11 Longueur - Laenge		Number of pieces B08 Nb de pièces - Stueckzahl 5					
Coil n. N.Bobine - Band Nr. 12803518		Heat n. N.Coulée - Schmelz Nr. 128035								Net weight B13 Poids net - netto Gewicht 26200 KG									
CHEMICAL ANALYSIS - ANALYSE CHIMIQUE - CHEMISCHE ZUSAMMENSETZUNG																			
		C	Si	Mn	Ni	Cr	Mo	Ti	N	S	P								
Required -Exigé %mini Anforderung. %maxi		0.030	0.75	2.00	8.00 10.50	18.00 19.50			0.100	0.015	0.045								
Cast Analysis Analyse coulee Analyse Schmelze		0.019 C71	0.42 C72	1.49 C73	8.03 C74	18.03 C75			0.074 C78	0.002 C79	0.031 C80								
Positive material identification carried out : OK Tests de vérification de la conformité de la nuance fournie : OK Verwechslungspruefung wurde durchgefuehrt : OK								D52											
Location (1)		MECHANICAL PROPERTIES - PROPRIETES MECANQUES - MECHANISCHE WERTE EN ISO 6892-1 B / A-SA 370										C20							
		Room temperature - Température ambiante - Raumtemperatur										Test temperature (°C) :							
1	T	Direction (2) Required Exigé Anforderung mini maxi		Yield or proof strength Limite d'élasticité Dehngrenze MPa Rp0.2% Rp1%		Tensile Strength Résistance à la traction Zugfestigkeit MPa Rm		Elongation after fracture Allongement après rupt. Bruchdehnung % 50mm A5		Hardness Dureté Haerte HRBW		Yield or proof strength Limite d'élasticité Dehngrenze MPa Rp0.2% Rp1%		Tensile str. Résist. MPa Zugfestigkeit Rm		Elongation % Allongement. Bruchdehnung 50mm			
				220 250		520 700		45 45		92									
		Obtained Obtenu Ergebnisse		312 348		626		54 54		87									
				C11 C14		C12		C13 C15		C31		C16 C17		C18 C19					
Impact strength test Essai de résilience Kerbschlagzaehigkeitstest				Corrosion test Test de corrosion Korrosionstest				Roughness EN ISO 4288		E0.2(T)/R(T) %									
C40 t(°c) C44				EN ISO 3651/2 - A:OK				0.52 49 C51		C52		C53 C54 C55		C05					
C42				D51				Internal cleanliness: A: B: C: D:											
Location of the sample (1) Emplacement de l'échantillon Lage des Probenabschnittes 1. Front - Début - Anfang 2. Back - Fin - Ende 3. Middle - Milieu - Mitte				The delivery is in accordance with the order La fourniture est conforme aux exigences de la commande Die lieferung entspricht den Bestellbedingungen				Organisation inspection Organisme et/ou service contrôle Ueberwachungsabteilung				A05							
C01				Packing list Avis d'expédition LieferscheinNummer 2021047396-25118				A10				Quality Department 17/9/2021 The inspector Le responsable Der Werkssachverstaendige  R. Vliegen				Z02			
Direction of the test pieces (2) Orientation des éprouvettes Probenrichtung T. Transverse - Travers - Quer L. Longitudinal - Long - Laengs				Marking, inspection and measurement : without objection Contrôle de marquage, d'aspect et de dimensions : satisfaisants Pruefung der Stempelung, des Oberflaechenaspekts und der Abmessungen : ohne Beanstandung				D01											

Cert 01

 Correspondentieadres: Aperam Genk Swinnenwijerweg 5, Poort Genk 7523 3600 Genk, Belgium Tel. +32 (0)89 30 21 11		MILL CERTIFICATE BS EN 10204/3.1 CERTIFICAT DE RECEPTION NF EN 10204/3.1 ABNAHMEPRUEFZEUGNIS DIN EN 10204/3.1										N-Nr-N 21K0035836-01 V01																					
		Certified acc.PED 2014/68/EU Annex I 4.3 by Certification Body 0036 of TUV SUD Industrie Service GmbH with cert.No.:314/2007/MUC.Renounced of counter signature agreed by TÜV SÜD (9/5/2007).Approved acc.AD 2000-Merkblatt W0/TRD 100 by TÜV SÜD Industrie Service GmbH.Confirmation letter from TÜVSÜD Industrie Service GmbH of 07/05/2010 about the uniformity of coils acc.AD2000 W2 4.1.1																															
Manufacturer's works order number N° de la commande usine productrice Werksauftragsnummer 80698356/02-25118/003/02		Surveyor's mark Cachet de l'expert Stempel des Werkssachverstaendigen 		Purchaser and/or consignee Client et/ou destinataire Besteller und/oder Empfaenger ZIEMANN HOLVRIEKA N.V. WERVIKSTRAAT 350 8930 MENEN BELGIE										Purchaser's order number N° de commande client Kundenbestellnummer 20906																			
Product - Produit - Erzeugnis COIL, COLD ROLLED, FINISH 2 B COIL, LAMINE A FROID, FINI 2 B COIL,KALTGEWALZT,GEGLUEHT+GEBEIZT,LEICHT NACHGEWALZT				Steel designation Désignation de l'acier Stahlbezeichnung EN 10088-2-2014 1.4307 EN 10028-7-2016 1.4307 ASTM A 240-2020 TYPE 304L ASME SA 240-2019 TYPE 304L										Finish Présentation Ausfuehrung 2B 2B 2B 2B		Steelmaking process Mode d'élaboration de l'acier - Stahlherstellungverfahren Prod.proces: Electric arc furnace - VOD/AOD - Continuous casting Proc.fabric.: Four à arc - VOD/AOD - Coulée continue Fertigungsablauf: Elektro-Ofen - VOD/AOD - Stranggussanlage										Product delivery condition Etat de livraison du produit - Lieferzustand Solution Annealing Hypertrempe 1050 °C Lösungsglühen Forced air-water/air forcé-eau Geblaease Luft-Wasser							
40350L-40351L																																	
Identification of the product Identification du produit - Identifizierung des Erzeugnisses MELTED IN BELGIUM, MADE IN BELGIUM		Dimensions Dimensions - Abmessungen Thickness Epaisseur - Staerke 5.00 mm										Width Largeur - Breite 1000.00 mm		Length Longueur - Laenge		Number of pieces Nb de pièces - Stueckzahl 2																	
Coil n. N.Bobine - Band Nr. 13307733		Heat n. N.Coulée - Schmelz Nr. 133077												Net weight Poids net - netto Gewicht 5680 KG																			
CHEMICAL ANALYSIS - ANALYSE CHIMIQUE - CHEMISCHE ZUSAMMENSETZUNG																																	
		C		Si		Mn		Ni		Cr		Mo		Ti		N		S		P													
Required -Exigé %mini Anforderung. %maxi		0.030		0.75		2.00		8.00 10.50		18.00 19.50						0.100		0.015		0.045													
Cast Analysis Analyse coulee Analyse Schmelze		0.027		0.41		1.47		8.08		18.08						0.073		0.004		0.030													
		C71		C72		C73		C74		C75		C76		C77		C78		C79		C80		C81		C82		C83		C84		C85		C86	
Positive material identification carried out : OK Tests de vérification de la conformité de la nuance fournie : OK Verwechslungspruefung wurde durchgefuehrt : OK																																	
Location (1)		MECHANICAL PROPERTIES - PROPRIETES MECANQUES - MECHANISCHE WERTE EN ISO 6892-1 B / A-SA 370																															
		Room temperature - Température ambiante - Raumtemperatur																Test temperature (°C) :															
1	T	Direction (2) Required Exigé Anforderung mini maxi	Yield or proof strength Limite d'élasticité Dehngrenze MPa		Tensile Strength Résistance à la traction Zugfestigkeit MPa		Elongation after fracture Allongement après rupt. Bruchdehnung %		Hardness Dureté Haearte		Yield or proof strength Limite d'élasticité Dehngrenze MPa		Tensile str. Résist. MPa Zugfestigkeit		Elongation % Allongement. Bruchdehnung																		
			Rp0.2% 220		Rp1% 250		Rm 520 700		50mm 45 45		HRBW 92																						
		Obtained Obtenu Ergebnisse	307		337		626		53		53		87																				
			C11		C14		C12		C13		C15		C31		C16		C17		C18		C19												
Impact strength test Essai de résilience Kerbschlagzaehigkeitstest			Corrosion test Test de corrosion Korrosionstest						Roughness EN ISO 4288		E0.2(T)/R(T) %																						
C40 (°c) C44			EN ISO 3651/2 - A:OK						0.52 C50		49 C51		C52		C53		C54		C55		C05												
C42									D51		Internal cleanliness: A: B: C: D: C57																						
Location of the sample (1) Emplacement de l'échantillon Lage des Probenabschnittes 1. Front - Début - Anfang 2. Back - Fin - Ende 3. Middle - Milieu - Mitte			The delivery is in accordance with the order La fourniture est conforme aux exigences de la commande Die lieferung entspricht den Bestellbedingungen						Packing list Avis d'expédition LieferscheinNummer 2021048013-25118		Organisation inspection Organisme et/ou service contrôle Ueberwachungsabteilung Quality Department 23/9/2021 The inspector Le responsable Der Werkssachverstaendige  R. Vliegen																						
Direction of the test pieces (2) Orientation des éprouvettes Probenrichtung T. Transverse - Travers - Quer L. Longitudinal - Long - Laengs			Marking, inspection and measurement : without objection Contrôle de marquage, d'aspect et de dimensions : satisfaisants Pruefung der Stempelung, des Oberflaechenaspekts und der Abmessungen : ohne Beanstandung																														



Aperam Stainless Services & Solutions Benelux S.A.

Genk-Zuid, Zone 5 Bosdel 87
B - 3600 GENK

Tel: +32 89 36 56 00
Fax: +32 89 36 56 31

**TEST REPORT
RELEVÉ DE CONTRÔLE
WERKSZEUGNIS**

According to / Selon / Gemäß
EN 10204

BL: 0179964 - 1

Date: 05/01/2022

Cert 02

40364L

Manufact. / Product. / Herstell.

APERAM STAINLESS EUROPE

Supplier Lot / Lot Fourn. / Band Nr

082006

Item / Article / Produkt

COIL 1.4307 2B 4,0 X 1500,0

Heat N° / N° de coulée / Schmelz Nr

142133

Customer / Client / Kunde

ZIEMANN HOLVRIEKA NV

Steel Designation / Désignation Acier / Stahlbezeichnung

EN 10028-7 WNR 1.4307/1.4301
EN 10088-2 WNR 1.4307/1.4301
ASTM A 240(M) TYPE 304L/304
ASME SA 240 TYPE 304L/304

Order / Commande / Order

112134954 - 01

Reference / Référence / Referenz

5722/21440

AD 2000 W2 -- AD 2000 W10 -- PED 2014/68/EU

Mill Certificate / N° de Certificats / Prüfzeugnis Nr

2110709483

Chemical Analysis / Analyse Chimique / Chemische Zusammensetzung

	C	Si	Mn	Ni	Cr	Mo	Ti	N	S	P	Cu	Al				
Cast Analysis Analyse Coulée Analyse	0,023	0,4	1,4	8,02	18,05			0,073	0,002	0,034	0,52					

Mechanical Properties / Propriétés Mécaniques / Mechanische Werte EN ISO 6892-1 B

	Yield strength Limite D'élasticité Dehngrenze MPA		Tensile strength Résistance à la traction Zugfestigkeit MPA		Elongation after fracture (A) Allongement après rupture Bruchdehnung %		Hardness Dureté Haerte	
	Rp 0.2 %	Rp 1%	Rm	A5	50 mm	HRB	DDQ	
	311		644		53	88		

Material Identification / Identification Matériel / Materialidentifikation

Lot Nr N° Lot Los Nr	Weight Poids Gewicht		Lot Nr N° Lot Los Nr	Weight Poids Gewicht		Lot Nr N° Lot Los Nr	Weight Poids Gewicht		Lot Nr N° Lot Los Nr	Weight Poids Gewicht
	Kg			Kg			Kg			Kg
0638361	5190									
40364L										

Number of lots / Nombre de lots / Bundanzahl : 1

Total weight / Poids Total / Gesamt Gewicht [Kg] : 5190

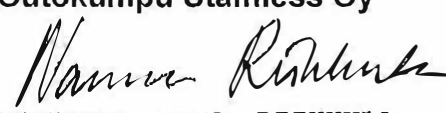
The Inspector
Le Responsable
Der Werksachverständige

Alf Schreurs

A04 aperam Aperam - Stainless France Aperam Isbergues 62330 Isbergues FRANCE A01		MILL CERTIFICATE BS EN 10204/3.1 CERTIFICAT DE RECEPTION NF EN 10204/3.1 ABNAHMEPRUEFZEUGNIS DIN EN 10204/3.1 A02 Ausgestellt im Einvernehmen mit dem TÜV SÜD - Auf Gegenzeichnung wird verzichtet Issued in accordance with TÜV SÜD - Verification is not required Etabli en accord avec le TÜV SÜD - Dispense de contresignature AD 2000 Merkblatt W0 - PED 2014/68 EU Annex I.Point 4.3 Z05										N-Nr-N 21I0709483-01 V01 A03 Cert 02																					
Manufacturer's works order number N° de la commande usine productrice Werksauftragsnummer 80744768 /01-32721/1 A08		Surveyor's mark Cachet de l'expert Stempel des Werkssachverstaendigen A08 UI2 Z03		Purchaser and/or consignee Client et/ou destinataire Besteller und/oder Empfaenger A06 APERAM SS&S BENELUX BOSDEL 87 87 3600 GENK BELGIQUE										Purchaser's order number N° de commande client Kundenbestellnummer 111333047 A07																			
Product - Produit - Erzeugnis COLD-ROLLED COIL BOBINE LAMINEE A FROID KALTGEWALZTES BAND B01		Steelmaking process Mode d'elaboration de l'acier - Stahlherstellungverfahren Prod.proces: Electric arc furnace - VOD/AOD - Continuous casting Proc.fabric.: Four à arc - VOD/AOD - Coulée continue Fertigungsablauf: Elektro-Ofen - VOD/AOD - Stranggussanlage C70										Customer article number N.article client Artikelnummer des Kunden ART017199 A09																					
Steel designation Désignation de l'acier Stahlbezeichnung EN 10028-7 / 16 - W2-W10 -1.4307 -1.4301 ASTM A 240 / 20 - TYPE 304L -TYPE 304 ASME SA 240 / 21 - TYPE 304L -TYPE 304 EN 10088-2 / 14 - 1.4307 -1.4301 EN 10088-4 / 09 - 1.4307 -1.4301 B02		Finish Présentation Ausführung 2B 2B 2B 2B 2B B02		Any supplementary requirements Prescriptions supplémentaires - Zusätzliche Anforderungen B03										Product delivery condition Etat de livraison du produit - Lieferzustand Solution annealing Hypertrempe : 1040 C MINI Lösungsglühen Forced Air Air forcé Geblaese Luft B04																			
CORR. TEST:ASTM A 262-E: OK / ASTM A480 / A480M -- ASME SA 480/SA 480M / NACE MR 0175 / ISO 15156-1 / ISO 15156-3 -- NACE MR 0103 / ISO 17945 / ASME-C ODE SECT.2 PART A / CORROSION INTERGRANULAIRE SELON ISO 3651/2 : OK / 30364L Z06																																	
Identification of the product Identification du produit - Identifizierung des Erzeugnisses MELTED IN BELGIUM, MADE IN FRANCE B07				Dimensions Dimensions - Abmessungen Thickness Epaisseur - Staerke 4,000 mm B09								Width Largeur - Breite 1500,00 mm B10				Length Longueur - Laenge B11				Number of pieces Nb de pièces - Stueckzahl 1 B08													
Coil n. N.Bobine - Band Nr. 82006		Heat n. N.Coulée - Schmelz Nr. 142133										Net weight Poids net - netto Gewicht 22660 KGS B13																					
CHEMICAL ANALYSIS - ANALYSE CHIMIQUE - CHEMISCHE ZUSAMMENSETZUNG																																	
		C		Si		Mn		Ni		Cr		Mo		Ti		N		S		P		Cu		Co									
Required -Exigé %mini Anforderung. %maxi		0,030		0,75		2,00		8,00 10,50		18,00 19,50						0,100		0,0150		0,045													
Cast Analysis Analyse coulée Analyse Schmelze		0,023		0,40		1,40		8,02		18,05						0,073		0,0016		0,034		0,520		0,164									
		C71		C72		C73		C74		C75		C76		C77		C78		C79		C80		C81		C82		C83		C84		C85		C86	
Positive material identification carried out : OK Tests de vérification de la conformité de la nuance fournie : OK Verwechslungpruefung wurde durchgefuehrt : OK C04										C93										D52													
Location (1)		MECHANICAL PROPERTIES - PROPRIETES MECANIKES - MECHANISCHE WERTE																		ISO 6892-1 B / A-SA 370 C20													
		Room temperature - Température ambiante - Raumtemperatur																		Test temperature (°C) : C03													
Direction (2)		Yield or proof strength Limite d'élasticité Dehngrenze MPa				Tensile Strength Résistance à la traction Zugfestigkeit MPa				Elongation after fracture Allongement après rupt. Bruchdehnung %		Hardness Dureté Haearte		Yield or proof strength Limite d'élasticité Dehngrenze MPa				Tensile str. Résist. MPa Zugfestigkeit		Elongation % Allongement. Bruchdehnung													
		Required Exigé Anforderung		Rp0.2%		Rp1%		Rm		50mm		5,65		HRBW		Rp0.2%		Rp1%		Rm													
		mini maxi		230		260		540 700		40		45		92																			
1 T		Obtained Obtenu Ergebnisse		311		351		644		53		55		88																			
2 T														89																			
				C11		C14		C12		C13		C15		C31		C16		C17		C18		C19											
Impact strength test Essai de résilience Kerbschlagzaehigkeitstest				Corrosion test Test de corrosion Korrosionstest																													
C40 t(°c) C44				EN ISO 3651-2 :OK D51				C50		C51		C52		C53		C54		C55		C05													
								Internal cleanliness: A: B: C: D: C57																									
Location of the sample (1) Emplacement de l'échantillon Lage des Probenabschnittes 1. Front - Début - Anfang 2. Back - Fin - Ende 3. Middle - Milieu - Mitte C01				The delivery is in accordance with the order La fourniture est conforme aux exigences de la commande Die lieferung entspricht den Bestellbedingungen Z01								Organisation inspection Organisme et/ou service contrôle Ueberwachungsabteilung A05																					
				Packing list Avis d'expédition LieferscheinNummer 211201100001-100414 A10								Quality Control																					
Direction of the test pieces (2) Orientation des éprouvettes Probenrichtung T. Transverse - Travers - Quer L. Longitudinal - Long - Laengs C02				Marking, inspection and measurement : without objection Contrôle de marquage, d'aspect et de dimensions : satisfaisants Pruefung der Stempelung, des Oberflaechenaspekts und der Abmessungen : ohne Beanstandung D01								01/12/2021 Laurent DUBOIS The inspector Le responsable Der Werkssachverstaendige Z02																					

ZSQ701 - PS5

CERTIFICAT DE RECEPTION 3.1
DIN EN 10204 3.1

Delivery address, Empfänger, Lieu de livraison OUTOKUMPU SERVICE CENTER GMBH NEUSTADTER STR. 5 68766 HOCKENHEIM BR DEUTSCHLAND				OUTOKUMPU SERVICE CENTER GMBH NEUSTADTER STR. 5 68766 HOCKENHEIM BR DEUTSCHLAND								
Requirements, Anforderungen, Exigences EN 10088-4:2009 AD 2000 W2, W10 & EN 10028-7:2016 ASTM A240/A240M ASME SA-240/SA-240M II A ED. 2017				Our Order No. Unser Auftrag Nr. Notre commande n° 300490981		Your order, Ihre Bestellung, Votre commande 100459						
Product, Erzeugnisform, Produit BOBINE , ACIER INOXYDABLE				Mark of Manufacturer Zeichen des Lieferwerkes Signe de producteur outokumpu		Process Erschmelzungsart Mode de fusion AOD						
Grade, Werkstoff, Nuance 1.4307 1.4301 TYPE 304L				Tolerances Toleranzen, Tolérances EN ISO 9445-2		Inspector's stamp Zeichen d. Sachverst. Poicon de l'expert 						
Marking, Kennzeichnung, Marquage 1.4307 2B				Marks, Versandzeichen, Marques								
Line Reihe Ligne	Item Position Poste	Charge-test No. Schmelze-Probe Nr. Coulée n°	Size, Abmessungen, Dimensions	Quantity Stückzahl Nombre	Weight, Gewicht, Poids	Finish Ausführung Fini EN/ASTM	 CE 14 0045-CPR-0567					
1	6	89106 2	5,0 X 1000 MM		8330 KG	2B						
2	8	89318 5	6,0 X 1000 MM		8050 KG	2B						
Charge no. Schmelze Nr. Coulée n°		Chemical composition, Chemische Zusammensetzung, Composition chimiques										
		C %	Si %	Mn %	P %	S %	Cr %	Ni %	N %			
89106		0,021	0,38	1,57	0,038	0,001	18,3	8,0	0,043			
89318		0,023	0,42	1,56	0,036	0,001	18,2	8,1	0,045			
Line Reihe Ligne	Mechanical properties, Mechanische Eigenschaften, Caracteristiques mecaniques							Tensile test, Zugversuch, Essai de traction				
	Sample ID Proben ID Echantillon	Rp0.2 MPa	Rp1.0 MPa	Rm MPa	A5 %	A50 %	%	Hardness Härte, Dureté HBW				
1	01	340	375	629	52	51		190	ISO 6892-1:2009 A224 PERPENDICULAIREMENT A LA DIRECTION DU LAMINAGE APPROUVE SELON AD2000-WO AVEC LA VERIFICATION DE L'HOMOGENEITE SUR LA LONGUEUR DE LA BOBINE. CERTIFIE SUIVANT DESP 2014/68/UE PAR TÜV NORD ENREGISTREMENT NO. 0045. DDPS SELON RPC DISPONIBLES SUR LA PAGE WEB EN NUANCE			
	02	318	353	625	55	53		182				
2	01	323	359	624	53	53		190				
	02	319	352	624	54	54		187				
Identify test, Verwechslungsprüfung, Contrôle d'identification SIZES, Abmessungen, Dimensions Surface, Oberfläche, Surface Test of intergran. corros, Prüfung auf interkrist. Korros, Test de corros. interkrist. EN ISO 3651-2 A: CONFORME				O.B. O.B. O.B.								
ASTM A240/A240M ASME SA-240/SA-240M II A ED. 2017 TYPE 304 EN 10088-2:2014/1.4307, 1.4301 NACE MR0103/ISO 17945 AND NACE MR0175/ISO 15156-1 / NACE MR0175/ISO 15156-3 HEAT TREATMENT 1060 C INTERGRANULAR CORROSION ASTM A262 PRACTICE E: OK				We certify that the above mentioned products comply with the terms of the order contract. Wir bestätigen, dass die Lieferung den Vereinbarungen der Bestellannahme entspricht. Nous certifions que les produits énumérés ci-dessus sont conformes aux prescriptions de la commande. This test certificate is made by controlled ADP-system and is valid without signature. Dieses Zeugnis wurde von einem überprüften Datenverarbeitungssystem erstellt und ist ohne Unterschrift gültig. Ce certificat a été établi par un système informatique contrôlé et est valide sans signature.								
				Outokumpu Stainless Oy  Authorized inspector Werkssachverständiger Inspecteur autorisé NANNA RIIKKULA FI-95490 Tornio, Finland Tel. +358 16 4521, email certificate.tornio@outokumpu.com, www.outokumpu.com Domicile: Tornio, Finland. Business Identity Code 0823315-9								

ABNAHMEPRUEFZEUGNIS
DIN EN 10204 3.1

3.1

456380/001/D 1(01)

Date Datum Date

19.11.2018

Delivery address, Empfänger, Lieu de livraison OUTOKUMPU SERVICE CENTER GMBH NEUSTADTER STR. 5 68766 HOCKENHEIM BR DEUTSCHLAND				BESTELLER OUTOKUMPU SERVICE CENTER GMBH NEUSTADTER STR. 5 68766 HOCKENHEIM BR DEUTSCHLAND								
Requirements, Anforderungen, Exigences EN 10088-4:2009 AD 2000 W2, W10 & EN 10028-7:2016 ASTM A240/A240M ASME SA-240/SA-240M II A ED. 2017				Our Order No. Unser Auftrag Nr. Notre commande n° 300490981		Your order, Ihre Bestellung, Votre commande 100459						
Product, Erzeugnisform, Produit BAND , NICHTROSTEND				Mark of Manufacturer Zeichen des Lieferwerkes Signe de producteur outokumpu		Process Erschmelzungsart Mode de fusion AOD						
Grade, Werkstoff, Nuance 1.4307 1.4301 TYPE 304L				Tolerances Toleranzen, Tolérances EN ISO 9445-2		Inspector's stamp Zeichen d. Sachverst. Poicon de l'expert 						
Marking, Kennzeichnung, Marquage 1.4307 2B				Marks, Versandzeichen, Marques								
Line Reihe Ligne	Item Position Poste	Charge-test No. Schmelze-Probe Nr. Coulée n°	Size, Abmessungen, Dimensions	Quantity Stückzahl Nombre	Weight, Gewicht, Poids	Finish Ausführung Fini EN/ASTM	 CE 14 0045-CPR-0567					
1	6	89106 2	5,0 X 1000 MM		8330 KG	2B						
2	8	89318 5	6,0 X 1000 MM		8050 KG	2B						
Charge no. Schmelze Nr. Coulée n°		Chemical composition, Chemische Zusammensetzung, Composition chimiques										
		C %	Si %	Mn %	P %	S %	Cr %	Ni %	N %			
89106		0,021	0,38	1,57	0,038	0,001	18,3	8,0	0,043			
89318		0,023	0,42	1,56	0,036	0,001	18,2	8,1	0,045			
Line Reihe Ligne	Mechanical properties, Mechanische Eigenschaften, Caracteristiques mecaniques								Tensile test, Zugversuch, Essai de traction			
	Sample ID Proben ID Echantillon	Rp0.2 MPa	Rp1.0 MPa	Rm MPa	A5 %	A50 %	%	Hardness Härte, Duralé HBW	ISO 6892-1:2009 A224 PROBEN QUER ZUR WALZRICHTUNG			
1	01	340	375	629	52	51		190	ÜBERPRÜFT NACH AD2000-WO MIT ÜBERPRÜFUNG DER GLEICHMÄSSIGKEIT ÜBER DIE BANDLÄNGE. ZERTIFIZIERT NACH DGRL 2014/68/EU DURCH TÜV NORD KENN-NR. 0045. LEISTUNGSERKLÄRUNG NACH CPR AUF DER WEB-SEITE NACH WERKSTOFF-NR.			
	02	318	353	625	55	53		182				
2	01	323	359	624	53	53		190				
	02	319	352	624	54	54		187				
Identity test, Verwechslungsprüfung, Contrôle d'identification Sizes, Abmessungen, Dimensions Surface, Oberfläche, Surface Test of intergran. corros. Prüfung auf interkrist. Korros. Test de corros. interkrist. EN ISO 3651-2 A: GENUEGEND				O.B. O.B. O.B.								
ASTM A240/A240M ASME SA-240/SA-240M II A ED. 2017 TYPE 304 EN 10088-2:2014/1.4307, 1.4301 NACE MR0103/ISO 17945 AND NACE MR0175/ISO 15156-1 / NACE MR0175/ISO 15156-3 HEAT TREATMENT 1060 C INTERGRANULAR CORROSION ASTM A262 PRACTICE E: OK				We certify that the above mentioned products comply with the terms of the order contract. Wir bestätigen, dass die Lieferung den Vereinbarungen der Bestellannahme entspricht. Nous certifions que les produits énumérés ci-dessus sont conformes aux prescriptions de la commande. This test certificate is made by controlled ADP-system and is valid without signature. Dieses Zeugnis wurde von einem überprüften Datenverarbeitungssystem erstellt und ist ohne Unterschrift gültig. Ce certificat a été établi par un système informatique contrôlé et est valide sans signature.								
				Outokumpu Stainless Oy  Authorized inspector Werkssachverständiger Inspecteur autorisé NANNA RIIKKULA FI-95490 Tornio, Finland Tel. +358 16 4521, email certificate.tornio@outokumpu.com, www.outokumpu.com Domicile: Tornio, Finland. Business Identity Code 0823315-9								



Aperam Stainless Services & Solutions Benelux S.A.

Genk-Zuid, Zone 5 Bosdel 87
B - 3600 GENK

Tel: +32 89 36 56 00
Fax: +32 89 36 56 31

TEST REPORT RELEVÉ DE CONTRÔLE WERKSZEUGNIS

According to / Selon / Gemäß
EN 10204

BL: 0180959 - 1

Date: 02/02/2022

Cert 03

40391L-40392L

Manufact. / Product. / Herstell.

APERAM STAINLESS EUROPE

Supplier Lot / Lot Fourn. / Band Nr

18127558

Item / Article / Produkt

COIL 1.4307 2B 6,0 X 1500,0

Heat N° / N° de coulée / Schmelz Nr

463896

Customer / Client / Kunde

ZIEMANN HOLVRIEKA NV

Steel Designation / Désignation Acier / Stahlbezeichnung

EN 10028-7 WNR 1.4307/1.4301
EN 10088-2 WNR 1.4307/1.4301
ASTM A 240(M) TYPE 304L/304
ASME SA 240 TYPE 304L/304

Order / Commande / Order

110133804 - 07

Reference / Référence / Referenz

21271

AD 2000 W2 -- AD 2000 W10 -- PED 2014/68/EU

Mill Certificate / N° de Certificats / Prüfzeugnis Nr

22K0002326

Chemical Analysis / Analyse Chimique / Chemische Zusammensetzung

	C	Si	Mn	Ni	Cr	Mo	Ti	N	S	P	Cu	Al				
Cast Analysis Analyse Coulée Analyse	0,029	0,32	1,68	8,05	18,08			0,071	0,001	0,028						

Mechanical Properties / Propriétés Mécaniques / Mechanische Werte EN ISO 6892-1 B

	Yield strength Limite D'élasticité Dehngrenze MPA		Tensile strength Résistance à la traction Zugfestigkeit MPA		Elongation after fracture (A) Allongement après rupture Bruchdehnung %		Hardness Dureté Haerte		
	Rp 0.2 %	Rp 1%	Rm		A5	50 mm	HRB	DDQ	
	310		613			55	86,1	50	

Material Identification / Identification Matériel / Materialidentifikation

Lot Nr N° Lot Los Nr	Weight Poids Gewicht		Lot Nr N° Lot Los Nr	Weight Poids Gewicht		Lot Nr N° Lot Los Nr	Weight Poids Gewicht		Lot Nr N° Lot Los Nr	Weight Poids Gewicht
	Kg			Kg			Kg			Kg
0641361	6180	40391L								
0641362	6080	40392L								

Number of lots / Nombre de lots / Bundanzahl : 2

Total weight / Poids Total / Gesamt Gewicht [Kg] : 12260

The Inspector
Le Responsable
Der Werksachverständige

Alf Schreurs

A04 aperam Correspondentieadres: Aperam Genk Swinnenwijerweg 5, Poort Genk 7523 3600 Genk, Belgium Tel. +32 (0)89 30 21 11 A01		MILL CERTIFICATE BS EN 10204/3.1 CERTIFICAT DE RECEPTION NF EN 10204/3.1 ABNAHMEPRUEFZEUGNIS DIN EN 10204/3.1 A02 Certified acc.PED 2014/68/EU Annex I 4.3 by Certification Body 0036 of TUV SUD Industrie Service GmbH with cert.No.:314/2007/MUC.Renounced of counter signature agreed byTÜV SÜD (9/5/2007).Approved acc.AD 2000-Merkblatt W0/TRD 100 by TÜV SÜD Industrie Service GmbH.Confirmation letter from TÜVSÜD Industrie Service GmbH of 07/05/2010 about the uniformity of coils acc.AD2000 W2 4.1.1 A03																					
Manufacturer's works order number N° de la commande usine productrice Werksauftragsnummer 80741194/01-59826/874/01 A08		Surveyor's mark Cachet de l'expert Stempel des Werkssachverstaendigen A08		GNKI Z03		Purchaser and/or consignee Client et/ou destinataire Besteller und/oder Empfaenger Aperam S&S Belgium DIK KOUD Bosdel 87 3600 GENK BELGIE A06				Purchaser's order number N° de commande client Kundenbestellnummer 110332891 A07													
Product - Produit - Erzeugnis COIL, COLD ROLLED, FINISH 2 B COIL, LAMINE A FROID, FINI 2 B COIL,KALTGEWALZT,GEGLUEHT+GEBEIZT,LEICHT NACHGEWALZT B01												Customer article number N.article client Artikelnummer des Kunden ART015906 A09											
Steel designation Désignation de l'acier Stahlbezeichnung EN 10088-2-2014 1.4307 / 1.4301 EN 10028-7-2016 1.4307 / 1.4301 ASTM A 240-2020 TYPE 304L / 304 ASME SA 240-2021 TYPE 304L / 304 EN 10088-4-2009 1.4307 / 1.4301 B02				Finish Présentation Ausfuehrung 2B 2B 2B 2B 2B		Steelmaking process Mode d'élaboration de l'acier - Stahlherstellungverfahren Prod.proces: Electric arc furnace - VOD/AOD - Continuous casting Proc.fabric.: Four à arc - VOD/AOD - Coulée continue Fertigungsablauf: Elektro-Ofen - VOD/AOD - Stranggussanlage C70				Product delivery condition Etat de livraison du produit - Lieferzustand Solution Annealing Hypertrempe 1050 °C Lösungsglühen Forced air-water/air forcé-eau Geblaease Luft-Wasser B04													
NACE MR 0175 / ISO 15156-1 / ISO 15156-3 -- NACE MR 0103 / ISO 17945																							
40391L-40392L																							
Z06																							
Identification of the product Identification du produit - Identifizierung des Erzeugnisses MELTED IN BELGIUM, MADE IN BELGIUM B07				Dimensions Dimensions - Abmessungen				Number of pieces Nb de pièces - Stueckzahl				2											
Coil n. N.Bobine - Band Nr. 18127558		Heat n. N.Coulée - Schmelz Nr. 463896		Thickness Epaisseur - Staerke 6.00 mm		Width Largeur - Breite 1500.00 mm		Length Longueur - Laenge		Net weight Poids net - netto Gewicht 12260 KG													
CHEMICAL ANALYSIS - ANALYSE CHIMIQUE - CHEMISCHE ZUSAMMENSETZUNG																							
		C	Si	Mn	Ni	Cr	Mo	Ti	N	S	P												
Required -Exigé %mini Anforderung. %maxi		0.030	0.75	2.00	8.00 10.50	18.00 19.50			0.100	0.015	0.045												
Cast Analysis Analyse coulee Analyse Schmelze		0.029	0.32	1.68	8.05	18.08			0.071	0.001	0.028												
		C71	C72	C73	C74	C75	C76	C77	C78	C79	C80	C81	C82	C83	C84								
Positive material identification carried out : OK Tests de vérification de la conformité de la nuance fournie : OK Verwechslungpruefung wurde durchgefuehrt : OK												D52											
												C93											
Location (1)		MECHANICAL PROPERTIES - PROPRIETES MECANIQUES - MECHANISCHE WERTE EN ISO 6892-1 B / A-SA 370										C20											
		Room temperature - Température ambiante - Raumtemperatur										Test temperature (°C) :				C03							
Direction (2)		Yield or proof strength Limite d'élasticité Dehngrenze MPa				Tensile Strength Résistance à la traction Zugfestigkeit MPa		Elongation after fracture Allongement après rupt. Bruchdehnung %		Hardness Dureté Haearte		Yield or proof strength Limite d'élasticité Dehngrenze MPa		Tensile str. Résist. MPa Zugfestigkeit		Elongation % Allongement. Bruchdehnung							
		Required Exigé Anforderung		Rp0.2%		Rp1%		Rm		50mm		A5		HRBW		Rp0.2%		Rp1%		Rm		50mm	
		mini maxi		230		260		540 700		45		45		92									
1 T		Obtained Obtenu Ergebnisse		310		344		613		55		56		86									
2				C11		C14		C12		C13		C15		C31		C16		C17		C18		C19	
Impact strength test Essai de résilience Kerbschlagzaehigkeitstest				Corrosion test Test de corrosion Korrosionstest				E0.2(T)/R(T) %															
C40 (t(°c)				C44				50		C50		C51		C52		C53		C54		C55		C05	
				C42				D51		Internal cleanliness:		A:		B:		C:		D:				C57	
Location of the sample (1) Emplacement de l'échantillon Lage des Probenabschnittes 1. Front - Début - Anfang 2. Back - Fin - Ende 3. Middle - Milieu - Mitte				The delivery is in accordance with the order La fourniture est conforme aux exigences de la commande Die lieferung entspricht den Bestellbedingungen				Z01		Packing list Avis d'expédition LieferscheinNummer 2022026576-100414				A10		Organisation inspection Organisme et/ou service contrôle Ueberwachungsabteilung Quality Department 18/1/2022 The inspector Le responsable Der Werkssachverstaendige				A05			
Direction of the test pieces (2) Orientation des éprouvettes Probenrichtung T. Transverse - Travers - Quer L. Longitudinal - Long - Laengs				Marking, inspection and measurement : without objection Contrôle de marquage, d'aspect et de dimensions : satisfaisants Pruefung der Stempelung, des Oberflaechenaspekts und der Abmessungen : ohne Beanstandung				D01										Z02					

ZSQ701 - PS5



CHANDAN STEEL LIMITED
(GOVT. OF INDIA RECOGNISED EXPORT HOUSE)
ISO 9001 : 2015 CERTIFICATE No. 04 100 011022

ADM. OFFICE: 504, SUKH SAGAR, N. S. PATKAR MARG,
MUMBAI 400 007, INDIA
Tel.: 91-22- 66290600. Fax.: 91-22-66290633/34
Website : www.chandansteel.net
Email : cs@chandansteel.net
L/c. No. :
L/c.Date:

WORKS: Plot No. 35, G. I. D. C., Umbergaon
Dist Valsad, Gujarat - 396 171.INDIA
Tel.: 91-260-256 2066 / 4367 / 1166. Fax.: 91-260-256 2287
E-mail : exports@chandansteel.net

INSPECTION CERTIFICATE 3.1
ACCORDING TO EN 10204

VAN LEEUWEN STAINLESS Industrieweg 26, PO Box 19, NL - 4153 ZG BEESD NETHERLAND	Test Certificate No. : EXP/21-22/00148 -25 Date of Issue : 08.05.2021 P.O. No. : 3532450 Invoice No. & Date : EXP/21-22/00148 Dtd.08.05.2021
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ITEM DESCRIPTION
STAINLESS STEEL FORGED & FULLY MACHINED FLANGES

SR NO.	Article No.	Heat No.	Pcs	Box No.	Wt.Kgs	Grade	Size Description	Process Route
28	161962	CH-11800	208	2,15 & 17	937.80	1.4301/1.4307/F304/304L	DN100/114.3 TYPE 11B PN10/16	Electric Induction Melting, A.O.D. Refining Continuous Casting & Hot Forging.
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	

CHEMICAL COMPOSITION (Weight %)

SR NO.	Article No.	C	Si	Mn	P	S	Cr	Mo	Ni	Cu	Ti	N	OTHERS
28	161962	0.029	0.45	1.71	0.038	0.020	18.42	-	8.02	-	-	0.078	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-

MECHANICAL PROPERTIES

SR NO.	Article No.	HEAT TREATMENT BATCH NO.	Yield Strength (N/mm ²)		Tensile Strength N/mm ² (R _m)	% EL	% R.A.	Hardness (H.B.W.)	Charpy (V) Impact Test (2mm) at 20° C (Joules) Sample Size - 10 x 10 x 55 mm			
			0.2% (R _{0.2})	1% (R _{0.1})					I	II	III	Avg.
28	161962	F2/021/0200	288	341	599	57	70	155-159	177	169	173	173
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

Remarks:

- Each heat treatment batch is having about 6000 Kgs of Weight.
- The material is solution annealed at minimum 1050 °C and water quenched.
- Material is free from mercury and radio-active contamination and is found within the limits of the background radiation.
- PMI test 100% found satisfactory.
- Inter-Granular Corrosion Test (ASTM A262 - 17 (Pr.B)):- Satisfactory.
- The material conforms to EN 10222 - 5 - 2017, ASTM A 182 - 19, ASME Section II, Part A-SA 182 - 19 & Dimension confirms to EN 1092-1-18 Specification.
- The material conforms to NACE MR0175/ISO 15156-3:2015 & NACE MR0103-2015.
- Approved according To AD 2000-Merkblatt W0 and certified according to PED 2014/68/EU by Certification Body for Pressure Equipment of TÜV NORD Systems (notified body, reg. no.:0045).
- Material Conforms to PED 2014/68/EU Clause 4.3 of Annex 1.
- Materials complies as per AD 2000 - Merkblatt W 2, W 9, W 10.
- Dimension checked & found satisfactory.
- Location of sample -Direction of test piece - Tangential, Test Temp - Room Temp., Shape of Test Piece (Size) - Round (200mm Length).

We hereby certify that, the material described herein,
and supplied are in compliance with the requirements of the order.



V. Y. Narayanan
V. Y. NARAYANAN
WORKS INSPECTOR



Certificate No.	F210707003
Date:	JUN 29,2021

Cert 05
檢 驗 證 明 書
MILL'S TEST CERTIFICATE
 EN 10204/3.1



NO.122 INDUSTRIAL ROAD, TOU-LIU CITY
 YUN-LIN 640, TAIWAN
 TEL:+886-5-5571669 FAX:+886-5-5571339
 Website: www.froch.com

ORIGINAL

Customer : VAN LEEUWEN STAINLESS B.V.											Page: 9 of 27																					
Invoice No.			Contract No.			L / C No.			規 範																							
FEX20210720.1			3535325			T/T			ASTM A312-2018, ASME SA312-17																							
產品名稱			項目	產品尺寸			鋼 種	爐 號	數 量	重 量	熱處理 (°C)	表面處理	水壓試驗	備註																		
Description			Item No.	Size			Type	Heat No.	QTY(M)	Weight(Kg)	Heat Treatment	Finish	Hydrostatic Test (Mpa)	Remark																		
STAINLESS STEEL WELDED PIPE CUT IN THE LENGTH OF 6.0M.			9	4" X SCH 10S			TP 304/TP 304L	AQC050463	450.00	---	1065	PICKLED	7.00																			
化 學 成 份 Chemical Composition (%)															機 械 試 驗 Mechanical Test																	
項目	碳	矽	錳	磷	硫	鉻	鎳	鉬	氮	其他	抗拉強度	降伏強度	伸長率 %	Direction	Width of specimen	Gauge Length	硬度試驗	壓扁試驗	彎曲試驗	擴口試驗												
Item No.	C	Si	Mn	P	S	Cr	Ni	Mo	N		Tensil (N/mm ²)	0.2% Yield (N/mm ²)	Elongation				Hardness HRB	Flattening Test	Bend Test	Flaring Test												
Min.						18.00	8.00				515.00	205.00	35.00	L.T	mm	mm																
Max.	0.035	1.000	2.00	0.045	0.030	20.00	13.00										99.50	No Crack	No Crack	No Crack												
9	0.020	0.410	1.60	0.032	0.002	18.20	8.00	---	---	---	644.00	328.00	51.00	Longitudinal	25	50.00	89.00	GOOD	---	GOOD												
NOTES:											APPROVED CERTIFICATES:																					
1.The material described herein is certified for no radiation contamination by original Material Manufacturer. 2.The tolerance of chemical composition is according to ASTM A480 3.Heat treatment:Solution annealed and quenched in water. 4.1Ksi = 1000Psi, 1Mpa = 1 N/mm ² = 0.145038 Ksi. 5.Visual Inspection(Surface) and Dimension Check: Acceptable 6.We hereby certify that material described herein has been manufactured and tested with satisfactory results in accordance with the requirement of the above material specification.											1.DIMENSIONAL AND VISUAL EXAMINATION NO OBJECTION. 2.INTERGRANULAR CORROSION TEST ACCORDING TO A262 PRACTICE E SATISFIED. 3.POSITIVE MATERIAL IDENTIFICATION RESULT IS SATISFIED. 4.HARDNESS TO NACE MR0175-2015/ISO15156-3 AND MR0103-2015 "LA SOCIETE FROCH GARANTIT QUE LES PRODUITS OBJECT DU PRESENT CERTIFICAT, RESPECTENT EN LEUR TOTALITE LES PRESCRIPTIONS DE L'ARTICLE 15 DE L'ARRETE MINISTERIEL DU 24 MARS 1978 MODIFIE. C≤0.25%,P≤0.05%,S≤0.05%,R≤800 N/MM2, E≤0.9XR% A%(LO=5.65VSO) MIN.16% EN LONG. R(A-2)≥10500" EDDY CURRENT TEST - GOOD											1.QMS according ISO 9001(TUV Cert No:01 100 126922) 2.EMS according ISO 14001(LR Cert No:0069466) 3.PED (TUV Cert No: 01 202 TWN/Q-06 0145)										
											 Lai Yu Lin QA Manager / Work Inspector.																					



VIRAJ PROFILES LIMITED (Forgings Div)

Survey No-140/1 & G-75 MIDC, Tarapur Ind.Area, Boisar, Dist.Palghar,Maharashtra-401506,INDIA

Email-vflqc@viraj.com,web.www.viraj.com(A01)

(A02) INSPECTION CERTIFICATE & MILL TEST REPORT - EN 10204 3.1

(A06)CUSTOMER : VAN LEEUWEN STAINLESS B.V. PO BOX 19,4153 ZG BEESD, INDUSTRIEWEG 26, 4156 BW BEESD NETHERLANDS	Manufacturer's Symbol (A04) 	(A03)MTR NO.	12/75028476/26
		(Z02) DATE	06.01.2021
		MATERIAL SPEC.	ASTM A182/A182M-20 / ASME SA182/SA182M-19
			EN 10222 - 5 - 2017
		(B02) GRADE	F316/316L/1.4401/1.4404
		DIMENSIONAL	EN1092-1:2018

(B01) : STAINLESS STEEL FORGED FLANGES

(B04) DELIVERY CONDITION :

ISO 9001:2015-TUV NORD REG.No-04100011170 EXPIRY DATE: 21.01.2022 & APPROVED ACCORDING TO AD 2000 MERKBLATT W0 & CERTIFIED ACCORDING TO PED (2014/68/EU) BY CERTIFICATION BODY FOR PRESSURE EQUIPMENT OF TUV NORD SYSTEMS (NOTIFIED BODY REGISTRATION NO. -0045)

(A07)ORDER NO: 3529830

(A08)Sales Order No. 30113480/000300

Article No:188911

(B09-B11)ITEM DESCRIPTION	QUANTITY(PIECES)	HEAT NUMBER
200/219.1 TYPE 11 B1 PN10 S=3.76	52	116001

(C71-C92) CHEMICAL ANALYSIS

ELEMENT	%C	%Mn	%Si	%S	%P	%Cr	%Ni	%Mo	%Ti	%N							
MIN						16.50	10.00	2.00									
MAX	0.030	2.00	1.00	0.030	0.045	18.50	12.00	2.50		0.1100							
HEAT	0.021	1.70	0.51	0.026	0.037	16.57	10.08	2.05	0.001	0.0600							

MECHANICAL PROPERTIES

Test specification ASTM-A370

Sample location : Mid thick-forging		Test Temp : RT	Test Direction : Tr	Sample Shape Round	ASTM E10					
Test Values	(C12) Tensile Strength	(C11) Proof Strength		(C13) Elongation%	Reduction of Area	(C32) Hardness	Charpy V-Notch 10x10x55mm (Values in Joules) & (Shear%)			
		Rp=0.2%	Rp = 1%				(C42) Single values			(C43)
	N/mm2	N/mm2	N/mm2	Lo=5D	%	BHN	1	2	3	AVG
Req.	515/690	205 MIN	225 MIN	35 MIN	50 MIN					
T	568.54	252.84	296.93	56.00	69.13	153	217	203	212	211

Other applicable Specifications :: NACE MR 0175 / ISO 15156-2015 & NACE MR 0103-2015 & MATERIAL CONFORMS TO W2/W9/W10

Melting Process : Electrical induction furnace & Argon Oxygen decarburization(IRS) Concast

Heat Treatment	: Solution Annealed at 1080°C and water Quenched
Dimension	: Conform with the specification (100% inspected)
Surfacequality	: Satisfactory
PMI Test	: No objection (100% tested with mobile spectro)
Corrosion Test	: Passed IGC test in accordance with DIN EN ISO 3651-2 & ASTM A262 Practice E
Micro Observation	: No carbide precipitation observed on grain boundaries
Radioactivity Test	: We here by certify that all the material is free from radioactive contamination
Mercury Contamination	: Free from mercury contamination

we certify that the above material has been inspected and tested and complies with the order/contract and is of Indian origin



(Z03)Inspector's Stamp



VIJAY KUMAR PILLAI (GM, QAD)

Certificate No.	F210601031
Date:	MAY 17,2021

Cert 07
檢 驗 證 明 書
MILL'S TEST CERTIFICATE
 EN 10204/3.1



NO.122 INDUSTRIAL ROAD, TOU-LIU CITY
 YUN-LIN 640, TAIWAN
 TEL:+886-5-5571669 FAX:+886-5-5571339
 Website: www.froch.com

ORIGINAL

Customer :VAN LEEUWEN STAINLESS B.V.											Page: 35 of 37							
Invoice No.			Contract No.			L / C No.			規 範 ASTM A312-2018, ASME SA312-17									
FEX20210500.2			3533967			T/T			Specification									
產品名稱 Description			項 目 Item No.	產 品 尺 寸 Size			鋼 種 Type	爐 號 Heat No.	數 量 QTY(M)	重 量 Weight(Kg)	熱處理 (°C) Heat Treatment Water Quenched	表面處理 Finish	水壓試驗 Hydrostatic Test (Mpa)	備註 Remark				
STAINLESS STEEL WELDED PIPE CUT IN THE LENGTH OF 6.0M.			35	8" X SCH 10S			TP 316/TP 316L	APS070146	60.00	---	1065	PICKLED	4.50					

化 學 成 份 Chemical Composition (%)											機 械 試 驗 Mechanical Test									
項 目 Item No.	碳 C	矽 Si	錳 Mn	磷 P	硫 S	鉻 Cr	鎳 Ni	鉬 Mo	氮 N	其他	抗拉強度 Tensile (N/mm ²)	降伏強度 0.2% Yield (N/mm ²)	伸長率 % Elongation	Direction	Width of specimen	Gauge Length	硬度試驗 Hardness HRB	壓扁試驗 Flattening Test	彎曲試驗 Bend Test	擴口試驗 Flaring Test
Min.						16.00	10.00	2.00			515.00	205.00	35.00	L.T	mm	mm				
Max.	0.035	1.000	2.00	0.045	0.030	18.00	14.00	3.00									99.50	No Crack	No Crack	No Crack
35	0.016	0.500	1.13	0.030	0.001	16.60	10.00	2.04	---	---	654.00	302.00	54.00	Longitudinal	38	50.00	89.00	GOOD	---	---

NOTES: 1.The material described herein is certified for no radiation contamination by original Material Manufacturer. 2.The tolerance of chemical composition is according to ASTM A480 3.Heat treatment:Solution annealed and quenched in water. 4.1Ksi = 1000Psi, 1Mpa = 1 N/mm ² = 0.145038 Ksi. 5.Visual Inspection(Surface) and Dimension Check: Acceptable 6.We hereby certify that material described herein has been manufactured and tested with satisfactory results in accordance with the requirement of the above material specification.	1. DIMENSIONAL AND VISUAL EXAMINATION NO OBJECTION. 2. INTERGRANULAR CORROSION TEST ACCORDING TO A262 PRACTICE E SATISFIED. 3. POSITIVE MATERIAL IDENTIFICATION RESULT IS SATISFIED. 4. HARDNESS TO NACE MR0175-2015/ISO15156-3 AND MR0103-2015 "LA SOCIETE FROCH GARANTIT QUE LES PRODUITS OBJET DU PRESENT CERTIFICAT, RESPECTENT EN LEUR TOTALITE LES PRESCRIPTIONS DE L'ARTICLE 15 DE L'ARRETE MINISTERIEL DU 24 MARS 1978 MODIFIE. C≤0.25%,P≤0.05%,S≤0.05%,R≤800 N/MM2, E≤0.9XR% A%(LO=5.65VSO) MIN.16% EN LONG. R(A-2)≥10500" EDDY CURRENT TEST - GOOD	APPROVED CERTIFICATES: 1.QMS according ISO 9001(TUV Cert No:01 100 126922) 2.EMS according ISO 14001(LR Cert No:0069466) 3.PED (TUV Cert No: 01 202 TWN/Q-06 0145) Lai Yu Lin QA Manager / Work Inspector.
---	---	---



Cert 08



VIRAJ PROFILES LIMITED (Forgings Div)
Survey No-140/1 & G-75 MIDC, Tarapur Ind.Area, Boisar, Dist.Palghar,Maharashtra-401506,INDIA
Email-vflqc@viraj.com,web.www.viraj.com(A01)

(A02) INSPECTION CERTIFICATE & MILL TEST REPORT - EN 10204 3.1

(A06)CUSTOMER : VAN LEEUWEN STAINLESS B.V. PO BOX 19,4153 ZG BEESD, INDUSTRIEWEG 26, 4156 BW BEESD NETHERLANDS	Manufacturer's Symbol (A04) 	(A03)MTR NO.	12/210012257/3 / Rev - 00
		INVOICE NUMBER	75031438
		(Z02) DATE	29.06.2021
		MATERIAL SPEC.	ASTM A182/A182M-20 / ASME SA182/SA182M-20
			EN 10222 - 5 - 2017
		(B02) GRADE	F304/304L/1.4301/1.4307
		DIMENSIONAL SPEC.	EN1092-1:2018

(B01) : STAINLESS STEEL FORGED FLANGES

(B04) DELIVERY CONDITION :

ISO 9001:2015-TUV NORD REG.No-04100011170 EXPIRY DATE: 21.01.2022 & APPROVED ACCORDING TO AD 2000 MERKBLATT W0 & CERTIFIED ACCORDING TO PED (2014/68/EU) BY CERTIFICATION BODY FOR PRESSURE EQUIPMENT OF TUV NORD SYSTEMS (NOTIFIED BODY REGISTRATION NO. -0045)

(A07)ORDER NO: 4500023548

(A08)Sales Order No. 30117708/000240

(A09)Article No:161953

(B09-B11)ITEM DESCRIPTION	(B08)QUANTITY(PCS)	(B07)HEAT NUMBER
50/60.3 TYPE 11 B1 PN10/16 .	208	61718

(C71-C92) CHEMICAL ANALYSIS

ELEMENT	%C	%Mn	%Si	%S	%P	%Cr	%Ni	%Mo	%Ti	%N							
MIN						18.00	8.00										
MAX	0.030	2.00	1.00	0.030	0.045	19.50	10.00			0.1100							
HEAT	0.020	1.56	0.36	0.022	0.037	18.12	8.05	0.40	0.002	0.0700							

MECHANICAL PROPERTIES

Test specification ASTM-A370										
(C01) Sample location : Mid thick-forging		(C03) Test Temp : RT	(C02) Test Direction : Tr	(C10) Sample Shape Round			ASTM E10			
Test Values	(C12) Tensile Strength	(C11) Proof Strength		(C13) Elongation%	Reduction of Area	(C32) Hardness	(C40) Charpy V-Notch 10x10x55mm (Values in Joules)			
		Rp=0.2%	Rp = 1%				(C42) Single values		(C43)	
	N/mm2	N/mm2	N/mm2	Lo=5D	%	BHN	1	2	3	AVG
Req.	515/700	205 MIN	230 MIN	35 MIN	50 MIN					
T	619.22	313.27	368.50	60.00	71.27	157	162	180	186	176

Other applicable Specifications :: NACE MR 0175 / ISO 15156-2015 & NACE MR 0103-2015 & MATERIAL CONFORMS TO W2/W9/W10

Melting Process : Electrical induction furnace & Argon Oxygen decarburization(IRS) Concast

Heat Treatment	: Solution Annealed at 1080°C and water Quenched
Dimension	: Conform with the specification (100% inspected)
Surfacequality	: Satisfactory
PMI Test	: No objection (100% tested with mobile spectro)
Corrosion Test	: Passed IGC test in accordance with DIN EN ISO 3651-2 & ASTM A262 Practice E
Micro Observation	: No carbide precipitation observed on grain boundaries
Radioactivity Test	: We here by certify that all the material is free from radioactive contamination
Mercury Contamination	: Free from mercury contamination

We certify that the above material has been inspected and tested and complies with the order/contract and is of Indian origin



(Z03)Inspector's Stamp

VIJAY KUMAR PILLAI (GM, QAD)





Customer	VAN LEEUWEN STAINLESS B.V.			Customer No.	FNL006	Certificate No.	210518P0153
Product	STAINLESS STEEL WELDED PIPE			Commercial Invoice No.	J21040181	Date of Issue	2021/05/19
Specification	ASTM A312/A312M-19			PO No.	3533975	Order No.	EP21030026-1
Steel Grade	TP304/304L	Finish	PICKLED	P.I.No.	PI 2103-011	Weight No.	C21050051

[illegible]

Remark		Note	
*STANDARDS:ASTM A312/A999, ASME SA312/SA999 *STANDARDS : ASME SA312 (2019 Section II Part A) *STAINLESS STEELMAKING PROCESS: ELECTRIC ARC FURNACE *ROOM TEMPERATURE TENSILE TEST: OK		Eddy-Current Examination (according to EN ISO 10893-2) : OK 100% Alloy Verification(PMI) : OK Room Temperature Impact Test (77°F/25°C) : OK Intergranular Corrosion Test (according to ASTM A262 Practice E) : OK Hardness according to NACE MR0175 / ISO 15156-3:2015 : Satisfactory. Hardness according to NACE MR0103 / ISO 17945-3:2015 : Satisfactory. Flaring Test :OK. Welding Process(L) : item 1	
LA SOCIETE YC INOX GARANTIE QUE LES PRODUITS OBJET DU PRESENT CERTIFICAT, RESPECTENT EN LEUR TOTALITE LES PRESCRIPTIONS DE L' ARTICLE 15 DE L'ARRETE MINISTERIEL DU 24 MARS 1973 MODIFIE. C ≤ 0.25% , P ≤ 0.05% , S ≤ 0.05% , R ≤ 800N/MM² , E ≤ 0.9 X R%, A%(LO=5.65X SO) MIN.16% , EN LONG, R(A-2) ≥ 10500 N/MM²		Visual Inspection(Surface) and Dimension Check : OK	
Surveyor By	We hereby certify that material described herein has been manufactured and tested with satisfactory results in accordance with the requirement of the above material specification. The material described above has been found free of radiation by raw material supplier.	1.ISO 9001:2015 (No.01 100 056299) 2.PED / AD2000 (No.01 202 TWN/Q-05 0105) 3.ISO 14001:2015 (No.01 104 822 096385) 4.ISO 45001:2018 (No.01 113 822 096385)	Manager of Quality Assurance Department
N/A			Russell Wu



Business Unit / QCM

BA Quarto Plate, Quarto Plate Europe

Date / Datum Date
15-Mar-2021

Load, Ladung, Charge No
220428

Acknowledged ID, Bestätigung, Commande ID
360021142

Your ref., Ihre Ref., Votre ref

Bestellung 6789

Buyer, Besteller, Acheteur

HW-INOX GMBH
KAISERSWERTHERSTRASSE 113
40880, RATINGEN
TYSKLAND

Requirements, Anforderungen, Exigences

AD 2000 W2, W10 & EN10028-7, PED 2014/68/EU
EN 10088-2:14
EN 10088-4:2009
ASME SA-240M Code Sect. II. Part A:2019
NACE MR0103 / ISO 17945:2015
ASTM A240M / NACE MR0175/ ISO 15156-3:20/2015

Consignee, Empfänger, Lieu de livraison

HW-INOX GmbH

Mark of Manufacturer
Zeichen des Lieferwerkes
Signe de producteur



Process
Erschmelzungsart
Mode de fusion

E+AOD

Inspector's stamp
Zeichen des Sachverständigen
Poinçon de l'expert



Grade, Werkstoff, Nuance

1.4301 304
1.4307 304L

Product, Erzeugnisform, Produit

Rostfreier Stahl, warmgewalzt, Blech, 1D/Nr.1, Besäumt

Line Reihe Ligne	Item Position Poste	Heat-Lot No Schmelze-Lot Nr Coulée n° - Lot No	Size Abmessungen Dimensions	Pieces Stückzahl Nombre	Quantity/unit, Menge/Einheit, Quantité/Unité
1	8	510228-408061:0	25,0 X 2000,0 X 6000,0 mm	1	

Plate No, Blech Nr, Tôle No
1 0711 0313

Chemical composition – Chemische Zusammensetzung – Composition chimique %
Heat – Schmelze – coulée No

	C	Si	Mn	P	S	Cr	Ni	N						
Min						18.0	8.0							
Max	0.030	0.75	2.00	0.045	0.015	19.5	10.5	0.10						
510228	0.025	0.32	1.37	0.034	0.001	18.4	8.1	0.07						

Distribution	Richt. T = Quer L = Längs	Ort F = Kopf B = Fuss	Form P = Flach C = Rund	Lage 1 = Mitte 2 = Oberflächennah 3 = Norm 4 = 1/4 der Dicke
Certificate via e-Services				

Test results - Prüfergebnisse - Résultats des essais (1N/mm² = 1MPa)

Mechanische Eigenschaften

Zugversuch/Härteprüfung Rockwell B

Plate-no	Direct.	Top/Bot	Location	Form	Temp. °C	Rp 0,2 MPa	Rp 1,0 MPa	Rm MPa	A5 %	A50 %	HRB HRB
Min						210	250	520	45	40	
Max								700			92
0313	T	F	2	C	20	247	290	598	58	59	79

Kerbschlagarbeit Charpy (V-kerb) EN ISO 148-1

Plate-no	Direct.	Top/Bot	Location	Form	Temp. °C	Wert1 J	Wert2 J	Wert3 J	Mittelwert J
Min									60
0313	T	F	2	P	20	324	317	330	324

Korrosionsprüfung

EN ISO 3651-2 Methode A

Plate-no Ergebnis
0316F OK

Other Information

Bei 1050°C lösungsgeglüht und in Wasser abgeschreckt.
Ausmessung, Besichtigung und Verwechslungsprüfung PMI: ohne Beanstandung

The results comply with the Requirements of the order - Die gestellten Anforderungen sind erfüllt - Les résultats sont conformes aux exigences de la commande

Outokumpu Stainless AB
BA Quarto Plate, Quarto Plate Europe
SE - 693 81 DEGERFORS
SWEDEN
Regoffice: SWEDEN

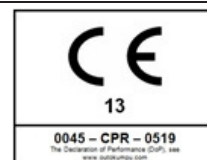
V.A.T no: SE556001874801

Regno: 556001-8748

Computer generated original
Quality Inspector

Liselotte Andersen

Liselotte Andersen





EN 10204 - 3.1

21031206-DE-0

Business Unit / QCM

BA Quarto Plate, Quarto Plate Europe

Date Datum Date

15-Mar-2021

Load, Ladung, Charge No

220428

Acknowledged ID, Bestätigung, Commande ID

360021142

Ueberprueft nach AD 2000-Merkblatt W0 und Zertifiziert nach
Druckgeraete-Richtlinie 2014/68/EU durch
TUEV NORD; notifizierte Stelle, Kennnr. 0045
Bauprodukten-Richtlinie (305/2011/EU)
The Declaration of Performance (DoP), see www.outokumpu.com
Dieses Material entspricht im Lieferzustand NACE MR0175/ISO 15156
Dieses Material entspricht im Lieferzustand NACE MR0103/ISO 17945

Tolerance	Standard	Klasse
Ebenheitstoleranzen	EN 18286/A480/M/EN 10029	ISO 18286 N/A480/M/EN 10029 N
Länge	EN 18286/A480/M/EN 10029	ISO 18286 A/A480/M/EN 10029
Dicke	EN 18286/A480/M/EN 10029	ISO 18286/A480/M/EN 10029 B
Breite	EN 18286/A480/M/EN 10029	ISO 18286 A/A480/M/EN 10029

The results comply with the requirements of the order - Die gestellten Anforderungen sind erfüllt - Les résultats sont conformes aux exigences de la commande

Outokumpu Stainless AB
BA Quarto Plate, Quarto Plate Europe
SE - 693 81 DEGERFORS
SWEDEN
Regoffice: SWEDEN

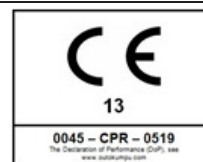
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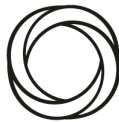
, Regno: 556001-8748

Computer generated original
Quality Inspector

Liselotte Andersen

Liselotte Andersen





Business Unit / QCM

BA Quarto Plate, Quarto Plate Europe

Date Datum Date
15-Mar-2021

Load, Ladung, Charge No
220428

Acknowledged ID, Bestätigung, Commande ID
360021142

EN 10204 - 3.1
21031206-EN-0

Your ref., Ihre Ref., Votre ref

Bestellung 6789

Buyer, Besteller, Acheteur

HW-INOX GMBH
KAISERSWERTHERSTRASSE 113
40880, RATINGEN
TYSKLAND

Requirements, Anforderungen, Exigences

AD 2000 W2, W10 & EN10028-7, PED 2014/68/EU
EN 10088-2:14
EN 10088-4:2009
ASME SA-240M Code Sect. II. Part A:2019
NACE MR0103 / ISO 17945:2015
ASTM A240M / NACE MR0175/ ISO 15156-3:20/2015

Consignee, Empfänger, Lieu de livraison

HW-INOX GmbH

Mark of Manufacturer
Zeichen des Lieferwerkes
Signe de producteur



Process
Erschmelzungsart
Mode de fusion

E+AOD

Inspector's stamp
Zeichen des Sachverständigen
Poinçon de l'expert



Grade, Werkstoff, Nuance

1.4301 304
1.4307 304L

Product, Erzeugnisform, Produit

Stainless steel hot rolled, Plate, 1D/No.1, Cut edge

Line Reihe Ligne	Item Position Poste	Heat-Lot No Schmelze-Lot Nr Coulée n° - Lot No	Size Abmessungen Dimensions	Pieces Stückzahl Nombre	Quantity/unit, Menge/Einheit, Quantité/Unité
1	8	510228-408061:0	25,0 X 2000,0 X 6000,0 mm	1	

Plate No, Blech Nr, Tôle No
1 0711 0313

Chemical composition - Chemische Zusammensetzung - Composition chimique %
Heat - Schmelze - coulée No

	C	Si	Mn	P	S	Cr	Ni	N						
Min						18.0	8.0							
Max	0.030	0.75	2.00	0.045	0.015	19.5	10.5	0.10						
510228	0.025	0.32	1.37	0.034	0.001	18.4	8.1	0.07						

Distribution	Direct. T = Transverse L = Longitudinal	Top/Bot F = Front B = Back	Form P = Flat C = Round	Location 1 = Center 2 = Close to Surface 3 = Standard 4 = At 1/4 of thickness
Certificate via e-Services				

Test results - Prüfergebnisse - Résultats des essais (1N/mm² = 1MPa)

Mechanical properties

Tensile testing/Hardness Rockwell B

Plate-no	Direct.	Top/Bot	Location	Form	Temp. °C	Rp 0,2 MPa	Rp 1,0 MPa	Rm MPa	A5 %	A50 %	HRB
Min						210	250	520	45	40	
Max								700			92
0313	T	F	2	C	20	247	290	598	58	59	79

Charpy impact test (V-notch) EN ISO 148-1

Plate-no	Direct.	Top/Bot	Location	Form	Temp. °C	Value1 J	Value2 J	Value3 J	Average J
Min									60
0313	T	F	2	P	20	324	317	330	324

Corrosion

EN ISO 3651-2 Method A

Plate-no	Result
0316F	OK

Other Information

Solution annealed at 1050°C and Quenched in water.
Dimensional control, visual inspection and grade check (PMI): Approved

The results comply with the Requirements of the order - Die gestellten Anforderungen sind erfüllt - Les résultats sont conformes aux exigences de la commande

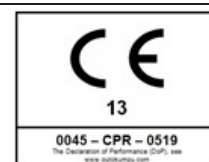
Outokumpu Stainless AB
BA Quarto Plate, Quarto Plate Europe
SE - 693 81 DEGERFORS
SWEDEN
Regoffice: SWEDEN

V.A.T no: SE556001874801
Regno: 556001-8748

Computer generated original
Quality Inspector

Liselotte Andersen

Liselotte Andersen



0045 - CPR - 0519
The Declaration of Performance (DoP) will
www.outokumpu.com



EN 10204 - 3.1

21031206-EN-0

Business Unit / QCM

BA Quarto Plate, Quarto Plate Europe

Date Datum Date

15-Mar-2021

Load, Ladung, Charge No

220428

Acknowledged ID, Bestätigung, Commande ID

360021142

Approved acc. to AD2000-Merkblatt W0 and certified acc. to
Pressure Equipment Directive (2014/68/EU) by
TUEV NORD, notified body, reg.no. 0045
Construction Products Regulation (305/2011/EU)
The Declaration of Performance (DoP), see www.outokumpu.com
Material conforms to NACE MR0175/ISO 15156 in supplied condition
Material conforms to NACE MR0103/ISO 17945 in supplied condition

Tolerance	Standard	Class
Flatness tolerance	EN 18286/A480/M/EN 10029	ISO 18286 N/A480/M/EN 10029 N
Length	EN 18286/A480/M/EN 10029	ISO 18286 A/A480/M/EN 10029
Thickness	EN 18286/A480/M/EN 10029	ISO 18286/A480/M/EN 10029 B
Width	EN 18286/A480/M/EN 10029	ISO 18286 A/A480/M/EN 10029

The results comply with the requirements of the order - Die gestellten Anforderungen sind erfüllt - Les résultats sont conformes aux exigences de la commande

Outokumpu Stainless AB
BA Quarto Plate, Quarto Plate Europe
SE - 693 81 DEGERFORS
SWEDEN
Regoffice: SWEDEN

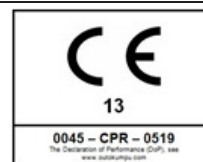
V.A.T no: SE556001874801

, Regno: 556001-8748

Computer generated original
Quality Inspector

Liselotte Andersen

Liselotte Andersen



Customer
MCB NEDERLAND B.V.
JOHN F.KENNEDYLAAN - POSTBUS 2
5550 AA AA VALKENSWAARD NL

Cert 11

Consignee
MCB NEDERLAND B.V.
DE VEST 42
5555 XP VALKENSWAARD NL

Delivery Nn 8351138992
Of 28/07/2021
Delivery note nr 1007008182

Quality Control
Q.M.D./Q.M. A.Venturini
Plant Of Gazoldo

Pages
4/8

Material
51801101 (Purchase Order:4500690205-00020)

Norm/Grade
EN10028-7,EN10088-2,EN10088-4, ASTM A240, ASME SA240, ASTM A480, ASME SA480

Order Nr
1191389424/20

Client Order
4500690205

Description
LXC 10,00 x 1500 x 6000 4307/304L MCB

Quality/Qualità
X5CrNi18-10/X2CrNi18-9 WNR 1.4301/1.4307 304/304L

Client Date
7/1/2021

Client Date
7/1/2021

Item	Identification Nr	Heat	Quantity	Dimensional tolerances/	Steel Processing/	Mark Tester/
1	21TV003433	600900	1432 KG	EN9444-2	Electric arc furnace VOD/AOD, continuous casting, heat treatment /annealing at 1050°C, forced air cooling	- Organization inspection: CQ3
2	21TV005123	0LDC	1441 KG		- ASME norms acc. Sec. II Part A Ed. 2019	Terms of Delivery/

Identification Nr	Chemical Type	Mark	C (%)	Si (%)	Mn (%)	P (%)	S (%)	N (%)	Cr (%)	Ni (%)
21TV003433		X000820218	.025	.625	1.735	.0218	.0137	.0562	18.463	8.231
21TV005123		21A9002167	.019	.642	1.775	.0300	.0010	.0860	18.090	8.120

Identification Nr	Test position	Test direction	Mark	Rm [N/mm²]	Rp 0.2 [N/mm²]	RP 1 [N/mm²]	A5D (%)	A50 (%)	HRB B	HRB T
21TV003433	B	T	X000820218	648	333	388	49.4	52.6	91	90
21TV005123	B	T	21A9002167	649	334	389	49.6	52.8	91	90

Test Position/Posizione Prova B=Coil End C=Coil middle T=Coil head	Test Direction/Direzione Prova T=Transverse Direction L=Longitudinal Direction	Remarks about tensile test: - Renounced of counter signature agreed by TUV Rheinland (01/03/2012)	Other controls: - Dimensions within tolerances, spectrometrical identity test OK - Corrosion Test EN ISO3651-2 Method A and ASTM A262 pract.E OK
---	--	--	--

Remarks:

- We certify that products listed above comply with order requirements
- Document validated acc. EN10204 par. 5
- Norms are intended in the valid edition at the time of the order
- Durability: NPD
- Regulated Substances: NPD

- Intended Uses: Building Constructions or Civil Engineering

- DoP available at <http://www.marcegaglia.com/brochure/e/quality/dop.html>

- surface finish 1D



Client - Purchaser - Besteller HW-INOX GMBH

Référence client - Purchase order - Kaufauftrag 6815/5-32123

Projet - Project - Projekt

Industeel Belgium

Site : Rue de Châtelet 266 6030 Marchienne-au-Pont

ISO 9001 (Cert 2019/86320.3, Valid 02/06/2023) + MAQ REV 00 du 04/05/2018

ISO 9001 (Cert 2019/86320.3, Valid 02/06/2023) + QAM REV 00 of 04/05/2018

Produit - Product - Erzeugnis

Plate(s)

Commande / Poste - Internal order - Werksbestellung

1084830 / 000260

Bordereau de livraison - Delivery note - Lieferungsdokument

80383430

#010 - PRODUITS LIVRES - DELIVERED PRODUCTS - GELIEFERTEN GEGENSTÄNDE

Nuance - Grade - Werkstoff
X5CrNi18-10 (1.4301)
X2CrNi18-9 (1.4307)
UNS S30400 (304)
UNS S30403 (304L)
UNS S30400 (304)
UNS S30403 (304L)
X5CrNi18-10 (1.4301)
X2CrNi18-9 (1.4307)
X2CrNi18-9 (1.4307)
X5CrNi18-10 (1.4301)

Selon norme - According to - Entsprechend
EN 10088-2:2014
EN 10088-2:2014
ASTM A 240/M ED.2020
ASTM A 240/M ED.2020
ASME IIA ED.2019 SA 240/M
ASME IIA ED.2019 SA 240/M
EN 10028-7:2016+AD2000W2+ADW10
EN 10028-7:2016+AD2000W2+ADW10
EN 10088-4:2009
EN 10088-4:2009

Epaisseur - Thickness - Dicke 20.00 mm

Largeur - Width - Breite

2,000 mm

Longueur - Length - Länge

12,000 mm

Spécification - Specification - Spezifikation

PLATE_STAMPING_DEFINITION_FUR_
WERK/MTC_REQUIREMENTS_HW_INOX_
IB



<https://eservices.industeel.be>

Etat thermique de livraison - Heat treatment state of delivery - Wärmebehandlung Lieferzustand

Hypertrempe à l'air (1050 °C - 1 min/mm) - Solution annealed and air quenched - Luft vergütet

Procédé d'élaboration - Melting process - Erschmelzungsart

Electric-arc furnace - VOD - Finish n° 1 - 1D - HRAP

Nbre Nbr Stz	N° produit Product Erzeugnis	N° de coulée Ladle nr. Schmelze nr.	N° de lot de contrôle Inspection lot nr. Prüflos nr.	Nbre Nbr Stz	N° produit Product Erzeugnis	N° de coulée Ladle nr. Schmelze nr.	N° de lot de contrôle Inspection lot nr. Prüflos nr.
01	378513001	76241	378513.5001				

Total - Total - Gesamtzahl 001

This supply complies with the main requirements of PED 2014/68/EU relating to the basis materials regardless of the specific terms of service. ACC TO A/SA 480
NACE MR0175 ISO 15156-3, NACE MR0103 ISO 17945



1148
06

20060925

EN 10088-4:2009

Produit laminé à chaud en acier de construction

Usages prévus: Construction de bâtiments et Génie civil

X2CrNi18-9 (1.4307)

X5CrNi18-10 (1.4301)

Nous certifions que les produits ci-dessus sont conformes aux prescriptions de la commande.

We hereby certify that the above mentioned products are complying with the order requirements.

Wir bestätigen hiermit, dass die obengenannten Erzeugnisse den Bestimmungsvorschriften entsprechen.

ALEXANDRA BAYET
19/04/2021
Gestionnaire Commande
Mill inspector
Werksbeauftragte

Client - Purchaser - Besteller HW-INOX GMBH

Référence client - Purchase order - Kaufauftrag 6815/5-32123

Projet - Project - Projekt

Industeel Belgium

Site : Rue de Châtelet 266 6030 Marchienne-au-Pont

ISO 9001 (Cert 2019/86320.3, Valid 02/06/2023) + MAQ REV 00 du 04/05/2018

ISO 9001 (Cert 2019/86320.3, Valid 02/06/2023) + QAM REV 00 of 04/05/2018

Produit - Product - Erzeugnis

Plate(s)

Commande / Poste - Internal order - Werksbestellung

1084830 / 000260

Bordereau de livraison - Delivery note - Lieferungsdocument

80383430

#020 - ANALYSE CHIMIQUE DE COULEE - HEAT CHEMICAL COMPOSITION - SCHMELZE CHEMISCHE ZUSAMMENSETZUNG

	C	Mn	P	S	Si	Cu	Ni	Cr	Mo
	%	%	%	%	%	%	%	%	%
Min.							8.000	18.000	
76241	0.025	1.854	0.0290	0.0005	0.305	0.333	8.012	18.181	0.355
Max.	0.030	2.000	0.0450	0.0150	0.750	0.750	10.500	19.500	0.750
	Nb	Ti	N	Al	Co				
	%	%	%	%	%				
Min.									
76241	0.003	0.002	0.0964	0.009	0.143				
Max.	0.100	0.100	0.1000						

#041 - PMI - POSITIVE MATERIAL IDENTIFICATION - VERWECHSLUNGSPRÜFUNG

Non confusion de matière - Positive material identification -

PMI Conform

Résultat du contrôle - Examination result - Prüfergebnis

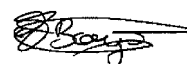
Conforme aux spécifications précitées - Conforming to above specifications - Entspricht der vorgenannten vorschritten

Nous certifions que les produits ci-dessus sont conformes aux prescriptions de la commande.

We hereby certify that the above mentioned products are complying with the order requirements.

Wir bestätigen hiermit, dass die obengenannten Erzeugnisse den Bestimmungsvorschriften entsprechen.

ALEXANDRA BAYET
19/04/2021
Gestionnaire Commande
Mill inspector
Werksbeauftragte



CERTIFICAT DE RECEPTION 3.1 / EN 10204:2004
Inspection Certificate 3.1 / EN 10204:2004
Prüfbescheinigung 3.1 / EN 10204:2004

Numéro de document
Document number
Bescheinigungsnummer
2021-109062

Rev 00

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/ 007

Cert 12



ArcelorMittal

Client - Purchaser - Besteller
Référence client - Purchase order - Kaufauftrag
Projet - Project - Projekt

HW-INOX GMBH
6815/5-32123
Industeel Belgium
Site : Rue de Châtelet 266 6030 Marchienne-au-Pont

ISO 9001 (Cert 2019/86320.3, Valid 02/06/2023) + MAQ REV 00 du 04/05/2018
ISO 9001 (Cert 2019/86320.3, Valid 02/06/2023) + QAM REV 00 of 04/05/2018

Produit - Product - Erzeugnis
Commande / Poste - Internal order - Werksbestellung
Bordereau de livraison - Delivery note - Lieferungsdocument

Plate(s)
1084830 / 000260
80383430

#072 ESSAIS MECANIKES - MECHANICAL TESTS - MECHANISCHE PRÜFUNGEN

DURETE SUR COUPON - HARDNESS ON SAMPLE - HÄRTE AUF COUPON

Brinell HB								HB10 Ind	HB10 Ind	HB10 Ind	HB10 Aver							
Brinell HB - Brinell HB																		
N° lot QM	Etat	Loc	Epr.	T°	Uni	Mac	Uni	Brinell	Brinell	Brinell	Brinell							
							Min											
							Max	201	201	201	201							
378513.5001	000	T3/4	PSS	20	°C			180	186	181	182							

DURETE SUR COUPON - HARDNESS ON SAMPLE - HÄRTE AUF COUPON

NACE MR0103 / ISO 17945																		
NACE MR0103 / ISO 17945 - NACE MR0103 / ISO 17945																		
N° lot QM	Etat	Loc	Epr.	T°	Uni	Mac												
378513.5001	000	T3/4	PSS	20	°C													

Test result HRC < 22

DURETE SUR COUPON - HARDNESS ON SAMPLE - HÄRTE AUF COUPON

NACE MR0175 / ISO 15156-3																		
NACE MR0175 / ISO 15156-3 - NACE MR0175 / ISO 15156-3																		
N° lot QM	Etat	Loc	Epr.	T°	Uni	Mac												
378513.5001	000	T3/4	PSS	20	°C													

Test result HRC < 22

TRACTION A L' AMBIANTE - ROOM TEMPERATURE TENSILE TEST - ZUGVERSUCH BEI RT

Traction								Rp 0,2%	Rp1%	Rm	A Lo=50mm	A Lo=5,65V So						
Tensile test - Zugversuch																		
N° lot QM	Etat	Loc	Epr.	T°	Uni	Mac	Uni	MPa	MPa	MPa	%	%						
							Min	210	250	520	40	45						
							Max			700								
378513.5001	000	T3/4	PST	20	°C			297	338	619	67	58						

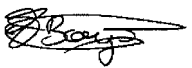
RESILIENCE - TOUGHNESS - KERBSCHLAGZÄHIGKEIT

KCV EN 10X10mm								Energy Ind	Energy Ind	Energy Ind	Energy Ave							
KCV EN 10X10mm - KCV EN 10X10mm																		
N° lot QM	Etat	Loc	Epr.	T°	Uni	Mac	Uni	J	J	J	J							
							Min	42	42	42	60							
							Max											
378513.5001	000	T3/4	PST	20	°C			238	242	246	242							

Loc	3/4	Trois-Quart - 3/4 Width - 3/4 Breite
Loc	T	Tête - Top - Kopf
Epr. Epaisseur	P	Peau - Rolled Surface - Walzfläche
Epr. Face	S	Supérieure - Upper face - obere
Epr. Sens	S	Standard - Standard - Standard
Epr. Sens	T	Travers - Transverse - Quer

Nous certifions que les produits ci-dessus sont conformes aux prescriptions de la commande.
We hereby certify that the above mentioned products are complying with the order requirements.
Wir bestätigen hiermit, dass die obengenannten Erzeugnisse den Bestimmungsvorschriften entsprechen.

ALEXANDRA BAYET
19/04/2021
Gestionnaire Commande
Mill inspector
Werksbeauftragte



Client - Purchaser - Besteller HW-INOX GMBH

Référence client - Purchase order - Kaufauftrag 6815/5-32123

Projet - Project - Projekt

Industeel Belgium

Site : Rue de Châtelet 266 6030 Marchienne-au-Pont

ISO 9001 (Cert 2019/86320.3, Valid 02/06/2023) + MAQ REV 00 du 04/05/2018

ISO 9001 (Cert 2019/86320.3, Valid 02/06/2023) + QAM REV 00 of 04/05/2018

Produit - Product - Erzeugnis

Plate(s)

Commande / Poste - Internal order - Werksbestellung

1084830 / 000260

Bordereau de livraison - Delivery note - Lieferungsdocument

80383430

Etat	000	Etat thermique de livraison - Heat treatment state of delivery - Wärmebehandlung Lieferzustand
Epr.Ep./Face/Sens	PSS	Peau - Rolled Surface - Walzfläche / Supérieure - Upper face - obere / Standard - Standard - Standard
Epr.Ep./Face/Sens	PST	Peau - Rolled Surface - Walzfläche / Supérieure - Upper face - obere / Travers - Transverse - Quer

#082 ESSAIS TECHNOLOGIQUES - TECHNOLOGICAL TESTS - TECHNOLOGISCHE PRÜFUNGEN

CORROSION - CORROSION - KORROSION

Sensibilisé - Sensitized - Sensibilisiert

EN ISO 3651-2 A

Test description - Prüfbeschreibung

N° lot QM	Etat	Loc	Epr.	T°	Uni	Mac												
378513.5001	001	T3/4	SSS	20	°C													

Test result Satisfactory as per specification

CORROSION - CORROSION - KORROSION

Sensibilisé - Sensitized - Sensibilisiert

ASTM A262 E

ASTM A262 E - ASTM A262 E

N° lot QM	Etat	Loc	Epr.	T°	Uni	Mac												
378513.5001	002	T3/4	SSS	20	°C													

Test result Satisfactory as per specification

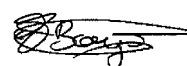
Loc	3/4	Trois-Quart - 3/4 Width - 3/4 Breite
Loc	T	Tête - Top - Kopf
Epr. Epaisseur	S	Standard - Standard - Standard
Epr. Face	S	Supérieure - Upper face - obere
Epr. Sens	S	Standard - Standard - Standard
Etat	001	SENSI - Sensitization (From 350 °C at 220 °C/h to 700 °C (-10/+10) (min: 30 min) - Down to 350 °C at 220 °C/h - 1 Cycle) - SENSI
Etat	002	SENSI - Sensitization (From 350 °C at 220 °C/h to 675 °C (-25/+0) (min: 60 min) - Down to 350 °C at 220 °C/h - 1 Cycle) - SENSI
Epr.Ep./Face/Sens	SSS	Standard - Standard - Standard / Supérieure - Upper face - obere / Standard - Standard - Standard

Nous certifions que les produits ci-dessus sont conformes aux prescriptions de la commande.

We hereby certify that the above mentioned products are complying with the order requirements.

Wir bestätigen hiermit, dass die obengenannten Erzeugnisse den Bestellvorgeschritten entsprechen.

ALEXANDRA BAYET
19/04/2021
Gestionnaire Commande
Mill inspector
Werksbeauftragte



Client - Purchaser - Besteller HW-INOX GMBH

Référence client - Purchase order - Kaufauftrag 6815/5-32123

Projet - Project - Projekt

Industeel Belgium

ISO 9001 (Cert 2019/86320.3, Valid 02/06/2023) + MAQ REV 00 du 04/05/2018

Site : Rue de Châtelet 266 6030 Marchienne-au-Pont

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Produit - Product - Erzeugnis

Plate(s)

Commande / Poste - Internal order - Werksbestellung

1084830 / 000260

Bordereau de livraison - Delivery note - Lieferungsdocument

80383430

#101 - DIMENSIONNEL - DIMENSIONAL CHECK - MASSKONTROLLE

Cahier des charges Longueur - Specification Length -

ISO 18286 CLASSE A

Cahier des charges Largeur - Specification Width -

ISO 18286 CLASSE A

Cahier des charges Epaisseur - Specification Thickness -

ISO 18286

Résultat du contrôle - Examination result - Prüfergebnis

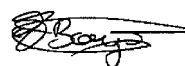
Conforme aux spécifications précitées - Conforming to above specifications - Entspricht der vorgenannten vorschriften

Nous certifions que les produits ci-dessus sont conformes aux prescriptions de la commande.

We hereby certify that the above mentioned products are complying with the order requirements.

Wir bestätigen hiermit, dass die obengenannten Erzeugnisse den Bestimmungsvorschriften entsprechen.

ALEXANDRA BAYET
19/04/2021
Gestionnaire Commande
Mill inspector
Werksbeauftragte



CERTIFICAT DE RECEPTION 3.1 / EN 10204:2004 Inspection Certificate 3.1 / EN 10204:2004 Prüfbescheinigung 3.1 / EN 10204:2004		Numéro de document Document number Bescheinigungsnummer 2021-109062		Rev 00	Page Sheet Seite 006 / 007	Cert 12  ArcelorMittal
Client - Purchaser - Besteller		HW-INOX GMBH				
Référence client - Purchase order - Kaufauftrag		6815/5-32123				
Projet - Project - Projekt						
Industeel Belgium		ISO 9001 (Cert 2019/86320.3, Valid 02/06/2023) + MAQ REV 00 du 04/05/2018				
Site : Rue de Châtelet 266 6030 Marchienne-au-Pont		ISO 9001 (Cert 2019/86320.3, Valid 02/06/2023) + QAM REV 00 of 04/05/2018				
Produit - Product - Erzeugnis					Plate(s)	
Commande / Poste - Internal order - Werksbestellung					1084830 / 000260	
Bordereau de livraison - Delivery note - Lieferungsdocument					80383430	

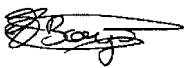
#111 - VISUEL-ETAT DE SURFACE - VISUAL EXAMINATION-SURFACE CONDITION - SICHTPRÜFUNG-OBERFLÄCHENZUSTAND

Norme applicable 1 - Applicable standard 1 - EN 10163 CL.B S-CL.3

Résultat du contrôle - Examination result - Prüfergebnis

Conforme aux spécifications précitées - Conforming to above specifications - Entspricht der vorgenannten vorschriften

Nous certifions que les produits ci-dessus sont conformes aux prescriptions de la commande.
We hereby certify that the above mentioned products are complying with the order requirements.
Wir bestätigen hiermit, dass die obengenannten Erzeugnisse den Bestellungsvorschriften entsprechen.

		ALEXANDRA BAYET 19/04/2021 Gestionnaire Commande Mill inspector Werksbeauftragte 
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Client - Purchaser - Besteller HW-INOX GMBH

Référence client - Purchase order - Kaufauftrag 6815/5-32123

Projet - Project - Projekt

Industeel Belgium

ISO 9001 (Cert 2019/86320.3, Valid 02/06/2023) + MAQ REV 00 du 04/05/2018

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Produit - Product - Erzeugnis

Plate(s)

Commande / Poste - Internal order - Werksbestellung

1084830 / 000260

Bordereau de livraison - Delivery note - Lieferungsdocument

80383430

#171 - PLANEITE - FLATNESS - EBENHEIT

Cahier des Charges Planéité - Flatness standard - Ebenheit norm

ISO 18286 CLASSE N - TYPE A

Résultat du contrôle - Examination result - Prüfergebnis

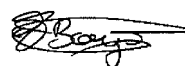
Conforme aux spécifications précitées - Conforming to above specifications - Entspricht der vorgenannten vorschriften

Nous certifions que les produits ci-dessus sont conformes aux prescriptions de la commande.

We hereby certify that the above mentioned products are complying with the order requirements.

Wir bestätigen hiermit, dass die obengenannten Erzeugnisse den Bestimmungsvorschriften entsprechen.

ALEXANDRA BAYET
19/04/2021
Gestionnaire Commande
Mill inspector
Werksbeauftragte



BEBITZ

Flanschenwerk Bebitz GmbH - Lebendorfer Str. 1 - 06420 Bebitz / GERMANY

Tel. +49 34691 40 0 - Fax +49 3469140 329 - Email: flanges@bebitz.de

Bebitz Flanges Works Pvt. Ltd. - Survey No. 140/2, Sarawali Boisar - Taluka Palghar - Thane 401501 - Maharashtra, INDIA Tel. +91-0-9049991039/42/43 - Fax +91-0-2525 274266/67 - Email: quality@bebitz.in

Abnahmeprüfzeugnis 3.1 / Inspection certificate 3.1 / Certificat de reception 3.1**nach (A02) / acc. DIN EN 10204 : 2005 Nr. (A03) / No.19-76610 Datum (Z02) / Date 04-10-2020**Zeichen des Herstellers (A04)
Manufacturer's brandStempel des Abnehmers (Z03)
Stamp of the testing engineer

Überprüft als Hersteller nach AD-Merkblatt W0. Approved as manufacturer acc. AD-Merkblatt W0. Zertifiziert nach DGR 2014/68/EU durch Zertifizierungsst. für Druckgeräte der TÜV NORD Systems GmbH Co KG, Benannte Stelle Nr. 0045.
 Certified acc. to PED 2014/68/EU, certifying body for pressure equipment TÜV NORD Systems GmbH Co KG, registration no. 0045.

Besteller (A06) Van Leeuwen
Customer Industrieweg 26 4153 BW Beesd
 4153 NETHERLANDS

Bestell-Nr (A07) / Order-No 3517081
Auftrag (A08) / Order 940000176
Lieferschein / Delivery No. 800000572
Position (B07.1) / Item 69

Stck (B08) Bezeichnung (B01; B09 - B11)
Quantity Product
 43 EN-1092-1 TYPE-11 PN-40 50 X60.3 S=5.54 Form-B

Schmelze/Prüflos (B07)
Heat no./Test no.
 58146

Material (B02; B05) F316/F 316L ASTM A 182M-18 / ASME SA-182M-19 / 1.4401 / 1.4404 - DIN EN 10222-5
 solution annealed at 1080 °C and quenched in water

Anford. (B03) EN-1092-1 : 2013 ; NACE MR0175-2015 / MR0103-2015 - DIN EN ISO 15156-3 : 2015
Require-ments AD-2000-Merkbl. W2, W9, W10 - (PED 2014/68/EU)
 geschmiedet / forged
 PMI-tested 100%, IGC-test acc. to DIN EN ISO 3651-2 Test A

Schmelzenanalyse (C71 - C92) / Ladle analysis**Erschmelzung (C70) / Melting process E**

C	Si	Mn	P	S	Cr	Ni	Ti	Mo	Nb	V	N	Cu	Al	PREN
0.017	0.33	1.55	0.037	0.024	16.78	10.06		2.01	0.0100		0.080	0.510	0.004	24.69

Mechanische Prüfungen / Mechanical tests

$$CEV = C + \frac{Mn}{6} + \frac{V + Mo + Cr}{5} + \frac{Ni + Cu}{15} \quad PREN = Cr + 3,3 \times Mo + 16 \times N$$

Probenlage (C02): q/t / Position of Specimen: q/t Tensile Test - DIN EN ISO 6892-1						$l_0 = 5 d_0$			KBV / Charpy Impact Test EN ISO 148-1 (V-notch, Position of specimen: q/t)			Härte (C32) Hardness ISO 6506-1 HBW>2PCS HBW(10/3000)	
Temp (C03) °C	Streckgr. (C11) / Yield strength 0,2% N/mm ²		1,0% N/mm ²	Zugfestigk. (C12) Tensile strength N/mm ²	Dehng. (C13) Elongation %	Einschnürg. Red. of area %	Temp. (C03) °C	Einzelwerte (C42) Single values J			MW (C43) Average J		
20	min 205 max			515	30.0	50	20						
20	351		377	581	49.0	72	20	192	188	200	193.3	158	
20	351		377	581	49.0	72	-196	135	142	138	138.3	151	

Besichtigung und Ausmessung ohne Beanstandungen. (D01) / Results of inspection and dimension without objections.

Die gestellten Anforderungen sind erfüllt. (Z01) / The product meets the requirements.

Ranjan Kumar Jena,
Inspection Representative of the Manufacturer (Z02)
 Bebitz Flanges Works Pvt.Ltd., Sarawali, Boisar, INDIA

F - QAC-09-04



Flanschenwerk Bebitz GmbH - Lebendorfer Str. 1 - 06420 Bebitz / GERMANY

Tel. +49 34691 40 0 - Fax +49 3469140 329 - Email: flanges@bebitz.de

Bebitz Flanges Works Pvt. Ltd. - Survey No. 140/2, Sarawali Boisar - Taluka Palghar - Thane 401501 - Maharashtra, INDIA Tel. +91-0-9049991039/42/43 - Fax +91-0-2525 274266/67 - Email: quality@bebitz.in

Abnahmeprüfzeugnis 3.1 / Inspection certificate 3.1 / Certificat de reception 3.1

nach (A02) / acc. DIN EN 10204 : 2005 Nr. (A03) / No. 19-76609 Datum (Z02) / Date 04-10-2020

Zeichen des Herstellers (A04)
Manufacturer's brand



Stempel des Abnehmers (Z03)
Stamp of the testing engineer



Überprüft als Hersteller nach AD-Merkblatt W0. Approved as manufacturer acc. AD-Merkblatt W0. Zertifiziert nach DGR 2014/68/EU durch Zertifizierungsst. für Druckgeräte der TÜV NORD Systems GmbH Co KG, Benannte Stelle Nr. 0045.
Certified acc. to PED 2014/68/EU, certifying body for pressure equipment TÜV NORD Systems GmbH Co KG, registration no. 0045.

Besteller (A06) Van Leeuwen
Customer Industrieweg 26 4153 BW Beesd
4153 NETHERLANDS

Bestell-Nr (A07) / Order-No 3517080
Auftrag (A08) / Order 940000176
Lieferschein / Delivery No. 800000572
Position (B07.1) / Item 56

Stck (B08) Bezeichnung (B01; B09 - B11)

Quantity Product

53 EN-1092-1 TYPE-11 PN-40 50 X60.3 S=5.54 Form-B

Schmelze/Prüflos (B07)

Heat no./Test no.

58218

Material (B02; B05) F 304/F 304L - ASTM A 182M-18 / ASME SA-182M -19/ 1.4301 / 1.4307 - DIN EN 10222-5
solution annealed at 1080 °C and quenched in water

Anford. (B03) EN-1092-1 : 2013 ; NACE MR0175-2015 / MR0103-2015 - DIN EN ISO 15156-3 : 2015

Require-ments AD-2000-Merkbl. W2, W9, W10 - (PED 2014/68/EU)

geschmiedet / forged

PMI-tested 100%, IGC-test acc. to DIN EN ISO 3651-2 Test A

Schmelzenanalyse (C71 - C92) / Ladle analysis

Erschmelzung (C70) / Melting process E

C	Si	Mn	P	S	Cr	Ni	Ti	Mo	Nb	V	N	Cu	Al	PREN
0.020	0.25	1.60	0.037	0.015	18.28	8.08		0.38			0.085	0.840	0.006	20.89

Mechanische Prüfungen / Mechanical tests

$$CEV = C + \frac{Mn}{6} + \frac{V + Mo + Cr}{5} + \frac{Ni + Cu}{15} \quad PREN = Cr + 3,3 \times Mo + 16 \times N$$

Probenlage (C02): q/t / Position of Specimen: q/t Tensile Test - DIN EN ISO 6892-1						$l_0 = 5 d_0$	KBV / Charpy Impact Test EN ISO 148-1 (V-notch, Position of specimen: q/t)			Härte (C32) Hardness ISO 6506-1		
Temp (C03) ° C	Streckgr. (C11) / Yield strength 0,2% N/mm²		1,0% N/mm²	Zugfestigk. (C12) Tensile strength N/mm²	Dehng. (C13) Elongation %	Einschnürr. Red. of area %	Temp. (C03) ° C	Einzelwerte (C42) Single values J			MW (C43) Average J	HBW>2PCS HBW(10/3000)
20	min 205 max			515	30.0	50	20					
20	287	319		563	67.0	71	20	176	182	190	182.7	156

Besichtigung und Ausmessung ohne Beanstandungen. (D01) / Results of inspection and dimension without objections.

Die gestellten Anforderungen sind erfüllt. (Z01) / The product meets the requirements.

Ranjan Kumar Jena,
Inspection Representative of the Manufacturer (Z02)
Bebitz Flanges Works Pvt.Ltd., Sarawali, Boisar, INDIA

F - QAC-09-04

REGD. OFFICE :

'Suraj House',
Opp. Usmanpura Garden, Ashram Road,
Ahmedabad - 380 014, Gujarat (INDIA)
Tel. : 0091-79-2754 0720 / 2754 0721
Fax : 0091-79-2754 0722
Email : suraj@surajgroup.com



SURAJ LIMITED
(AN ISO 9001 : 2015 COMPANY)
(AN ISO 14001 : 2015 COMPANY)
(AN PED 2014/68/EU APPROVED COMPANY)
AND (BSOHSAS 18001 : 2007)

INSPECTION CERTIFICATE

F / QA / 24

REV. NO. 09

WORKS :

Survey No. 779/A, Thol, Kadi - Sanand Highway,
Tal.- Kadi, Dist. Mehsana, Gujarat (India)
Tel. : (02764) 274216 / 274217 Fax : (02764) 274419
Email : quality@surajgroup.com
Visit us at www.surajgroup.com

In Accordance with EN 10204/3.1

Customer: Van Leeuwen Stainless, Netherlands	T.C No : 793	Date: 30.11.2019
Product : Austenitic S.S Seamless Cold Finish, Solution Annealed, Pickled & Passivated Pipes.	P.O.No : 3504468	Date: 13.06.2019
	W.O.No : 1920/OEP 400009	Date: 14.06.2019

Sr. No	Specification	Grade	Heat No.	Dimensions		Quantity			Hydro Test Pressure
				NPS	SCH	Length Mtr	Pcs.	Total Meter	
7	ASTM A-312 Ed.2017 SA-312 of ASME Sec.II Part "A" Ed.2017	TP 304/304L	FF-5781	3	40S	RL	9	55.640	1900 Psi
8	EN 10216-5 TC1 ED.2014 ASME B36.19 NACE MR 0175/ISO	1.4301/1.4307	S-17613	3	160	RL	5	30.750	2500 Psi
				Article No.155345					
				Article No.155347					

Chemical Analysis %

Heat No.	Required	C	Mn	P	S	Si	Cr	Ni	Mo	N	Pren
	Min	--	--	--	--	--	18.00	8.00	--		19.00
	Max	0.030	2.00	0.040	0.015	1.00	19.50	10.00	--	0.100	22.00
FF-5781	Heat Analysis	0.020	1.64	0.039	0.013	0.43	18.42	8.06	--	0.086	19.88
S-17613	Heat Analysis	0.028	1.90	0.039	0.005	0.47	18.36	8.06	--	0.078	19.69

Mechanical Test

Heat No.	Required				Gauge Width	Flattening Test	Hardness Test (HRB)	IGC Test
	Tensile strength Mpa	Yield strength Rp0.2%Mpa	Elongation %					ASTM A-262 Practice"E" & ISO 3651-2 Method "A"
			GI.					
			50mm	5.65√A				
MAX	680	--	--	--	5% of Qty	Max-100 HRB		
MIN	515	205	35	40	Min.Two			
FF-5781	621.53	315.67	55.63	56.83	25.40	No Crack Found	74-76	Satisfactory
S-17613	617.64	311.94	54.92	55.49			72-74	

Heat Treatment : Solution annealing carried out at 1045-1060°C temperature and rapid water quenching after final cold process.

Marking on pipes: SURAJ LTD ASTM/ASME A/SA-312 TP 304/304L SMLS __NPS X SCH __S X RL
EN 10216-5 TC1 1.4301/1.4307 SL __HEAT NO __HT CFD ARTICLE NO __P O NO. __

Remarks:

- * 100% Hydro test done at required pressure for 10 second holding time found satisfactory without any leakage.
- * 100% Visual .Dimensions(OD/THK/LENGTH) & Product Marking checked-satisfy the requirement of specification.
- * 100% Positive Material Identification (PMI) done by SL & conforming to grade as per specification.
- * Intergranular Corrosion Test (IGC) Conducted as per ASTM A262 Pr"E" & ISO 3651-2 method-A-No crack or fissures observed on bend portion at 20X
- * Pickling and passivation carried out as per ASTM A-380.
- * "Approved acc.to AD 2000-MERKBLATT W6 and certified acc.to PED (2014/68/EU) by certification body for pressure equipment of TUV NORD SYSTEMS (NOTIFIED BODY,REG NO.:0045)"
- * Tensile test piece taken from the same lot as certified and tested in longitudinal direction.
- * Melting process:EIF+AOD & Material is free of mercury & radioactive contamination.

Prepared by

Page no. 01 of 02



We hereby certify that the material described herein are in accordance with the specification and results comply with the requirements of the purchase order.

BEBITZ

Flanschenwerk Bebitz GmbH - Lebendorfer Str. 1 - 06420 Bebitz / GERMANY

Tel. +49 34691 40 0 - Fax +49 3469140 329 - Email: flanges@bebitz.de

Bebitz Flanges Works Pvt. Ltd. - Survey No. 140/2, Sarawali Boisar - Taluka Palghar - Thane 401501 - Maharashtra, INDIA Tel. +91-0-9049991039/42/43 - Fax +91-0-2525 274266/67 - Email: quality@bebitz.in

Abnahmeprüfzeugnis 3.1 / Inspection certificate 3.1 / Certificat de reception 3.1**nach (A02) / acc. DIN EN 10204 : 2005 Nr. (A03) / No.19-74078 Datum (Z02) / Date 24-07-2020**Zeichen des Herstellers (A04)
Manufacturer's brandStempel des Abnehmers (Z03)
Stamp of the testing engineer

Überprüft als Hersteller nach AD-Merkblatt W0. Approved as manufacturer acc. AD-Merkblatt W0. Zertifiziert nach DGR 2014/68/EU durch Zertifizierungsst. für Druckgeräte der TÜV NORD Systems GmbH Co KG, Benannte Stelle Nr. 0045.
 Certified acc. to PED 2014/68/EU, certifying body for pressure equipment TÜV NORD Systems GmbH Co KG, registration no. 0045.

Besteller (A06) Van Leeuwen
Customer Industriegew 26 4153 BW Beesd
 4153 NETHERLANDS

Bestell-Nr (A07) / Order-No 3517080
Auftrag (A08) / Order 940000101
Lieferschein / Delivery No. 800000327
Position (B07.1) / Item 48

Stck (B08) Bezeichnung (B01; B09 - B11)
Quantity Product
 42 EN-1092-1 T-11 PN-40 25 X 33.4 S=4.55 Form B

Schmelze/Prüflos (B07)
Heat no./Test no.
 114233

Material (B02; B05) F 304/F 304L - ASTM A 182M-18 / ASME SA-182M / 1.4301 / 1.4307 - DIN EN 10222-5
 solution annealed at 1080 °C and quenched in water

Anford. (B03) EN-1092-1 : 2013 ; NACE MR0175-2015 / MR0103-2015 - DIN EN ISO 15156-3 : 2015
Require-ments AD-2000-Merkbl. W2, W9, W10 - (PED 2014/68/EU)
 geschmiedet / forged
 PMI-tested 100%, IGC-test acc. to DIN EN ISO 3651-2 Test A

Schmelzenanalyse (C71 - C92) / Ladle analysis**Erschmelzung (C70) / Melting process E**

C	Si	Mn	P	S	Cr	Ni	Ti	Mo	Nb	V	N	Cu	Al	PREN
0.022	0.50	1.51	0.037	0.021	18.06	8.08		0.39			0.072			20.50

Mechanische Prüfungen / Mechanical tests

$$CEV = C + \frac{Mn}{6} + \frac{V + Mo + Cr}{5} + \frac{Ni + Cu}{15}$$

$$PREN = Cr + 3,3 \times Mo + 16 \times N$$

Probenlage (C02): q/t / Position of Specimen: q/t Tensile Test - DIN EN ISO 6892-1						I ₀ = 5 d ₀			KBV / Charpy Impact Test EN ISO 148-1 (V-notch, Position of specimen: q/t)			Härte (C32) Hardness ISO 6506-1 HBW>2PCS HBW(10/3000)	
Temp (C03) °C	Streckgr. (C11) / Yield strength		Zugfestigk. (C12) Tensile strength N/mm ²		Dehng. (C13) Elongation %	Einschnürg. Red. of area %	Temp. (C03) °C	Einzelwerte (C42) Single values J			MW (C43) Average J		
	0,2% N/mm ²	1,0% N/mm ²											
20	min 200 max	230	500 700		35.0		20	60			60		
20	357	374	522		52.6	74	20	198	204	206	202.7	158	

Besichtigung und Ausmessung ohne Beanstandungen. (D01) / Results of inspection and dimension without objections.
 Die gestellten Anforderungen sind erfüllt. (Z01) / The product meets the requirements.

Bhaskar Rathod,
Inspection Representative of the Manufacturer (Z02)
 Bebitz Flanges Works Pvt.Ltd., Sarawali, Boisar, INDIA

F - QAC-09-04



TUBES COMPANY PVT. LTD.

A NORSOK APPROVED & DNV APPROVAL OF MANUFACTURER, AN ISO 9001:2015, ISO 14001:2015,
ISO 45001:2018, PED & ADW / AD 2000 W0 CERTIFIED COMPANY
MFG. & EXPORTER OF STAINLESS STEEL SEAMLESS & WELDED PIPES I TUBES I U TUBES
GOVT. RECOGNISED EXPORT HOUSE I CIN:U27106GJ2006PTC049217

INSPECTION CERTIFICATE AS PER EN 10204 - 3.1												F/QAC/12_REV.01	
												T.C.NO :-MTCPL/2020-21/0294A1	
												DATE :-28.03.2021	
CUSTOMER NAME :- M/s VAN LEEUWEN STAINLESS BV													
P.O. NO. :- 3529953												DATE :-25.11.2020	
O.A.NO. :- 2020/11/13106_AP/EXP												DATE :-26.11.2020	
PRODUCT :- AUSTENITIC S.S. SEAMLESS PIPES (COLD FINISHED, SOLUTION ANNEALED & PICKLED)-MELTING PROCESS:- E.F.+A.O.D.													
MAT.SPEC. :- ASTM A 312-19, TP 304/304L, SA 312 OF ASME SEC-II, PART-A, EDITION 2019, ASTM/ASME A/SA 999/999M, EN 10216-5, TC-1, GRADE 1.4301/1.4307, NACE MR 0175/ISO 15156-3 : 2015, NACE MR 0103/ISO 17495-1 : 2016, VAN LEEUWEN SPECIFICATION No :- 022.001 DATE:- 14.05.2014 & PED 2014/68/EU.													
W.O. SR. NO.	HEAT NO.	DIMENSIONS										NO. OF PCS	TOTAL METER
5	20L1938	1" NB X SCH 80s X 5 TO 6 MTR RL										10	59.900
CHEMICAL TEST %													
SR. NO.	HEAT NO.	S	C	Si	Mn	P	S	Ni	Cr	Mo	N	Ti	
			0.030	1.000	2.000	0.040	0.015	8.000	18.000	--	0.100	--	
			MAX	MAX	MAX	MAX	MAX	10.000	19.500	--	MAX	--	
5	20L1938	H	0.026	0.320	1.130	0.007	0.037	8.080	18.200	--	0.079	--	
		P1	0.025	0.342	1.145	0.006	0.036	8.075	18.245	--	0.067	--	
		P2	0.024	0.347	1.165	0.007	0.036	8.099	18.259	--	0.065	--	
MECHANICAL TESTS													
SR. NO.	TENSILE STRENGTH Rm N/mm ²	YIELD STRENGTH Rp 0.2% N/mm ²	YIELD STRENGTH Rp 1.0% N/mm ²	ELON. A%, G.L=5.65/A, G.W= FULL SPECIMEN	ELON. A%, G.L= 50MM, G.W= FULL SPECIMEN	HARDNESS TEST MAX	FLARING TEST	FLANGE TEST	RING EXPANSION TEST	FLATTENING TEST	RING TENSILE TEST	OTHER TEST	
REQ.	515 - 680	205 MIN	230 MIN	L=40% (MIN)	L=35%(MIN)	90 HRB	--	--	--	--	--	--	
5	612.00	308.00	338.00	56.00	58.00	73-74	N.A	N.A	OK	OK	N.A	N.A	
	--	--	--	--	--								
REMARKS:-													
MARKING ON PRODUCT :- MAXIM S.S. SEAMLESS CFD PIPE, SIZE, SPECN, GRADE, HEAT NO, (O.A.No/Sr. No.) "PAP"													
HEAT TREATMENT :- SOLUTION ANNEALED AT TEMP. BETWEEN 1050°C TO 1070 °C AND FOLLOWED BY RAPID COOLING IN WATER.													
HYDRO TEST PRESSURE :- 2500psi(g), (WATER USED HAVING CHLORIDE CONTENT LESS THAN 10 ppm & HOLDING TIME 10 SEC. MIN)													
EDDY CURRENT TEST :- N.A													
[1] I.G.C TEST ACCORDANCE TO ASTM A 262, PRACTICE "E" CARRIED OUT BY MTCPL - FOUND SATISFACTORY.													
[2] MECHANICAL TEST CARRIED OUT BY MTCPL - FOUND SATISFACTORY.													
[3] PRODUCT ANALYSIS CARRIED OUT BY MTCPL - FOUND SATISFACTORY.													
[4] 100% HYDRO TEST CARRIED OUT BY MTCPL - FOUND SATISFACTORY.													
[5] 100% PMI TEST CARRIED OUT BY MTCPL - FOUND SATISFACTORY.													
[6] 100% DIMENSION AND VISUAL CHECKED BY MTCPL - FOUND SATISFACTORY.													
[7] MATERIAL IS FREE FROM MERCURY AND RADIOACTIVE CONTAMINATION.													
[8] APPROVED ACC. TO AD2000-MERKBLATT W0 AND CERTIFIED ACCORDING TO PED 2014/68/EU ANNEX-I SEC 4.3 BY CERTIFICATION BODY- FOR PRESSURE EQUIPMENT OF TUV NORD SYSTEMS (REG. NO. 0045), MTCPL CERTIFICATE NO. 07/203/1409/WP/1680/21 & 07/202/1409/WZ/1680/21.													
NOTE:- S= SPECIFICATION,P= PRODUCT ANALYSIS,H= HEAT ANALYSIS,G.L= GAUGE LENGTH,G.W= GAUGE WIDTH,L= LONGITUDINAL,T = TRANSVERSE, N.A = NOT APPLICABLE.													
INSPECTOR'S/SURVEYOR'S SIGN				P.O. ITEM :- COMPLETE				 MANAGER (Q.A.)		 WORKS INSPECTOR (Q.A.)			
WE HEREBY CERTIFY THAT THE MATERIAL IS AS PER SIZE & SPECIFICATION MENTIONED IN ORDER, ALL TEST RESULT ARE ACCEPTABLE.													

REGISTERED OFFICE & WORKS: SURVEY NO. 105/106, NR. 66 KV SUBSTATION, CHHATRAL - PANSAR ROAD,
AHMEDABAD - MEHSANA HIGHWAY, CHHATRAL - 382729, TA. KALOL, DISTRICT GANDHINAGAR, GUJARAT, INDIA.
EXPORT PHONE: +91 99091 98877, FAX: +91 2764 234477, EXPORT@MAXIMTUBES.COM I WWW.MAXIMTUBES.COM

Ensuring Stainless Performance™



VIRAJ PROFILES LIMITED (Forgings Div)
 Survey No-140/1 & G-75 MIDC, Tarapur Ind.Area, Boisar, Dist.Palghar,Maharashtra-401506,INDIA
 Email-vflqc@viraj.com,web.www.viraj.com(A01)

(A02) INSPECTION CERTIFICATE & MILL TEST REPORT - EN 10204 3.1

(A06)CUSTOMER : VAN LEEUWEN STAINLESS B.V. PO BOX 19,4153 ZG BEESD, INDUSTRIEWEG 26, 4156 BW BEESD NETHERLANDS	Manufacturer's Symbol (A04) 	(A03)MTR NO.	12/75026129/33
		(Z02) DATE	29.07.2020
		MATERIAL SPEC.	ASTM A182/A182M-20 / ASME SA182/SA182M-19
			EN 10222 - 5 - 2017
		(B02) GRADE	F316/316L/1.4401/1.4404
		DIMENSIONAL SPEC.	EN1092-1:2018

(B01) : STAINLESS STEEL FORGED FLANGES	(B04) DELIVERY CONDITION :
---	-----------------------------------

ISO 9001:2015-TUV NORD REG.No-04100011170 EXPIRY DATE: 21.01.2022 & APPROVED ACCORDING TO AD 2000 MERKBLATT W0 & CERTIFIED ACCORDING TO PED (2014/68/EU) BY CERTIFICATION BODY FOR PRESSURE EQUIPMENT OF TUV NORD SYSTEMS (NOTIFIED BODY REGISTRATION NO. -0045)

(A07)ORDER NO: 3517211	(A08)Sales Order No. 30106978/000330	Article No: 164920
-------------------------------	---	---------------------------

(B09-B11) ITEM DESCRIPTION	QUANTITY(PIECES)	HEAT NUMBER
150/168.3 TYPE 11B PN10/16 S=10.97MM	11	114362

(C71-C92) CHEMICAL ANALYSIS

ELEMENT	%C	%Mn	%Si	%S	%P	%Cr	%Ni	%Mo	%Ti	%N						
MIN						16.50	10.00	2.00								
MAX	0.030	2.00	1.00	0.030	0.045	18.50	12.00	2.50		0.1100						
HEAT	0.024	1.63	0.51	0.020	0.035	16.60	10.08	2.03	0.002	0.0800						
PROD.																

MECHANICAL PROPERTIES

Test specification ASTM-A370

Sample location : Mid thick-forging		Test Temp : RT	Test Direction : Tr	Sample Shape Round		ASTM E10				
Test Values	(C12) Tensile Strength	(C11) Proof Strength		(C13) Elongation%	Reduction of Area	(C32) Hardness	Charpy V-Notch 10x10x55mm (Values in Joules) & (Shear%)			
		Rp=0.2%	Rp = 1 %				(C42) Single values		(C43)	
	N/mm2	N/mm2	N/mm2	Lo=5D	%	BHN	1	2	3	AVG
Req.	515/690	205 MIN	225 MIN	35 MIN	50 MIN					
T	585.00	299.58	349.44	62.00	68.64	159	172	180	186	179

Other applicable Specifications :: NACE MR 0175 / ISO 15156-2015 & NACE MR 0103-2015 & MATERIAL CONFORMS TO W2/W9/W10

Melting Process : Electrical induction furnace & Argon Oxygen decarburization(IRS) Concast

Heat Treatment	: Solution Annealed at 1080°C and water Quenched
Dimension	: Conform with the specification (100% inspected)
Surfacequality	: Satisfactory
PMI Test	: No objection (100% tested with mobile spectro)
Corrosion Test	: Passed IGC test in accordance with DIN EN ISO 3651-2 & ASTM A262 Practice E
Micro Observation	: No carbide precipitation observed on grain boundaries
Radioactivity Test	: We here by certify that all the material is free from radioactive contamination
Mercury Contamination	: Free from mercury contamination

We certify that the above material has been inspected and tested and complies with the order/contract and is of Indian origin



(Z03)Inspector's Stamp

Signature



VIJAY KUMAR PILLAI (GM, QAD)

REGD. OFFICE :
'Suraj House',
Opp. Usmanpura Garden, Ashram Road,
Ahmedabad - 380 014. Gujarat (INDIA)
Tel. : 0091-79-2754 0720 / 27540721
Fax : 0091-79-2754 0722
Email : suraj@surajgroup.com



F / QA / 24 REV. NO. 09

WORKS :
Survey No. 779/A, Thol, Kadi - Sanand Highway,
Tal.- Kadi, Dist. Mehsana. Gujarat (India)
Tel. : (02764) 274216 / 274217 Fax : (02764) 274419
Email : quality@surajgroup.com
Visit us at www.surajgroup.com

INSPECTION CERTIFICATE

In Accordance with EN 10204/3.1

Customer: Van Leeuwen Stainless, Netherlands	T.C No : 513	Date: 19.03.2021
Product : Austenitic S.S Seamless Cold Finish, Solution	P.O.No : 3527982	Date: 13.10.2020
Annealed, Pickled & Passivated Pipes.	W.O.No : 2021/OEP400041	Date: 16.10.2020

Sr. No	Specification	Grade	Heat No.	Dimensions		Quantity			Hydro Test Pressure (Psi)
				NPS	SCH	Length Mtr	Pcs.	Total Meter	
13	ASTM A-312 Ed.2019 SA-312 of ASME Sec.II Part "A" Ed.2019	TP 304/304L	S-18413	6	80S	RL	5	31.910	2000
	EN 10216-5 TCI ED.2014 ASME B36.19	1.4301/1.4307		Article No.155472					
15	NACE MR 0175/ISO 15156-3 NACE MR 0103		S-18413	10	40S		6	34.850	1100
				Article No.155480					

Chemical Analysis %

Heat No.	Required	C	Mn	P	S	Si	Cr	Ni	Mo	N	Pren
	Min	--	--	--	--	--	18.00	8.00	--	--	19.00
	Max	0.030	2.00	0.040	0.015	1.00	19.50	10.00	--	0.100	22.00
S-18413	Heat Analysis	0.025	1.90	0.037	0.005	0.46	18.49	8.09	--	0.079	19.84

Mechanical Test

Heat No.	Required			Gauge Width	Flattening Test	Hardness Test	IGC Test
	Tensile strength Mpa	Yield strength Rp0.2% Mpa	Elongation % GL				
			5.65VA				ASTM A-262 Practice "E" & ISO 3651-2 Method "A"
MAX	680	--	--				
MIN	515	205	35	40	5% of Qty Min.Two	Max-100 HRB	
S-18413	612.09	310.29	--	52.44	25.40	73-75	Satisfactory
S-18413	604.54	298.18	48.86	--	38.10	71-74	Satisfactory

Heat Treatment : Solution annealing conducted at 1040-1060°C temperature and rapid water quenching after final cold process.

Marking on pipes: SURAJ LTD ASTM/ASME A/SA-312 TP 304/304L SMLS __NPS X SCH __S X RL
EN 10216-5 TCI 1.4301/1.4307 HEAT NO __HT CFD ARTICLE NO __SL. NO. __P O NO. __

Remarks:

- * 100% Hydro test done at required pressure for 10 second holding time found satisfactory without any leakage.
- * 100% Visual, Dimensions (OD/THK/LENGTH) & Product Marking checked-satisfy the requirement of specification.
- * 100% Positive Material Identification (PMI) done by SL & conforming to grade as per specification.
- * Intergranular Corrosion Test (IGC) Conducted as per ASTM A262 Pr"E" & ISO 3651-2 method-A-No crack observed on bend portion at 20X
- * Pickling and passivation conducted as per ASTM A-380.
- * "Approved acc.to AD 2000-MERKBLATT W0 and certified acc.to PED (2014/68/EU) by certification body for pressure equipment of TUV NORD SYSTEMS (NOTIFIED BODY, REG NO.:0045)"
- * Tensile test piece taken from the same lot as certified and tested in longitudinal/transverse direction.
- * Melting process: EIF+AOD & Material is free of mercury & radioactive contamination.

Prepared by

SURAJ LTD.
THOL
For Suraj Limited.
C.I.Nayak
Dept, Head Quality

Page no. 01 of 01

We hereby certify that the material described herein are in accordance with the specification and results comply with the requirements of the purchase order.



Cert 19



VIRAJ PROFILES LIMITED (Forgings Div)
Survey No-140/1 & G-75 MIDC, Tarapur Ind.Area, Boisar, Dist.Palghar,Maharashtra-401506,INDIA
Email-vflqc@viraj.com,web.www.viraj.com(A01)

(A02) INSPECTION CERTIFICATE & MILL TEST REPORT - EN 10204 3.1

(A06)CUSTOMER : VAN LEEUWEN STAINLESS B.V. PO BOX 19,4153 ZG BEESD, INDUSTRIEWEG 26, 4156 BW BEESD NETHERLANDS	Manufacturer's Symbol (A04) 	(A03)MTR NO.	12/210010714/1 / Rev - 00
		INVOICE NUMBER	75031138
		(Z02) DATE	11.06.2021
		MATERIAL SPEC.	ASTM A182/A182M-20 / ASME SA182/SA182M-20
			EN 10222 - 5 - 2017
		(B02) GRADE	F304/304L/1.4301/1.4307
		DIMENSIONAL SPEC.	EN1092-1:2018

(B01) : STAINLESS STEEL FORGED FLANGES (B04) DELIVERY CONDITION :

ISO 9001:2015-TUV NORD REG.No-04100011170 EXPIRY DATE: 21.01.2022 & APPROVED ACCORDING TO AD 2000 MERKBLATT W0 & CERTIFIED ACCORDING TO PED (2014/68/EU) BY CERTIFICATION BODY FOR PRESSURE EQUIPMENT OF TUV NORD SYSTEMS (NOTIFIED BODY REGISTRATION NO. -0045)

(A07)ORDER NO: 4500023548	(A08)Sales Order No. 30117708/000360	(A09)Article No:167763	
(B09-B11)ITEM DESCRIPTION		(B08)QUANTITY(PCS)	(B07)HEAT NUMBER
80/88.9 TYPE 11 B1 PN10/16 S10S		25	61778

(C71-C92) CHEMICAL ANALYSIS

ELEMENT	%C	%Mn	%Si	%S	%P	%Cr	%Ni	%Mo	%Ti	%N						
MIN						18.00	8.00									
MAX	0.030	2.00	1.00	0.030	0.045	19.50	10.00			0.110						
HEAT	0.017	1.61	0.26	0.025	0.037	18.26	8.10	0.32	0.002	0.085						

MECHANICAL PROPERTIES

Test specification ASTM-A370

(C01) Sample location : Mid thick-forging			(C03) Test Temp : RT	(C02) Test Direction : Tr	(C10) Sample Shape Round	ASTM E10				
Test Values	(C12) Tensile Strength	(C11) Proof Strength		(C13) Elongation%	Reduction of Area	(C32) Hardness	(C40) Charpy V-Notch 10x10x55mm (Values in Joules)			
		Rp=0.2%	Rp = 1%				(C42) Single values		(C43)	
	N/mm2	N/mm2	N/mm2	Lo=5D			%	BHN	1	2
Req.	515/700	205 MIN	230 MIN	35 MIN	50 MIN					
T	577.02	290.79	338.85	58.80	72.12	157	170	168	180	173

Other applicable Specifications :: NACE MR 0175 / ISO 15156-2015 & NACE MR 0103-2015 & MATERIAL CONFORMS TO W2/W9/W10

Melting Process : Electrical induction furnace & Argon Oxygen decarburization(IRS) Concast

Heat Treatment	: Solution Annealed at 1080°C and water Quenched
Dimension	: Conform with the specification (100% inspected)
Surfacequality	: Satisfactory
PMI Test	: No objection (100% tested with mobile spectro)
Corrosion Test	: Passed IGC test in accordance with DIN EN ISO 3651-2 & ASTM A262 Practice E
Micro Observation	: No carbide precipitation observed on grain boundaries
Radioactivity Test	: We here by certify that all the material is free from radioactive contamination
Mercury Contamination	: Free from mercury contamination

we certify that the above material has been inspected and tested and complies with the order/contract and is of Indian origin



(Z03)Inspector's Stamp



VIJAY KUMAR PILLAI (GM, QAD)



Cert 20



Stab. / Plant.: Via Don Spagnoli 5 - 29010 Sarmato (PC) - ITALIA
tel. (+39) 0523.887452 - fax. (+39) 0523.887687

Sede Operativa / Commercial Office:
RACCORTUBI S.p.A. - Viale De Gasperi, 194
20010 - Marcallo con Casone (MI) - ITALIA
tel. (+39) 02.976300.1 - fax. (+39) 02.90376337 - info@raccortubi.it

Certificato di collaudo d'officina tipo: EN 10204 3.1
Product test certificate Type: EN 10204 3.1
Certificat de Reception Type: EN 10204 3.1

Cliente RACCORTUBI S.p.A.
Customer/

Ordine N. Master plan Gennaio 2020/2
P.O.N/C.N.

Pos. N. 6 **Q.tà** 90
Item/Poste **Q.ty/Q.té**

(*) Marcatura e cert. N. 1498419
Material Marking e Cert. N.

Created on:
12-12-2019

Descrizione ELBOWS 90° LR 3" SCH.80/S
Description

Specifica FITTINGS TO ASTM A403/403M-16
Specification ASME SA403/SA403M ed.17 WP 304/304L
Spécification DIMS/ENDS ANSI ASME B16.9-ed.2018 B16.25-ed.2017

Materiale base - Fabricante: TUBACEX Cert. No.: 681661 Raw material - manufacturer/Matériau du départ - fabriquant: TUBACEX Cert. No.: 681661															
Specifica Specification/Specification			Caratteristiche meccaniche Mechanical Properties/Caractéristiques Mécaniques												
SMLS PIPES TO ASME/ASTM SA/A 312 TP304/304L, DIMS TO ANSI B36.19	Colata N. Heat N. Coulée N.	N. prova Specimen N. Echantil. N.	Snervamento Yield strength Limite d'élasticité N/mm2	Rottura Tensile Resistance à la traction N/mm2	Allungam. % Elongation Allongement	Durezza Hardness as per NACE MRO1-75	Durezza Hardnes Dureté	Resilienza Impact energy Resilience Joules							
	54569	P1813123	375	590	42	HRC<22	HRC 11								
Analisi chimica % Chemical composition/Composition chimique															
Colata N. Heat N. Coulée N.	C	Si	Mn	P	S	Cr	Ni	Mo	Cu	Nb	Co	N		PRE	FERRITE
54569	0,018	0,280	1,65	0,028	0,0010	18,31	10,28	0,35	0,33	0,025	0,073	0,0700			
Prove Tests/Tests															
Prova di corrosione A262 Prat. E: Conforme Corrosion Test A262 Pract. E: In conformity Essais de corrosion A262 Prat. E: En Conformité															
I dati dell'analisi chimica e delle prove meccaniche corrispondono al certificato del fabbricante del materiale base e/o dal laboratorio che ha effettuato le prove. The chemical analysis and mechanical properties fully comply with the certificate Issued by the raw material manufacturer and/or by the laboratory that carried out the tests. L'analyse chimique et les caracteristique mécaniques sont en conformité au certificat émis par le producteur du materiel de base et/ou par le laboratoire qui a ecsécuté les tests.							Note/Remarks/Notes MATERIAL CONFORMS TO NACE MR0175/ISO 15156 & MR0103 CURRENT EDITION CERTIFIED ACC.TO PED 2014/68/UE annex I para 4.3 Materials comply with MESC 76/110 & 76/202.								
							ALL FITTINGS HAVE BEEN SUPPLIED IN PICKLED AND PASSIVATED CONDITIONS (*) Material marked with certificate number as per relevant code.								
Responsabile Controllo Qualità Quality Control Manager															

Costruzione Manufacture/Méthode de fabrication	
Formato a freddo Cold formed Formés à froid	Senza saldatura Seamless Sans soudure
Ispezione Inspection/Inspection	
Esame visivo e dimensionale: Soddisfacente Identificazione materiale: 100% soddisfacente Visual and dimensional test: Satisfactory Positive Material Identification: 100% satisfactory Examen visuel et dimensionnel: Satisfaisant Analyse de contrôle du produit: 100% satisfaisant	
Trattamento termico Heat treatment/Traitement Thermique	
Solubilizzazione a 1045°C Solution Annealing at 1045°C, water quenching Hypertrempés à 1045°C	
Guaranteed characteristics (A.M. du 24.03.78)	
Caratteristiche garantite pour Z2CN18-10 et Z2CND17-13 C ≤ 0.25% Rm ≤ 760 N/mm2 S ≤ 0.05% Rm(A-2) ≤ 10500 N/mm2 P ≤ 0.05% A% sur 5,65 sqrt(So) ≥ 16	
Il materiale è stato fornito in conformità al requisiti dell'ordine. The material has been furnished in accordance with purchase order requirements. Le matériel a été trouvé conforme aux exigences.	
Marchio di fabbrica Trade Mark	
Ispettore Inspector/Inspecteur	

direzione generale

Customer: VAN LEEUWEN STAINLESS B.V.
Order : 3518585 - 11.03.2020 Project: OCVEES20200000304
Descr.: ELBOWS 90° LR 3" SCH.80/S SEAMLESS

Heat n° or Pcs. marking : 1498419 Cita/Qty: 10 Posiz./Item n.: 2
Protocol : CTCERC202000002836 * CERTIFIED TRUE COPY * Issued 21/03/20

RACCORTUBI



**INSPECTION CERTIFICATE
CERTIFICADO DE INSPECCIÓN
CERTIFICAT DE RECEPTION
ABNAHMEPRÜFZEUGNIS
EN 10204:2004 / 3.1**

Number: 681661 Page: 1 / 4	Rev: 00
Created on: Date: 05.06.2018	Modified on: 12.06.2018

TTI - TUBACEX TUBOS INOXIDABLES

Registro Mercantil de Alava, Tomo 587, Folio 189, Hoja VI 2885 - N.I.F. A-01140227

Tres cruces, 8

01400 Llodio (Alava)

SPAIN

TL: 946721350

FAX: 946725062

E-MAIL:

197842

CUSTOMER DESCRIPTION/DESCRIPCIÓN DEL CLIENTE/KUNDENBEZEICHNUNG/COMMETTANT**CLIENT SOLD TO/SOLICITANTE/AUFTRAGGEBER/COMMETTANT**

TSS
TUBACEX SERVICE SOLUTIONS, S.A.U
POLIGONO INDUSTRIAL SARATXO
01470 AMURRIO

SOLD TO: RACCORTUBI S.P.A.
SOLD P.O. REF.: OS000190S REV1
SOLD ORDER REF.: 326179
COPY NUMBER: 001

**CLIENT ORDER/PEDIDO CLIENTE/KUNDEN AUFTRAGSNUMMER/NO.DE COMMANDE: I004271****SALES ORDER/PEDIDO VENTAS/AUFTRAGSNUMMER/NO.DE COMMANDE D'USINE:**

MATERIAL: SEAML. STAINL. STEEL TUBES/PIPES/TUBOS INOXIDABLES SIN SOLDADURA/TUBES INOX SANS SOUDURE/NAHTLOSE EDELSTAHLROHRE

HEAT-TREATED, PICKLED / TRATADO, DECAPADO / HYPERTREMPE, DECAPE / WÄRMEBEHANDELT, GEBEIZT, PASSIVATED / PASIVADO / PASSIVÉ / PASSIVIERT

GRADE / ACERO / GRADE / WERKSTOFF: TP304, TP304L, 1.4301, 1.4306,

STANDARD / NORMA / STANDARD / LIEFERUNG NACH: ASME SECT.II PART.A SA312/SA312M-2017 ED.

ASME SECT.II PART.A SA376/SA376M-2017 ED.

ASTM A312/A312M-17

ASTM A376/A376M-17

EN 10216-5:2013 TC1

EN 10297-2:2005

CHECK ANALYSIS

CORROSION TESTED ACC. TO ASTM A262 PRACTICE E

CORROSION TESTED ACC. TO EN ISO 3651-2 PRACTICE A

CORROSION TESTED ACC. TO MIL-P-24691/3 (ASTM A262 PCT.E)

ANSI/NACE MR0103/ISO 17945:2015

ANSI/NACE MR0175/ISO15156-3:2015

TOLERANCES / TOLERANCIAS / TOLERANCES / TOLERANZEN NACH: ASME SECT.II PART.A SA999/SA999M-2017 ED.

ASTM A999/A999M-17

EN ISO 1127/03.97 D2/T2

RANDOM LENGTHS / LARGOS VARIABLES / LONGUEUR COURANTE / EINGEENGTE LÄNGE 6.000/7.000 MM

PLAIN ENDS / LISOS / EXTRÉMITÉ D'EQUERRE / GLATTE ENDEN,

DIMENSIONS/DIMENSIONES/DIMENSIONS/DIMENSIONS: 88,9 x 7,62 MM - 3" SCH 80S

HOT FINISHED/ACABADOS EN CALIENTE/WARMGEFORMT/FINIS A CHAUD

Sales Item	Client Item	Delivery No	Lot No.	Heat No	Pieces	Weight	Tot Lgth	Un Lgth
Pos Ped.	Pos Cnt	N° Entrega	N° lote	Colada	Piezas	Peso	Long. Tot	Long. Un
Auftrag Pos	Kunde Pos	Lieferung	Los Nr.	Schmelze	Stück	Gewicht	Gesamtlänge	Längentyp
Usine Pos	Com. Pos	Avis. d'exp	Lot d'inspection	Coulée	Pcs	Poids	Totlength	Long. Un
20		8110055492	P1813123	54569	12	1.360 KG	79,72 M	6000-7000 MM



**TUBACEX TUBOS
INOXIDABLES S.A.U.**
INGENIERIA DE CALIDAD

[Signature]

Xaigo Arriola Alcegar

We hereby certify that the material herein described has been manufactured, sampled, tested, and inspected in accordance with above standards and specifications and satisfies order requirements. This certificate is issued by a computerized system and it is valid without original signature. In case the owner of the certificate would release as a copy of it, he must attest its conformity to the issued, assuming the responsibility for any unlawful or TUBACEX, not allowed use. Any forgery or falsification of this certificate shall legally prosecuted.

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Customer: VAN LEEUWEN STAINLESS B.V.

Order : 3518585 - 11.03.2020 Project: Our ref.: OCVEES202000000304

Descr.: ELBOWS 90° LR 3" SCH.80/S SEAMLESS

Heat n° or Pcs. marking : 1498419 Qtà/Qty:10 Posiz./Item n.: 2

Protocol : CTCERC202000002836 * CERTIFIED TRUE COPY * Issued 21/03/20



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GROUP

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Modified on:
12.06.2018

RAW MATERIAL/DATOS MATERIAL/VORMATERIAL/MATIERE PREMIERE

Heat Nr:
54569

Method
Electric furnace+AOD

CHEMICAL COMPOSITION (%) / COMPOSICIÓN QUÍMICA (%) / CHEMISCHE ZUSAMMENSETZUNG (%) / COMPOSITION CHIMIQUE (%)

*L: Ladle C: Products

	Heat	Seq	C	Mn	Si	P	S	Ni	Cr	Mo	Cu	V
L	54569	1	0,018	1,65	0,280	0,028	0,0010	10,28	18,31	0,35	0,33	0,056
C	54569	6	0,018	1,60	0,290	0,026	0,0010	10,15	18,15	0,35	0,32	0,056
	Heat	Seq	Ti	Nb	W	Co	N	Pren				
L	54569	1	0,003	0,025	0,020	0,073	0,0700	20,5850				
C	54569	6	0,003	0,024	0,020	0,070	0,0700	20,4250				

HEAT TREATMENT/TRATAMIENTO TÉRMICO/WÄRMEBEHANDLUNG/TRAITEMENT THERMIQUE

HIPERTEMPERADOS A 1040 °C , ENFRIADO RAPIDO
SOLUTION ANNEALED AT 1040 °C , Rapidly cooled
HYPERTEMPES 1040 °C , REFROID. RAPIDE
LOESUNGSGEGLUEHT 1040 °C , SCHNELLE ABRÜHLUN

TENSILE TEST/TEST DE TENSIÓN/ESSAI TRACTION/ZUGVERSUCH

Lot No.	Sample	T	Rp0.2	Rp1.0	Rm	A2"	A5	Type	Spc.Type	Spc.Dim
		°C	MPa	MPa	MPa	%	%			mm
P1813123	1	20	375	420	590	42	40	L	S	20,15

HARDNESS TEST/TEST DE DUREZA/DUREE/HÄRTEPRÜFUNG

Lot No.	Sample	HRB1	HRB2
P1813123	1	85	84

METALURGICAL TESTS/ENSAYOS METALÚRGICOS/METALLURGISCHE PRÜFUNGEN/ESSAIS METALLURGIQUES

INTERGRANULAR CORROSION TEST ACC. TO DIN EN ISO 3651-2 MET.A:

SATISFACTORY

ENSAYO DE CORROSION INTERGRANULAR DE ACUERDO A ISO 3651-2 MET.A:

SATISFACTORIO

BESTÄNDIGKEIT GEGEN INTERKRISTALLINE KORROSION ENTSPRECHEND ISO 3651-2

MET."A": IN ORDNUNG

ESSAI DE CORR. INTERGR. SELON ASTM ISO 3651-2 MET."A": SATISFAISANT

INTERGRANULAR CORROSION TEST ACC. TO ASTM A262

PRACT.E/MIL-P-24691-3: SATISFACTORY

ENSAYO DE CORROSION INTERGRANULAR DE ACUERDO A ASTM A262

PRACT.E/MIL-P-24691-3: SATISFACTORIO

BESTÄNDIGKEIT GEGEN INTERKRISTALLINE KORROSION ENTSPRECHEND ASTM A262

PRACT.E/MIL-P-24691-3: IN ORDNUNG

ESSAI DE CORR. INTERGR. SELON ASTM ASTM A262 PRACT.E/MIL-P-24691-3:



**TUBACEX TUBOS
INOXIDABLES S.A.U.**

DECEMBER 2018

DECEMBER 2018

DECEMBER 2018

DECEMBER 2018

DECEMBER 2018

DECEMBER 2018

DECEMBER 2018

DECEMBER 2018

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DECEMBER 2018

DECEMBER 2018

DECEMBER 2018

DECEMBER 2018

DECEMBER 2018

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Customer: VAN LEEUWEN STAINLESS B.V.

Order : 3518585 - 11.03.2020 Project: Our ref.: OCVEES202000000304

Descr.: ELBOWS 90° LR 3" SCH.80/S SEAMLESS

Heat n° or Pcs. marking : 1498419 Qtà/Qty:10 Posiz./Item n.: 2

Protocol : CTCERC202000002836 * CERTIFIED TRUE COPY * Issued 21/03/20



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TUBACEX
GROUP

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12.06.2018

SATISFAISANT

**NON-DESTRUCTIVE TESTS/ENSAYOS NO DESTRUCTIVOS/ZERSTÖRUNGSFREIE
PRÜFUNGEN/ESSAIS NON DESTRUCTIFS**

POSITIVE MATERIAL IDENTIFICATION TEST ON EACH TUBE/PIPE BY

"X-RAY-FLUORESCENCE-ANALYZER": SATISFACTORY

VERIFICACION DEL GRADO DE ACERO EN CADA TUBO MEDIANTE "ANALIZADOR DE
FLUORESCENCIA DE RAYOS X": SATISFACTORIO

VERWECHSLUNGSPRUEFUNG AN JEDEM ROHR MIT

"RÖNTGEN-FLUORESZENZ-ANALYSATOR": IN ORDNUNG

VERIFICATION DE LA NUANCE SUR CHAQUE TUBE PAR

"X-RAY-FLUORESCENCE-ANALYZER": SATISFAISANT

HYDROSTATIC PRESSURE TESTED AT 170 bar, 2500 PSI DURING 5 SEC ON EACH
TUBE/PIPE: SATISFACTORY

ENSAYO HIDROSTÁTICO A 170 bar, 2500 PSI DURANTE 5 SEC EN CADA TUBO:
SATISFACTORIO

WASSERDRUCKPRÜFUNG BEI 170 bar, 2500 PSI HALTEZEIT 5 SEC JE ROHR: IN
ORDNUNG

ESSAI DE PRESSION HYDROSTATIQUE À 170 bar, 2500 PSI PENDANT 5 SEC SUR
CHAQUE TUBE: SATISFAISANT

DIMENSIONAL CHECKING ON EACH TUBE: SATISFACTORY

INSPECCION DIMENSIONAL AL 100% DE LOS TUBOS SATISFACTORIA

100% MASSKONTROLLE: O.B.

VERIFICATION DIMENTIONNELLE AU 100% DES TUBES, SATISFAISANTE

VISUAL INSPECTION ON EACH TUBE: SATISFACTORY

INSPECCION VISUAL AL 100% DE LOS TUBOS, SATISFACTORIA

100% BESICHTIGUNG: O.B.

EXAMEN VISUEL AU 100% DES TUBES, SATISFAISANT

**TECHNOLOGICAL TESTS/ENSAYOS TECNOLÓGICOS/TECHNOLOGISCHE
PRÜFUNGEN/TECHNOLOGICAL TESTS**

FLARING TEST: SATISFACTORY

ABOCARDADO S.NORMA: SATISFACTORIO

AUFWEITVERSUCH: IN ORDNUNG

ESSAI D'EVASEMENT: SATISFAISANT

FLATTENING TEST: SATISFACTORY

APLASTADO S.NORMA: SATISFACTORIO

RINGFALTVERSUCH: IN ORDNUNG

ESSAI D'APLATISSEMENT: SATISFAISANT



**TUBACEX TUBOS
INOXIDABLES S.A.U.**

INGENIERO DE CALIDAD

[Signature]

Xaigo Arriola Alcegar

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Order : 3518585 - 11.03.2020 Project: Our ref.: OCVEES20200000304

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Heat n° or Pcs. marking : 1498419 Qtà/Qty:10 Posiz./Item n.: 2

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Number: 681661
Page: 4 / 4

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12.06.2018

MARKING/ETIQUETADO/KENNZEICHNUNG/MARKSTEXT

TX3 TUBACEX 88,9 X 7,62 MM - 3" SCH 80S ASME SA312 ASME SA376 ASTM A312 ASTM A376 EN 10216-5 TC1 EN 10297-2
TP304 TP304L 1.4301 1.4306 HFD HF SMLS S10HEAT/ PMI-AV LOT NO/ MADE IN SPAIN

REMARKS/OBSERVACIONES/ANMERKUNG/REMARQUES

NO MERCURY, MERCURY COMPOUNDS OR MERCURY BEARING INSTRUMENTS AND/OR EQUIPMENT HAVE BEEN USED ALONG MANUFACTURING AND INSPECTION PROCESS.

DURANTE LOS PROCESOS DE FABRICACIÓN E INSPECCIÓN NO SE HA USADO MERCURIO NI INSTRUMENTOS Y/O EQUIPOS CONTENIENDO MERCURIO O CON COMPONENTES DE MERCURIO.

KEINE QUECKSILBER, BZW. QUECKSILBER VERUNREINIGTES KOMPONENTEN ODER KUGELLAGERINSTRUMENTE UND/ODER GERÄTE SIND BENUTZT WORDEN PRODUKTIONS UND BESICHTIGUNGSPROZESS.

IL N'A PAS ÉTÉ FAIT USAGE DE MERCURE, DE COMPOSÉS CONTENANT DU MERCURE OU DE MATÉRIAUX ET/OU D'INSTRUMENT CONTENANT DU MERCURE TOUT AU LONG DES ÉTAPES DE FABRICATION ET DU PROCESSUS D'INSPECTION ET DE CONTRÔLE.

NO WELDING OR WELD REPAIRS WERE MADE

SIN REPARACION POR SOLDADURA

KEINE SCHWEISSBEARBEITUNG WURDE VORGENOMMEN

SANS RÉPARATION AVEC SOUDURE

MATERIAL MANUFACTURER APPROVED BY TÜV SÜD Industrie Service GmbH

(NOTIFIED BODY 036) TO ISSUE CERTIFICATES OF SPECIFIC PRODUCT CONTROL IN

ACCORDING TO PRESSURE EQUIPMENT DIRECTIVE 2014/68/EU ANNEX 1 POINT 4.3.

FABRICANTE DE MATERIALES APROBADO POR TÜV SÜD Industrie Service GmbH (ORGANISMO NOTIFICADO 0036) PARA LA EMISIÓN DE CERTIFICADOS ESPECÍFICOS DE CONTROL DE PRODUCTO DE ACUERDO AL ANEXO 1, PUNTO 4.3 DE LA DIRECTIVA DE EQUIPOS A PRESIÓN 2014/68/EU.

WERKSTOFFHERSTELLER MIT BERECHTIGUNG ZUR AUSSTELLUNG VON BESCHEINIGUNGEN ÜBER SPEZIFISCHE PRÜFUNGEN AN DEN WERKSTOFFEN IM GELTUNGSBEREICH DER ZERTIFIZIERUNG UND IN ÜBEREINSTIMMUNG MIT DER DRUCKGERÄTERICHTLINIE 2014/68/EU UND DEN ZUGRUNDE LIEGENDEN SPEZIFIKATIONEN ENTSPR. DER BENANNTE STELLE NR.0036, TÜV SÜD Industrie Service GmbH

PRODUCTEUR DU MATÉRIEL APPROUVÉ PAR TÜV SÜD Industrie Service GmbH N.B. 0036) POUR ÉMISSION DES CERTIFICATS SPÉCIFIQUE DE CONTRÔLE DE PRODUIT SELON LA DIRECTIVE DES ÉQUIPES A PRESION 2014/68/EU ANNEXE 1 POINT 4.3.

MATERIAL CHARACTERISTICS COMPLY WITH POINT 7.5 OF ANNEX I TO PED BY HAVING AN ELONGATION AFTER RUPTURE AT TENSILE TEST NO LESS THAN 14% AND A BENDING RUPTURE ENERGY AT IMPACT TEST NO LESS THAN 27J AT 20°C.

LAS CARACTERÍSTICAS DEL MATERIAL CUMPLEN CON LOS REQUISITOS DEL PUNTO 7.5 DE LA DIRECTIVA PED POR TENER UN ALARGAMIENTO TRAS ROTURA EN EL ENSAYO DE TRACCIÓN NO INFERIOR AL 14% Y PO DE TRACCIÓN NO INFERIOR AL 14% Y POR TENER UNA RESISTENCIA AL IMPACTO NO INFERIOR A 27 J A 20°C.

DIE WERKSTOFF-WERTE ENTSPRECHEN PUNKT 7.5. DER DGRL, ANHANG 1, MIT EINERBRUCHDEHNUNG = 14% IM NORMGEMÄSS DURCHFÜHRTE ZUGVERSUCH UND DER KERBSCHLAGARBEIT = 27J AN EINER ISO - v PRO PROBE BEI EINER TEMPERATUR VON HÖCHSTENS 20°C

LES CARACTÉRISTIQUES DU MATÉRIEL, AYANT UN ALLONGEMENT APRES RUPTURE A L'ESSAI DE TRACTION NON INFÉRIEUR DU 14% ET UNE RESISTENCE A LA FLEXION PAR CHOC A 20°C NON INFÉRIEUR A 27J, SONT CONFORMES AUX PRESCRIPTIONS DU PONT 7.5 DE L'ANNEXE I DE PED.

MATERIAL IS FREE OF RADIATION CONTAMINATION

EL MATERIAL ESTA LIBRE DE CONTAMINACIÓN POR RADIACIONES

MATERIAL IS FREI VON RADIOAKTIVITÄT

MATÉRIEL LIBRE DE POLLUTION RADIOACTIVE



**TUBACEX TUBOS
INOXIDABLES S.A.U.**

INGENIERO DE CALIDAD
[Signature]

Idiigo Arriola Alcega

We hereby certify that the material herein described has been manufactured, sampled, tested, and inspected in accordance with above standards and specifications and satisfies order requirements. This certificate is issued by a computerized system and it is valid without original signature. In case the owner of the certificate would release as a copy of it, he must attest its conformity to the issued, assuming the responsibility for any unlawful or TUBACEX, not allowed use. Any forgery or falsification of this certificate shall legally prosecuted.

TSS S.A.U. as commercial operation intermediary certifies that this certificate is a true copy of the manufacturer original certificate. TSS S.A.U. makes a copy of the original certificate without changing the properties specified in the original purchase order and the product specification referenced.

Customer: VAN LEEUWEN STAINLESS B.V.

Order : 3518585 - 11.03.2020 Project: Our ref.: OCVEES20200000304

Descr.: ELBOWS 90° LR 3" SCH.80/S SEAMLESS

Heat n° or Pcs. marking : 1498419 Qtà/Qty: 10 Posiz./Item n.: 2

Protocol : CTCERC202000002836 * CERTIFIED TRUE COPY * Issued 21/03/20

		Marcegaglia 46040 via Bresciani 16-Gazoldo degli Ippoliti Mantova-Italy Tel. +39 - 0376 685 1 Fax. +39 - 0376 685 600 www.marcegaglia.com		Type Inspection Certificate 3.1 EN 10204		THIS DOCUMENT WAS PRODUCED AUTOMATICALLY AND IS VALID WITHOUT SIGNATURE		Number 10521691466		Issued On 10/09/2021		
		Stabilimento di Forlì: via E.Mattei,20 47034 Forlimpopoli, Forlì-Cesena tel+39.0543470111 fax+39.0543470105		WELDING PROCESS QUALIFICATION: ALL THE LASER WELDING PROCESS ARE QUALIFIED ACCORDING EUROPEAN PRESSURE EQUIPMENT DIRECTIVE PED 97/23/EC BY THE NOTIFIED BODY N.1233 EUROPED WITH WELDING PROCEDURE QUALIFICATION WPQR N° PM0907A001 Registration no. 10M203 AND WPQR N° PM907A002 Registration no. 11M017. STILL VALID UNDER PED 2014/68/EU PER ARTICLE 48 CLAUSE 3.								
Customer VAN LEEUWEN STAINLESS P.O. BOX 19 4153 ZG BEESD NL				Code: 0000009846		Consignee VAN LEEUWEN STAINLESS INDUSTRIEWEG 19 4153 ZG ZG BEESD NL		Delivery Nn 8355122732 Of 10/09/2021 Delivery note nr 1005011149		Quality Control Q.M.D./Q.M. S.Toscana Plant Of Forlì		Pages 2/6
Material TXT004				Test specification: ASTM A312/A312M-09 ASME SA312-13 Stainless steel grade: TP 304L 1.4307/1.4301 X2CrNi18-9/X5CrNi18-10 Tolerances: ASTM A1016 / A1016M				Welding process LASER WELDING		Order Nr 1191379008/50	Client Order 4500024256	
Description TXT0043"10S88,9x3,05x6000TP304LASTMA312A										Part Number	Client Date 6/9/2021	
Item	Identification Nr	Heat	Quantity MTL	Quantity KG	Quantity PZZ	Delivery conditions	Reworks HEAT TREATMENT IN AIR AT T=1070°C COOLING IN WATER AND PICKLING PICKLING					
1	21K5007730	0540906	114	692	19							
2	21K5007731	0462682	114	692	19							
WE CERTIFY THAT THE ABOVE MENTIONED PRODUCTS COMPLY WITH THE TERMS OF ORDER CONTRACT AND THE STANDARDS RECALLED IN THE PRESENT TEST CERTIFICATE												
Identification Nr	Chemical Type	C (%)	Si (%)	Mn (%)	P (%)	S (%)	N (%)	Cr (%)	Ni (%)			
		0.035	1	2	0.045	0.03	0.11	18 20	8 13			
21K5007730	RAW MATERIAL	.026	.320	1.700	.0310	.0010	.0700	18.190	8.060			
21K5007731	RAW MATERIAL	.022	.330	1.800	.0300	.0010	.0700	18.070	8.090			
Identification Nr	Type of mechanical test	Rp 0.2 [MPa]	Rm [MPa]	A5 (%)	MARCEGAGLIA SPECIALTIES FORLIMPOPOLI PLANT SYSTEM CERTIFICATIONS QUALITY SYSTEM CERTIFIED ACCORDING TO EN 9001:2015 AND IATF 16949:2016 AND ISO 3834-2:2005 AND A SAFETY SYSTEM CERTIFIED ACCORDING TO OHASAS 18001:2007 AND AN ENVIROMENTAL SYSTEM CERTIFIED ACCORDING TO ISO 14001:2015. MARCEGAGLIA SPECIALTIES FORLIMPOPOLI PRODUCT CERTIFICATIONS DVGW ACCORDING TO GW541 LASER AND TIG WELDED TUBES STAINLESS STEEL GRADE 1.4404 DIA FROM 15.00 TO 108.00MM AND GRADE 1.4521 FROM 15.00 TO 54.00MM. TUV AD2000 W2IW10AND PED ANNEX I, PARAGRAPH 4.3 LASER AND TIG WELDED TUBES STAINLESS STEEL GRADE 1.4301, 1.4306, 1.4307, 1.4401, 1.4404, 1.4541, 1.4571, 1.4435, 1.4436 THICKNESS FROM 0.80 TO 4.00MM AND DIAMETRS FROM 8.00 TO 283.00 MM. EHEDG FOR DAIRY TUBES TXT015. EUROPEAN DIRECTIVE 1935:2004 FOR DAIRY TUBES TXT003, TXT014, TXT015.							
21K5007730	TUBE	434	664	53.1								
21K5007731	TUBE	433	663	53.3								
NON DESTRUCTIVE TESTS EDDY CURRENT TEST FOR THE VERIFICATION OF HYDRAULIC LEAKTIGHTNESS ACCORDING TO EN ISO 10893-1:2011: CONFORM EDDY CURRENT TEST FOR THE DETECTION OF IMPERFECTIONS ACCORDING TO EN ISO 10893-2:2011: CONFORM EDDY CURRENT TEST ACCORDING TO ASTM E426: CONFORM ANTIMIXING TEST: CONFORM VISUAL INSPECTION AND DIMENSIONAL CONTROLS: CONFORM					DESTRUCTIVE TESTS DRIFT EXPANDING TEST ACCORDING TO EN ISO 8493:2005: CONFORM FLATTENING TEST ACCORDING TO EN ISO 8492:2004: CONFORM TENSILE TEST ACCORDING TO EN ISO 6892-1:2009 INTERGRANULAR CORROSION TEST ACCORDING TO ASTM A262 PRACTICE E: CONFORM							
Marking {LGO:MARCEGAGLIA} ASTM A312 ASME SA 312 EN 14307 # TP304L HEAT N° \$COLATASWLD NH ET \$DIAMETRO\$ (MM) X \$SPESSORE_NOM\$ (MM) /\$DIAM_POLICIS\$ (") X \$SCHEDULAS \$SIGLAS \$DATAS \$ORAS												
Remarks: THE CHEMICAL COMPOSITION REFERS TO THE RAW MATERIAL USED ACCORDING TO EN 10028-7 AND ASTM A312												

		Marcegaglia 46040 via Bresciani 16 Gazzoletto degli Ippoliti Mantova-Italy Tel. +39 - 0376 685 1 Fax. +39 - 0376 685 600 www.marcegaglia.com Stabilimento di Forlì: via E. Mattei, 20 47034 Forlìmpopoli, Forlì-Cesena tel +39 0543470111 fax +39 0543470105		Type Inspection Certificate 3.1 EN 10204		THIS DOCUMENT WAS PRODUCED AUTOMATICALLY AND IS VALID WITHOUT SIGNATURE		Number 10521691466		Issued On 10/09/2021	
Customer VAN LEEUWEN STAINLESS P.O. BOX 19 4153 ZG BEESD NL		Code: 0000009846		Consignee VAN LEEUWEN STAINLESS INDUSTRIEWEG 19 4153 ZG ZG BEESD NL		Delivery Nn 8355122732 Of 10/09/2021 Delivery note nr 1005011149		Quality Control Q.M.D./Q.M. S.Toscana Plant Of Forlì		Pages 3/6	
Material TXT004		Test specification: ASTM A312/A312M-09 ASME SA312-13 Stainless steel grade: TP 304L 1.4307/1.4301 X2CrNi18-9/X5CrNi18-10 Tolerances: ASTM A1016 / A1016M				Welding process LASER WELDING		Order Nr 1191379008/50		Client Order 4500024256	
Description TXT0043*10S88,9x3,05x6000TP304LASTMA312A								Part Number		Client Date 6/9/2021	
Item	Identification Nr	Heat	Quantity MTL	Quantity KG	Quantity PZZ	Delivery conditions	Reworks HEAT TREATMENT IN AIR AT T=1070°C COOLING IN WATER AND PICKLING PICKLING				
1	21K5007732	0462682	114	692	19						
2	21K5007733	0462682	114	692	19						
WE CERTIFY THAT THE ABOVE MENTIONED PRODUCTS COMPLY WITH THE TERMS OF ORDER CONTRACT AND THE STANDARDS RECALLED IN THE PRESENT TEST CERTIFICATE											
Identification Nr	Chemical Type	C (%)	Si (%)	Mn (%)	P (%)	S (%)	N (%)	Cr (%)	Ni (%)		
		0.035	1	2	0.045	0.03	0.11	18	8		
		20						13			
21K5007732	RAW MATERIAL	.022	.330	1.800	.0300	.0010	.0700	18.070	8.090		
21K5007733	RAW MATERIAL	.022	.330	1.800	.0300	.0010	.0700	18.070	8.090		
Identification Nr	Type of mechanical test	Rp 0.2 [MPa]	Rm [MPa]	A5 (%)							
		170	485	35							
21K5007732	TUBE	433	663	53.3							
21K5007733	TUBE	433	663	53.3							
					MARCEGAGLIA SPECIALTIES FORLIMPOPOLI PLANT SYSTEM CERTIFICATIONS QUALITY SYSTEM CERTIFIED ACCORDING TO EN 9001:2015 AND IATF 16949:2016 AND ISO 3834-2:2005 AND A SAFETY SYSTEM CERTIFIED ACCORDING TO OHSAS 18001:2007 AND AN ENVIRONMENTAL SYSTEM CERTIFIED ACCORDING TO ISO 14001:2015. MARCEGAGLIA SPECIALTIES FORLIMPOPOLI PRODUCT CERTIFICATIONS DWG ACCORDING TO GW541 LASER AND TIG WELDED TUBES STAINLESS STEEL GRADE 1.4404 DIA FROM 15.00 TO 108.00MM AND GRADE 1.4521 FROM 15.00 TO 54.00MM. TUV AD2000 WZW10 AND PED ANNEX I, PARAGRAPH 4.3 LASER AND TIG WELDED TUBES STAINLESS STEEL GRADE 1.4301, 1.4306, 1.4307, 1.4401, 1.4404, 1.4541, 1.4571, 1.4435, 1.4436 THICKNESS FROM 0.80 TO 4.00MM AND DIAMETERS FROM 8.00 TO 283.00 MM. EHEDG FOR DAIRY TUBES TXT015. EUROPEAN DIRECTIVE 1935:2004 FOR DAIRY TUBES TXT003, TXT014, TXT015.						
NON DESTRUCTIVE TESTS EDDY CURRENT TEST FOR THE VERIFICATION OF HYDRAULIC LEAKTIGHTNESS ACCORDING TO EN ISO 10893-1:2011: CONFORM EDDY CURRENT TEST FOR THE DETECTION OF IMPERFECTIONS ACCORDING TO EN ISO 10893-2:2011: CONFORM EDDY CURRENT TEST ACCORDING TO ASTM E426: CONFORM ANTIMIXING TEST: CONFORM VISUAL INSPECTION AND DIMENSIONAL CONTROLS: CONFORM					DESTRUCTIVE TESTS DRIFT EXPANDING TEST ACCORDING TO EN ISO 8493:2005: CONFORM FLATTENING TEST ACCORDING TO EN ISO 8492:2004: CONFORM TENSILE TEST ACCORDING TO EN ISO 6892-1:2009 INTERGRANULAR CORROSION TEST ACCORDING TO ASTM A262 PRACTICE E: CONFORM						
Marking (LGO:MARCEGAGLIA) ASTM A312 ASME SA 312 EN 14307 # TP304L HEAT N° SCOLATA\$WLD NH ET \$DIAMETROS (MM) X \$SPESSORE_NOMS (MM) /\$DIAM_POLLICIS (") X \$SCHEDULAS \$SIGLAS \$DATAS \$ORAS											
Remarks: THE CHEMICAL COMPOSITION REFERS TO THE RAW MATERIAL USED ACCORDING TO EN 10028-7 AND ASTM A312											

		Marcegaglia 46040 via Bresciani 16-Gazoldo degli Ippoliti Mantova-Italy Tel. +39 - 0376 685 1 Fax. +39 - 0376 685 600 www.marcegaglia.com Stabilimento di Forlì: via E. Mattei, 20 47034 Forlìmpopoli, Forlì-Cesena tel+39.0543470111 fax+39.0543470105		Type Inspection Certificate 3.1 EN 10204		THIS DOCUMENT WAS PRODUCED AUTOMATICALLY AND IS VALID WITHOUT SIGNATURE		Number 10521691466		Issued On 10/09/2021			
Customer VAN LEEUWEN STAINLESS P.O. BOX 19 4153 ZG BEESD NL				Code: 0000009846		Consignee VAN LEEUWEN STAINLESS INDUSTRIEWEG 19 4153 ZG ZG BEESD NL		Delivery Nn 8355122732 Of 10/09/2021 Delivery note nr 1005011149		Quality Control Q.M.D./Q.M. S.Toscana Plant Of Forlì		Pages 4/6	
Material TXT004				Test specification: ASTM A312/A312M-09 ASME SA312-13 Stainless steel grade: TP 304L 1.4307/1.4301 X2CrNi18-9/X5CrNi18-10 Tolerances: ASTM A1016 / A1016M				Welding process LASER WELDING		Order Nr 1191379008/50		Client Order 4500024256	
Description TXT0043*10S88,9x3,05x6000TP304LASTMA312A										Part Number		Client Date 6/9/2021	
Item	Identification Nr	Heat	Quantity MTL	Quantity KG	Quantity PZZ	Delivery conditions	Reworks HEAT TREATMENT IN AIR AT T=1070°C COOLING IN WATER AND PICKLING PICKLING						
1	21K5007734	0462682	114	692	19								
2	21K5007735	0462682	114	692	19								
WE CERTIFY THAT THE ABOVE MENTIONED PRODUCTS COMPLY WITH THE TERMS OF ORDER CONTRACT AND THE STANDARDS RECALLED IN THE PRESENT TEST CERTIFICATE													
Identification Nr	Chemical Type	C (%)	Si (%)	Mn (%)	P (%)	S (%)	N (%)	Cr (%)	Ni (%)				
		0.035	1	2	0.045	0.03	0.11	18 20	8 13				
21K5007734	RAW MATERIAL	.022	.330	1.800	.0300	.0010	.0700	18.070	8.090				
21K5007735	RAW MATERIAL	.022	.330	1.800	.0300	.0010	.0700	18.070	8.090				
Identification Nr	Type of mechanical test	Rp 0.2 [MPa]	Rm [MPa]	A5 (%)									
		170	485	35									
21K5007734	TUBE	433	663	53.3									
21K5007735	TUBE	433	663	53.3									
NON DESTRUCTIVE TESTS EDDY CURRENT TEST FOR THE VERIFICATION OF HYDRAULIC LEAKTIGHTNESS ACCORDING TO EN ISO 10893-1:2011: CONFORM EDDY CURRENT TEST FOR THE DETECTION OF IMPERFECTIONS ACCORDING TO EN ISO 10893-2:2011: CONFORM EDDY CURRENT TEST ACCORDING TO ASTM E426: CONFORM ANTIMIXING TEST: CONFORM VISUAL INSPECTION AND DIMENSIONAL CONTROLS: CONFORM					DESTRUCTIVE TESTS DRIFT EXPANDING TEST ACCORDING TO EN ISO 8493:2005: CONFORM FLATTENING TEST ACCORDING TO EN ISO 8492:2004: CONFORM TENSILE TEST ACCORDING TO EN ISO 6892-1:2009 INTERGRANULAR CORROSION TEST ACCORDING TO ASTM A262 PRACTICE E: CONFORM								
Marking (LGO:MARCEGAGLIA) ASTM A312 ASME SA 312 EN 14307 # TP304L HEAT N° \$COLATA\$WLD NH ET \$DIAMETROS (MM) X \$SPESSORE_NOMS (MM) /\$DIAM_POLLICIS (*) X \$SCHEDULAS \$SIGLAS \$DATAS \$ORAS\$													
Remarks: THE CHEMICAL COMPOSITION REFERS TO THE RAW MATERIAL USED ACCORDING TO EN 10028-7 AND ASTM A312													

		Marcegaglia 46040 via Bresciani 16-Gazoldo degli Ippoliti Mantova-Italy Tel. +39 - 0376 685 1 Fax. +39 - 0376 685 600 www.marcegaglia.com		Type Inspection Certificate 3.1 EN 10204		THIS DOCUMENT WAS PRODUCED AUTOMATICALLY AND IS VALID WITHOUT SIGNATURE		Number 10521691466		Issued On 10/09/2021		
		Stabilimento di Forlì: via E.Mattei,20 47034 Forlimpopoli, Forlì-Cesena tel+39 0543470111 fax+39 0543470105		WELDING PROCESS QUALIFICATION: ALL THE LASER WELDING PROCESS ARE QUALIFIED ACCORDING EUROPEAN PRESSURE EQUIPMENT DIRECTIVE PED 97/23/EC BY THE NOTIFIED BODY N.1233 EUROPED WITH WELDING PROCEDURE QUALIFICATION WPQR N° PM0907A001 Registration no. 10M203 AND WPQR N° PM907A002 Registration no. 11M017. STILL VALID UNDER PED 2014/68/EU PER ARTICLE 48 CLAUSE 3.								
Customer VAN LEEUWEN STAINLESS P.O. BOX 19 4153 ZG BEESD NL				Code: 0000009846		Consignee VAN LEEUWEN STAINLESS INDUSTRIEWEG 19 4153 ZG ZG BEESD NL		Delivery Nn 8355122732 Of 10/09/2021 Delivery note nr 1005011149		Quality Control Q.M.D./Q.M. S.Toscana Plant Of Forlì		Pages 5/6
Material TXT004				Test specification: ASTM A312/A312M-09 ASME SA312-13 Stainless steel grade: TP 304L 1.4307/1.4301 X2CrNi18-9/X5CrNi18-10 Tolerances: ASTM A1016 / A1016M				Welding process LASER WELDING		Order Nr 1191379008/50	Client Order 4500024256	
Description TXT0043*10S88,9x3,05x6000TP304LASTMA312A										Part Number	Client Date 6/9/2021	
Item	Identification Nr	Heat	Quantity MTL	Quantity KG	Quantity PZZ	Delivery conditions	Reworks HEAT TREATMENT IN AIR AT T=1070°C COOLING IN WATER AND PICKLING PICKLING					
1	21K5007736	0462682	114	692	19							
2	21K5007737	0462682	114	692	19							
WE CERTIFY THAT THE ABOVE MENTIONED PRODUCTS COMPLY WITH THE TERMS OF ORDER CONTRACT AND THE STANDARDS RECALLED IN THE PRESENT TEST CERTIFICATE												
Identification Nr	Chemical Type	C (%)	Si (%)	Mn (%)	P (%)	S (%)	N (%)	Cr (%)	Ni (%)			
		0.035	1	2	0.045	0.03	0.11	18 20	8 13			
21K5007736	RAW MATERIAL	.022	.330	1.800	.0300	.0010	.0700	18.070	8.090			
21K5007737	RAW MATERIAL	.022	.330	1.800	.0300	.0010	.0700	18.070	8.090			
Identification Nr	Type of mechanical test	Rp 0.2 [MPa]	Rm [MPa]	A5 (%)	MARCEGAGLIA SPECIALTIES FORLIMPOPOLI PLANT SYSTEM CERTIFICATIONS QUALITY SYSTEM CERTIFIED ACCORDING TO EN 9001:2015 AND IATF 16949:2016 AND ISO 3834-2:2005 AND A SAFETY SYSTEM CERTIFIED ACCORDING TO OHSAS 18001:2007 AND AN ENVIROMENTAL SYSTEM CERTIFIED ACCORDING TO ISO 14001:2015. MARCEGAGLIA SPECIALTIES FORLIMPOPOLI PRODUCT CERTIFICATIONS DVGW ACCORDING TO GW541 LASER AND TIG WELDED TUBES STAINLESS STEEL GRADE 1.4404 DIA FROM 15.00 TO 108.00MM AND GRADE 1.4521 FROM 15.00 TO 54.00MM. TUV AD2000 W2W10 AND PED ANNEX I, PARAGRAPH 4.3 LASER AND TIG WELDED TUBES STAINLESS STEEL GRADE 1.4301, 1.4306, 1.4307, 1.4401, 1.4404, 1.4541, 1.4571, 1.4435, 1.4436 THICKNESS FROM 0.80 TO 4.00MM AND DIAMETRS FROM 8.00 TO 283.00 MM. EHEDG FOR DAIRY TUBES TXT015. EUROPEAN DIRECTIVE 1935:2004 FOR DAIRY TUBES TXT003, TXT014, TXT015.							
21K5007736	TUBE	433	663	53.3								
21K5007737	TUBE	433	663	53.3								
NON DESTRUCTIVE TESTS EDDY CURRENT TEST FOR THE VERIFICATION OF HYDRAULIC LEAKTIGHTNESS ACCORDING TO EN ISO 10893-1:2011: CONFORM EDDY CURRENT TEST FOR THE DETECTION OF IMPERFECTIONS ACCORDING TO EN ISO 108932:2011: CONFORM EDDY CURRENT TEST ACCORDING TO ASTM E426: CONFORM ANTIMIXING TEST: CONFORM VISUAL INSPECTION AND DIMENSIONAL CONTROLS: CONFORM					DESTRUCTIVE TESTS DRIFT EXPANDING TEST ACCORDING TO EN ISO 8493:2005: CONFORM FLATTENING TEST ACCORDING TO EN ISO 8492:2004: CONFORM TENSILE TEST ACCORDING TO EN ISO 6892-1:2009 INTERGRANULAR CORROSION TEST ACCORDING TO ASTM A262 PRACTICE E: CONFORM							
Marking (LGO:MARCEGAGLIA) ASTM A312 ASME SA 312 EN 14307 # TP304L HEAT N° \$COLATAS\$WLD NH ET \$DIAMETROS\$ (MM) \$SPESSORE_NOMS\$ (MM) \$DIAM_POLLICIS\$ (") X \$SCHEDULAS\$ \$SIGLAS\$ \$DATAS\$ \$ORAS\$												
Remarks: THE CHEMICAL COMPOSITION REFERS TO THE RAW MATERIAL USED ACCORDING TO EN 10026-7 AND ASTM A312												



MARCEGAGLIA

SPECIALTIES

Cert 21

Marcegaglia
46040 via Bresciani 16-Gazoldo degli Ippoliti Mantova-Italy
Tel. +39 - 0376 685 1 Fax. +39 - 0376 685 600
www.marcegaglia.com

Stabilimento di Forlì:
via E. Mattei, 20 47034 Forlì-Popoli, Forlì-Cesena
tel. +39.0543470111 fax +39.0543470105

Type Inspection Certificate 3.1 EN 10204
THIS DOCUMENT WAS PRODUCED AUTOMATICALLY
AND IS VALID WITHOUT SIGNATURE
Number 10521691466
Issued On 10/09/2021
WELDING PROCESS QUALIFICATION: ALL THE LASER WELDING PROCESS ARE QUALIFIED ACCORDING EUROPEAN PRESSURE EQUIPMENT DIRECTIVE PED 97/23/EC BY THE NOTIFIED BODY N.1233 EUROPE WITH WELDING PROCEDURE QUALIFICATION WPQR N° PM0907A001 Registration no. 10M203 AND WPQR N° PM907A002 Registration no. 11M017. STILL VALID UNDER PED 2014/68/EU PER ARTICLE 48 CLAUSE 3.

Customer
VAN LEEUWEN STAINLESS
P.O. BOX 19
4153 ZG BEESD NL
Code: 0000009846
Consignee
VAN LEEUWEN STAINLESS
INDUSTRIEWEG 19
4153 ZG ZG BEESD NL
Delivery Nn 8355122732
Of 10/09/2021
Delivery note nr 1005011149
Quality Control
Q.M.D./Q.M. S.Toscana
Plant Of Forlì
Pages
6/6

Material
TXT004
Test specification: ASTM A312/A312M-09 ASME SA312-13
Stainless steel grade: TP 304L 1.4307/1.4301 X2CrNi18-9/X5CrNi18-10
Tolerances: ASTM A1016 / A1016M
Welding process
LASER WELDING
Order Nr
1191379008/50
Client Order
4500024256
Description
TXT0043*10S88,9x3,05x6000TP304LASTMA312A
Part Number
Client Date
6/9/2021

Item	Identification Nr	Heat	Quantity MTL	Quantity KG	Quantity PZ	Delivery conditions	Reworks
1	21K5007738	0462682	114	692	19		HEAT TREATMENT IN AIR AT T=1070°C COOLING IN WATER AND PICKLING
2	21K5007739	0462682	114	680	19		PICKLING

WE CERTIFY THAT THE ABOVE MENTIONED PRODUCTS COMPLY WITH THE TERMS OF ORDER CONTRACT AND THE STANDARDS RECALLED IN THE PRESENT TEST CERTIFICATE

Identification Nr	Chemical Type	C (%)	Si (%)	Mn (%)	P (%)	S (%)	N (%)	Cr (%)	Ni (%)
		0.035	1	2	0.045	0.03	0.11	18 20	8 13
21K5007738	RAW MATERIAL	.022	.330	1.800	.0300	.0010	.0700	18.070	8.090
21K5007739	RAW MATERIAL	.022	.330	1.800	.0300	.0010	.0700	18.070	8.090

Identification Nr	Type of mechanical test	Rp 0.2 [MPa]	Rm [MPa]	A5 (%)	
		170	485	35	
21K5007738	TUBE	433	663	53.3	
21K5007739	TUBE	433	663	53.3	

MARCEGAGLIA SPECIALTIES FORLIMPOPOLI PLANT SYSTEM CERTIFICATIONS QUALITY SYSTEM CERTIFIED ACCORDING TO EN 9001:2015 AND IATF 16949:2016 AND ISO 3834-2:2005 AND A SAFETY SYSTEM CERTIFIED ACCORDING TO OHSAS 18001:2007 AND AN ENVIRONMENTAL SYSTEM CERTIFIED ACCORDING TO ISO 14001:2015. MARCEGAGLIA SPECIALTIES FORLIMPOPOLI PRODUCT CERTIFICATIONS DVGW ACCORDING TO GW541 LASER AND TIG WELDED TUBES STAINLESS STEEL GRADE 1.4404 DIA FROM 15.00 TO 108.00MM AND GRADE 1.4521 FROM 15.00 TO 54.00MM. TUV AD2000 W2IW10 AND PED ANNEX I, PARAGRAPH 4.3 LASER AND TIG WELDED TUBES STAINLESS STEEL GRADE 1.4301, 1.4306, 1.4307, 1.4401, 1.4404, 1.4541, 1.4571, 1.4435, 1.4436 THICKNESS FROM 0.80 TO 4.00MM AND DIAMETERS FROM 8.00 TO 283.00 MM. EHEDG FOR DAIRY TUBES TXT015. EUROPEAN DIRECTIVE 1935:2004 FOR DAIRY TUBES TXT003, TXT014, TXT015.

NON DESTRUCTIVE TESTS EDDY CURRENT TEST FOR THE VERIFICATION OF HYDRAULIC LEAKTIGHTNESS ACCORDING TO EN ISO 10893-1:2011: CONFORM EDDY CURRENT TEST FOR THE DETECTION OF IMPERFECTIONS ACCORDING TO EN ISO 10893-2:2011: CONFORM EDDY CURRENT TEST ACCORDING TO ASTM E426: CONFORM ANTIMIXING TEST: CONFORM VISUAL INSPECTION AND DIMENSIONAL CONTROLS: CONFORM	DESTRUCTIVE TESTS DRIFT EXPANDING TEST ACCORDING TO EN ISO 8493:2005: CONFORM FLATTENING TEST ACCORDING TO EN ISO 8492:2004: CONFORM TENSILE TEST ACCORDING TO EN ISO 6892-1:2009 INTERGRANULAR CORROSION TEST ACCORDING TO ASTM A262 PRACTICE E: CONFORM
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Marking (LGO:MARCEGAGLIA) ASTM A312 ASME SA 312 EN 14307 # TP304L HEAT N° SCOLATA\$WLD NH ET \$DIAMETROS (MM) X \$SPESSORE_NOMS (MM) \$DIAM_POLLICIS (*) X \$SCHEDULAS \$SIGLAS \$DATAS \$ORAS	
Remarks: THE CHEMICAL COMPOSITION REFERS TO THE RAW MATERIAL USED ACCORDING TO EN 10028-7 AND ASTM A312	



Cert 22

VIRAJ PROFILES LIMITED (Forgings Div)
Survey No-140/1 & G-75 MIDC, Tarapur Ind.Area, Boisar, Dist.Palghar,Maharashtra-401506,INDIA
Email-vflqc@viraj.com,web.www.viraj.com(A01)

(A02) INSPECTION CERTIFICATE & MILL TEST REPORT - EN 10204 3.1

(A06)CUSTOMER : VAN LEEUWEN STAINLESS B.V. PO BOX 19,4153 ZG BEESD, INDUSTRIEWEG 26, 4156 BW BEESD NETHERLANDS	Manufacturer's Symbol (A04) 	(A03)MTR NO.	12/210007592/18 / Rev - 00
		INVOICE NUMBER	75030651
		(Z02) DATE	14.05.2021
		MATERIAL SPEC.	ASTM A182/A182M-20 / ASME SA182/SA182M-20
			EN 10222 - 5 - 2017
		(B02) GRADE	F304/304L/1.4301/1.4307
		DIMENSIONAL SPEC.	EN1092-1:2018

(B01) : STAINLESS STEEL FORGED FLANGES

(B04) DELIVERY CONDITION :

ISO 9001:2015-TUV NORD REG.No-04100011170 EXPIRY DATE: 21.01.2022 & APPROVED ACCORDING TO AD 2000 MERKBLATT W0 & CERTIFIED ACCORDING TO PED (2014/68/EU) BY CERTIFICATION BODY FOR PRESSURE EQUIPMENT OF TUV NORD SYSTEMS (NOTIFIED BODY REGISTRATION NO. -0045)

(A07)ORDER NO: 3534428

(A08)Sales Order No. 30116116/000250

(A09)Article No:161890

(B09-B11)ITEM DESCRIPTION	(B08)QUANTITY(PCS)	(B07)HEAT NUMBER
DN80 TYPE 05A PN10/16 .	53	116786

(C71-C92) CHEMICAL ANALYSIS

ELEMENT	%C	%Mn	%Si	%S	%P	%Cr	%Ni	%Mo	%Ti	%N						
MIN						18.00	8.00									
MAX	0.030	2.00	1.00	0.030	0.045	19.50	10.00			0.110						
HEAT	0.018	1.56	0.45	0.029	0.036	18.10	8.10	0.45	0.003	0.076						

MECHANICAL PROPERTIES

Test specification ASTM-A370										
(C01) Sample location : Mid thick-forging		(C03) Test Temp : RT	(C02) Test Direction : Tr	(C10) Sample Shape Round		ASTM E10				
Test Values	(C12) Tensile Strength	(C11) Proof Strength		(C13) Elongation%	Reduction of Area	(C32) Hardness	(C40) Charpy V-Notch 10x10x55mm (Values in Joules)			
		Rp=0.2%	Rp = 1%				(C42) Single values			(C43)
		N/mm2	N/mm2	N/mm2	Lo=5D	%	BHN	1	2	3
Req.	515/700	205 MIN	230 MIN	35 MIN	50 MIN					
T	580.54	277.43	337.71	56.00	65.89	157	192	186	204	194

Other applicable Specifications :: NACE MR 0175 / ISO 15156-2015 & NACE MR 0103-2015 & MATERIAL CONFORMS TO W2/W9/W10

Melting Process : Electrical induction furnace & Argon Oxygen decarburization(IRS) Concast

Heat Treatment	: Solution Annealed at 1080°C and water Quenched
Dimension	: Conform with the specification (100% inspected)
Surfacequality	: Satisfactory
PMI Test	: No objection (100% tested with mobile spectro)
Corrosion Test	: Passed IGC test in accordance with DIN EN ISO 3651-2 & ASTM A262 Practice E
Micro Observation	: No carbide precipitation observed on grain boundaries
Radioactivity Test	: We hereby certify that all the material is free from radioactive contamination
Mercury Contamination	: Free from mercury contamination

we certify that the above material has been inspected and tested and complies with the order/contract and is of Indian origin

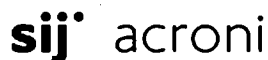


(Z03)Inspector's Stamp

VIJAY KUMAR PILLAI (GM, QAD)



Cert 23



10160877-20030259-172476

Izdajatelj Certifikata:
Originator of Inspection Document:
Aussteller der Bescheinigung:

SIJ ACRONI, d.o.o.
KRT-KAKOVOST
Cesta Borisa Kidriča 44
SI – 4270 Jesenice
Slovenia, EU

Tel.: +386 4 584 10 16
Fax: +386 4 584 10 71
E-Mail: gorazd.kosec@acroni.si
W: <http://www.acroni.si>

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Prezemni certifikat 3.1 / Inspection Certificate 3.1 / Abnahmeprüfzeugnis 3.1 EN 10204:2004	Prejemnik / Consignee / Empfänger MCB NEDERLAND B.V. DE VEST 42 5555 XP VALKENSWAARD NETHERLANDS
Št. dokumenta / Document No. / Bescheinigungs Nr. 10160877-20030259-172476 z / dated / vom 15.03.2021	
Kupčeva št. naročila / Purchaser's order No. / Kundenbestell Nr. 4500653167	Proizvajalčeva št. naročila / Manufacturer's works order No. / Werksauftrag Nr. 20030259 z / dated / vom 29.01.2021
Št. Dobavne lista / Packing list No. / Lieferschein Nr. 10160877 z / dated / vom 15.03.2021	Kupčeva št. izdelka / Purchaser Article No. / Artikel Nr. des Kunden
Št. Računa / Account No. / Kontonummer 2120101005384	Datum izdaje / Date of issue / Ausgabedatum 15.03.2021

Izdelek / Product / Erzeugnis DEBELA PLOČEVINA / HOT ROLLED PLATE / WARMGEWALZTES GROBBLECH	SINOXX 4307
Zahteve / Requirements / Anforderungen EN 10028-7:2016	Oznaka jekla / Steel designation / Stahlbezeichnung 1.4301
EN 10088-2:2014	1.4301
EN 10088-4:2009	1.4301
EN 10028-7:2016	1.4307
EN 10088-2:2014	1.4307
EN 10088-4:2009	1.4307
AD 2000-Merkblatt W 0:2016	
AD 2000-Merkblatt W 10:2016	
AD 2000-Merkblatt W 2:2016	
ASME SA-240/SA-240M; BPVC.II.A-2019	304
ASME SA-240/SA-240M; BPVC.II.A-2019	304L
ASTM A 240/A 240M-20	304L
ASTM A 240/A 240M-20	304
PED-2014/68/EU	
Customer Grade	HOT ROLLED STAINLESS STEEL W.NR. 1.4301/1.4307 (AISI 304/304L)
Specifikacija kupca / Customer specification No. / Kundenspezifikation	
Dodatne zahteve / Supplementary requirements / Zusätzliche anforderung	
Dobavno stanje / Product delivery condition / Lieferzustand des Erzeugnisses TOPILNO ŽARJENO, LUŽENO / SOLUTION ANNEALED, PICKLED / LÖSUNGSGEGLÜHT, GEBEIZT	
Stanje površine / Surface finish / Oberflächenbehandlung ASME Finish:No. 1 - on both sides ASTM Finish:No. 1 - on both sides EN Surface:1D - on both sides	

To potrдіlo, ki ga izdajamo z uporabo poslovno-informacijskega sistema, je v skladu EN 10204, ods.5 in velja brez podpisa.

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Odgovorna oseba / Werkssachverstaendiger / Works Expert : Gorazd Kosec

Oznake izdelka / Marking of the product / Kennzeichnung des Erzeugnisses						
Znak proizvajalca Manufacturer's mark Zeichen des Herstellers	Oznaka jekla Steel designation Stahlbezeichnung	Št. plošče Plate No. Tafel Nr	Št. sarže Heat No. Schmelzen Nr.	Dimenzije izdelka Product dimensions Abmessungen des Erzeugnisses	Žig kontrolorja Stamp of the works inspector Stempel des Werkssachverständigen	Žig prevzemalca Stamp of the inspection representative Stempel des Abnahmebeauftragten
SIJ I ACRONI						
Dodatne Oznake / Other marks / Andere Kennzeichen						

Obseg dobave / Extent of material delivery / Umfang der Lieferung							
Poz. Item. Pos.	Št. Sarže Heat No. Schmelzen Nr.	Št. plošče Plate No. Tafel Nr.	Teoretična teža Mass Masse (kg)	Teža neto Actual mass Ist Masse (kg)	Dimenzije izdelka Product dimension Maße des Erzeugnisses (mm)	Št. kosov No. of pieces Stückzahl	Št. vzorca Sample No. Probe Nr.
7	316802	213128490202	1280,00	1280,00	20,000 / 2000 / 4000	1	213128490202
7	316920	213134200101	1280,00	1280,00	20,000 / 2000 / 4000	1	2131342003
7	316920	2131342003	1280,00	1280,00	20,000 / 2000 / 4000	1	2131342003
8	316997	213135870102	1080,00	1080,00	15,000 / 1500 / 6000	1	213135870101
8	316997	213135870202	1080,00	1080,00	15,000 / 1500 / 6000	1	213135870101
8	316997	213135870302	1080,00	1080,00	15,000 / 1500 / 6000	1	213135870101
9	316995	213135710102	1800,00	1800,00	25,000 / 1500 / 6000	1	213135710101
11	316908	213132660101	2400,00	2400,00	25,000 / 2000 / 6000	1	213132660101
12	316804	2131287902	2880,00	2880,00	30,000 / 2000 / 6000	1	2131287902

Način izdelave jekla / Steelmaking process / Stahlherstellungsverfahren **E + VOD****Pogoji toplotne obdelave / Heat treatment details / Wärmebehandlung Details**

HEAT TREATMENT: SOLUTION ANNEALED AT 1070°C, HOLDING TIME 30 minutes, WATER QUENCHED

TOPLOTNA OBDELAVA: TOPILNO ŽARJENO PRI 1070°C, ČAS OGREVANJA 30 minut, GAŠENO VODA

WARMBEHANDLUNG: LOSUNGSGLUHEN BEI 1070°C, HALTEDAUER 30 Minuten, WASSER ABGESCHRECKT

Lot Numbers : 213135870102, 213135870202, 213135870302

HEAT TREATMENT: SOLUTION ANNEALED AT 1070°C, HOLDING TIME 40 minutes, WATER QUENCHED

TOPLOTNA OBDELAVA: TOPILNO ŽARJENO PRI 1070°C, ČAS OGREVANJA 40 minut, GAŠENO VODA

WARMBEHANDLUNG: LOSUNGSGLUHEN BEI 1070°C, HALTEDAUER 40 Minuten, WASSER ABGESCHRECKT

Lot Numbers : 213128490202, 213134200101, 2131342003

HEAT TREATMENT: SOLUTION ANNEALED AT 1070°C, HOLDING TIME 50 minutes, WATER QUENCHED

TOPLOTNA OBDELAVA: TOPILNO ŽARJENO PRI 1070°C, ČAS OGREVANJA 50 minut, GAŠENO VODA

WARMBEHANDLUNG: LOSUNGSGLUHEN BEI 1070°C, HALTEDAUER 50 Minuten, WASSER ABGESCHRECKT

Lot Numbers : 213132660101, 213135710102

HEAT TREATMENT: SOLUTION ANNEALED AT 1070°C, HOLDING TIME 60 minutes, WATER QUENCHED

TOPLOTNA OBDELAVA: TOPILNO ŽARJENO PRI 1070°C, ČAS OGREVANJA 60 minut, GAŠENO VODA

WARMBEHANDLUNG: LOSUNGSGLUHEN BEI 1070°C, HALTEDAUER 60 Minuten, WASSER ABGESCHRECKT

Lot Numbers : 2131287902

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Odgovorna oseba / Werkssachverständiger / Works Expert : Gorazd Kosec

Mehanske lastnosti pri sobni temperaturi / Mechanical properties at room temperature / Mechanische Eigenschaften bei Raumtemperatur														
Št. sarže Heat No. Schmelzen Nr.	Št.vzorca Sample No. Probe Nr.	Smer vzorca Sample orientation Proben lage			Meja plastičnosti Yield or proof strength Streck- oder Dehngrenze (MPa)		Nat. trdnost Tensile str. Zugfestigkeit (MPa)	Zg. meja plastičnosti Upper Yield strenght Obere Streckgrenze (MPa)	Kontrakcija Reduction of area Bruch-einschnürung (%)	Raztezek Elongation Bruchdehnung (%)			Razmerje Ratio Beziehung	Trdota Hardness Härte
		T/L	T/B	1/2; 1/3; 1/4; S2	Rp0,2	Rp1,0	Rm	Reh	Z	A5	A50	A80	Rp/Rm	HBW
Zahteve Requirements Anforderung		MIN			210,0	250,0	520,0				45,0	40,0		
		MAX					700,0						201	
316802	213128490202	T	T	S2	287,0	331,0	594,0				56,0	58,0	170	
316804	2131287902	T	T	S2	307,0	347,0	602,0				56,0	59,0	170	
316908	213132660101	T	T	S2	288,0	332,0	597,0				53,0	56,0	167	
316920	2131342003	T	T	S2	302,0	338,0	601,0				59,0	62,0	174	
316995	213135710101	T	T	S2	290,0	333,0	599,0				53,5	56,5	167	
316997	213135870101	T	T	S2	289,0	330,0	613,0				52,0	55,0	170	
T- Prečno / Transverse / Quer L- Vzdolžno / Longitudinal / Längs T- Glava / Top / Kopf B- Noga / Bottom / Fuss 1/2 - Odvzem vzorca na sredini / Taking the sample at the center of product / Unter der Probe in der Mitte des Produkt 1/3 - Odvzem vzorca po deb 1/3 pod površino / Thickness 1/3 under the surface / Dicke 1/3 unter der Oberfläche 1/4 - Odvzem vzorca po deb 1/4 pod površino / Thickness 1/4 under the surface / Dicke 1/4 unter der Oberfläche S2- Odvzem vzorca po deb 2 mm pod površino / Thickness 2 mm under the surface / Dicke 2 mm unter der Oberfläche														

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Odgovorna oseba / Werkssachverständiger / Works Expert : Gorazd Kosec

Preskus udarne žilavosti / Charpy impact test / Kerbschlagbiegeversuch (J)										
Št. sarže Heat No. Schmelzen Nr.	St. vzorca Sample No. Probe Nr.	Test temperature Temperature Prüftemperatur (°C)	Smer vzorca Sample orientation Proben lage				Posamezne vrednosti Individual values Einzelwerte (J)			Povprečje Mean value Mittelwert (J)
			T	T/L	T/B	1/2; 1/3; 1/4; S2	1	2	3	
Zahteve Requirements Anforderung	MIN						60	60	60	60
	MAX	20								
316802	213128490202	20	T	T		S2	311	338	339	329
316804	2131287902	20	T	T		S2	339	354	338	344
316908	213132660101	20	T	T		S2	338	342	345	342
316920	2131342003	20	T	T		S2	342	350	350	347
316995	213135710101	20	T	T		S2	342	328	344	338
316997	213135870101	20	T	T		S2	348	331	348	342
T- Prečno / Transverse / Quer L- Vzdolžno / Longitudinal / Längs T- Glava / Top / Kopf B- Noga / Bottom / Fuss 1/2 - Odvzem vzorca na sredini / Taking the sample at the center of product / Unter der Probe in der Mitte des Produkt 1/3 - Odvzem vzorca po deb 1/3 pod površino / Thickness 1/3 under the surface / Dicke 1/3 unter der Oberfläche 1/4 - Odvzem vzorca po deb 1/4 pod površino / Thickness 1/4 under the surface / Dicke 1/4 unter der Oberfläche S2- Odvzem vzorca po deb 2 mm pod površino / Thickness 2 mm under the surface / Dicke 2 mm unter der Oberfläche										

Kemična Analiza / Chemical Composition / Chemische Zusammensetzung									
Št. Sarže/ Heat No./ Schmelzen Nr.					316802				
%C	%Si	%Mn	%P	%S	%Cr	%Ni	%N	%Co	
0,023	0,291	1,841	0,035	0,0010	18,19	8,06	0,0980	0,144	

Kemična Analiza / Chemical Composition / Chemische Zusammensetzung									
Št. Sarže/ Heat No./ Schmelzen Nr.					316804				
%C	%Si	%Mn	%P	%S	%Cr	%Ni	%N	%Co	
0,020	0,318	1,804	0,033	0,0010	18,20	8,05	0,0950	0,140	

Kemična Analiza / Chemical Composition / Chemische Zusammensetzung									
Št. Sarže/ Heat No./ Schmelzen Nr.					316908				
%C	%Si	%Mn	%P	%S	%Cr	%Ni	%N	%Co	
0,023	0,344	1,792	0,040	0,0007	18,22	8,07	0,0991	0,145	

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Kemična Analiza / Chemical Composition / Chemische Zusammensetzung

Št. Saržel/ Heat No./ Schmelzen Nr.					316920				
%C	%Si	%Mn	%P	%S	%Cr	%Ni	%N	%Co	
0,020	0,403	1,845	0,036	0,0001	18,38	8,10	0,1000	0,153	

Kemična Analiza / Chemical Composition / Chemische Zusammensetzung

Št. Saržel/ Heat No./ Schmelzen Nr.					316995				
%C	%Si	%Mn	%P	%S	%Cr	%Ni	%N	%Co	
0,019	0,314	1,848	0,039	0,0010	18,01	8,12	0,0950	0,142	

Kemična Analiza / Chemical Composition / Chemische Zusammensetzung

Št. Saržel/ Heat No./ Schmelzen Nr.					316997				
%C	%Si	%Mn	%P	%S	%Cr	%Ni	%N	%Co	
0,025	0,314	1,899	0,035	0,0010	18,43	8,46	0,0890	0,123	

Kontrola oznak, identifikacije, površine, oblike in dimenzij / Control of marking and identification, surface appearance, shape and dimensional properties/ Prüfung von Kennzeichnung, Identifizierung, Oberfläche, Form und Maße :

ASME SA 480 Ed.2019 OK

ASTM A480/A480M-20 OK

EN ISO 18286:2010 Thickness: OK OK

EN ISO 18286:2010 Width/Length Class B OK

Preizkus odpornosti na korozijo / Corrosion test / Korrosion test

Sulfide Stress Cracking and Stress Corrosion Cracking Resistancce v skladu z NACE MR0175: OK / Sulfide Stress Cracking and Stress Corrosion Cracking Resistancce in accordance with NACE MR0175: OK / Sulfide Stress Cracking and Stress Corrosion Cracking Resistancce nach NACE MR0175: OK

Opombe / Remarks / Bemerkungen

Potrdujemo da dobavljeni izdelki ustrezajo zahtevam naročila / We confirm herewith that the delivered products comply with the purchase order / Es wird bestätigt, daß die Erzeugnisse den Bestellanforderungen entsprechen

Država porekla = Država izdelave taline = Država izdelave slaba - SLOVENIJA – EU / Country of Origin = Country of melt = Country of slab: SLOVENIA – EU / Herkunftsland = Land der schmelze = Land der Bramme – SLOVENIA – EG

Material ni kontaminiran z živim srebrom. / Free from Known Contamination with Mercury. / Keine kontamination mit Quecksilber.

Material je skladen z RoHS direktivo. Podrobnosti na: <https://sij.acroni.si/assets/magazine-files/RoHS-declaration-April-2020.pdf> / Material fully comply with RoHS directive, Details on: <https://sij.acroni.si/assets/magazine-files/RoHS-declaration-April-2020.pdf> / Material ausgestattet mit RoHS-Richtlinien, Einzelheiten auf: <https://sij.acroni.si/assets/magazine-files/RoHS-declaration-April-2020.pdf>

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Odgovorna oseba / Werkssachverstaendiger / Works Expert : Gorazd Kosec

Sistem vodenja kakovosti je certificiran po ISO 9001. Št. Certifikata: 12 100 6200 TMS. Izdajatelj: TÜV SÜD Management Service GmbH. / Quality Management System is certified according to ISO 9001. Certificate no. 12 100 6200 TMS, issued by TÜV SÜD Management Service GmbH. / Qualitätsmanagementsystem zertifiziert nach ISO 9001. Zertifikat Nr. 12 100 6200 TMS der TÜV SÜD Management Service GmbH.

Izdano v soglasju s TÜV Bayern e.V. (08/1965) / Issued in agreement with TÜV Bayern e.V. (08/1965) / Ausgestellt im Einvernehmen mit dem TÜV Bayern e.V. (08/1965) / В порядке, согласованном с TÜV Bayern e. V. (08/1965).

Sopodpisovanje s strani TÜV Bayern Sachsen e. V. ni potrebno (dopis z dne 20.06.1996). / Gegenzeichnungserzicht durch TÜV Bayern Sachsen e. V. mit Schreiben vom 20.06.1996. / Waiving of countersigning by TÜV Bayern Sachsen e. V. dated 20 June 1996.

Potrjen sistem kakovosti v skladu s PED, priloga I, točka 4.3 s strani priglašenega organa 0036 (oktober 2002) (certifikat št. DGR-0036-QS-W 22-A/2002/MUC). / QS approved acc. to PED, Annex I, Para. 4.3 by Notified Body 0036 (October 2002) (Certification No. DGR-0036-QS-W 22-A/2002/MUC). / QS entsprechend DGRl, Anhang I, Absatz 4.3 von Notified Body 0036 überprüft (Oktober 2002) (Zertifizierungs-Nr. DGR-0036-QS-W 22-A/2002/MUC).

Meritve sevanja: NI RADIOAKTIVNEGA ONESNAŽENJA / Measuring Radiation: NO RADIOACTIVE CONTAMINATION / messen: KEINE ERHÖHTE RADIOAKTIVITÄT

Spektrometerska analiza PMI v skladu API RP 578: OK / Spectrometer Sorting Test PMI according API RP 578: OK / Spektrometer Sortiertest PMI nach API RP 578: OHNE BEANSTANDUNG

Vizualni pregled: OK / Visual inspection: OK / Sichtprüfung: OHNE BEANSTANDUNG

Priloga / Annex / Anbau :

Priloga / Annex / Anbau: 1: CE znak / CE marking / CE-Kennzeichnung

Priloga / Annex / Anbau: 1: CE znak / CE marking / CE-Kennzeichnung

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Odgovorna oseba / Werkssachverstaendiger / Works Expert : Gorazd Kosec

Cert 23

Priloga/ Annex/ Anbau: 1



0036

SIJ ACRONI d.o.o.
Cesta Borisa Kidriča 44
SI-4270 Jesenice, Slovenija
12

ACR-4301-P_CPR_06-13

EN 10088-4:2009

Vroče valjana pločevina X5CrNi18-10 / 1.4301
Warmgewalztes Blech X5CrNi18-10 / 1.4301
Hot rolled plate X5CrNi18-10 / 1.4301

Predvidena uporaba: Kovinske konstrukcije ali sovprežne konstrukcije iz jekla in betona
Metallbauwerke oder in Metall-/ Betonverbundbauwerken
Metal structures or in composite metal and concrete structures.

Tolerance dimenzij in oblike
Grenzabmaße und Formtoleranzen
Tolerances on Dimensions and shape

EN 18286, razred / Klasse / class : B

Raztezek / Dehnung / Elongation
Natezna trdnost / Zugfestigkeit / Tensile strength
Napetost tečenja / Streckgrenze / Yield strength
Udarno delo / Kerbschlagarbeit / Impact strength
Varivost CEV / Schweißseignung CEV / Weldability CEV
Trajnost / Dauerhaftigkeit / Durability

Izraženo, kot je navedeno v izjavi o lastnostih
Ausgedrückt als in der Leistungserklärung angegeben
Expressed as indicated in the DoP

Regulirana snov: Ni preverjeno. / Regulierter Stoff: Keine Leistung festgestellt./ Regulated Substance: No performance determined

Cert 23

Priloga/ Annex/ Anbau: 1



0036

SIJ ACRONI d.o.o.
Cesta Borisa Kidriča 44
SI-4270 Jesenice, Slovenija
12

ACR-4307-P_CPR_06-13

EN 10088-4:2009

Vroče valjana pločevina X2CrNi18-9 / 1.4307
Warmgewalztes Blech X2CrNi18-9 / 1.4307
Hot rolled plate X2CrNi18-9 / 1.4307

Predvidena uporaba: Kovinske konstrukcije ali sovprežne konstrukcije iz jekla in betona
Metallbauwerke oder in Metall-/ Betonverbundbauwerken
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Cert 24

sij acroni

10172603-20032390-189767

Izdajatelj Certifikata:
Originator of Inspection Document:
Aussteller der Bescheinigung:

SIJ ACRONI, d.o.o.
KRT-KAKOVOST
Cesta Borisa Kidriča 44
SI – 4270 Jesenice
Slovenia, EU

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W: <http://www.acroni.si>

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Prezemni certifikat 3.1 / Inspection Certificate 3.1 / Abnahmeprüfzeugnis 3.1 EN 10204:2004	Prejemnik / Consignee / Empfänger MCB NEDERLAND B.V. DE VEST 42 5555 XP VALKENSWAARD NETHERLANDS
Št. dokumenta / Document No. / Bescheinigungs Nr. 10172603-20032390-189767 z / dated / vom 12.08.2021	
Kupčeva št. naročila / Purchaser's order No. / Kundenbestell Nr. 4500684914	Proizvajalčeva št. naročila / Manufacturer's works order No. / Werksauftrag Nr. 20032390 z / dated / vom 10.06.2021
Št. Dobavne lista / Packing list No. / Lieferschein Nr. 10172603 z / dated / vom 12.08.2021	Kupčeva št. izdelka / Purchaser Article No. / Artikel Nr. des Kunden
Št. Računa / Account No. / Kontonummer 2120101017465	Datum izdaje / Date of issue / Ausgabedatum 12.08.2021

Izdelek / Product / Erzeugnis DEBELA PLOČEVINA / HOT ROLLED PLATE / WARMGEWALZTES GROBBLECH	SINOXX 4307
Zahteve / Requirements / Anforderungen	Oznaka jekla / Steel designation / Stahlbezeichnung
EN 10028-7:2016	1.4301
EN 10088-2:2014	1.4301
EN 10088-4:2009	1.4301
EN 10028-7:2016	1.4307
EN 10088-2:2014	1.4307
EN 10088-4:2009	1.4307
AD 2000-Merkblatt W 0:2016	
AD 2000-Merkblatt W 10:2016	
AD 2000-Merkblatt W 2:2016	
ASME SA-240/SA-240M; BPVC.II.A-2019	304
ASME SA-240/SA-240M; BPVC.II.A-2019	304L
ASTM A 240/A 240M-20	304L
ASTM A 240/A 240M-20	304
PED-2014/68/EU	
Customer Grade	HOT ROLLED STAINLESS STEEL W.NR. 1.4301/1.4307 (AISI 304/304L)
Specifikacija kupca / Customer specification No. / Kundenspezifikation	
Dodatne zahteve / Supplementary requirements / Zusätzliche anforderung	
Dobavno stanje / Product delivery condition / Lieferzustand des Erzeugnisses TOPILNO ŽARJENO, LUŽENO / SOLUTION ANNEALED, PICKLED / LÖSUNGSGEGLÜHT, GEBEIZT	
Stanje površine / Surface finish / Oberflächenbehandlung ASME Finish:No. 1 - on both sides ASTM Finish:No. 1 - on both sides EN Surface:1D - on both sides	

To potrдіlo, ki ga izdajamo z uporabo poslovno-informacijskega sistema, je v skladu EN 10204, ods.5 in velja brez podpisa.

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This Certificate has been issued by a qualified Electronic Data System and is valid acc. to EN 10204, para.5 without Signature.

Odgovorna oseba / Werkssachverstaendiger / Works Expert : Gorazd Kosec

Oznake izdelka / Marking of the product / Kenzeichnung des Erzeugnisses						
Znak proizvajalca Manufacturer's mark Zeichen des Herstellers	Oznaka jekla Steel designation Stahlbezeichnung	Št. plošče Plate No. Tafel Nr	Št. sarže Heat No. Schmelzen Nr.	Dimenzije izdelka Product dimensions Abmessungen des Erzeugnis	Žig kontrolorja Stamp of the works inspector Stempel des Werkssachverständigen	Žig prevzemalca Stamp of the inspection representative Stempel des Abnahmebeauftragten
SIJ I ACRONI						
Dodatne Oznake / Other marks / Andere Kennzeichen						

Obseg dobave / Extent of material delivery / Umfang der Lieferung							
Poz. Item. Pos.	Št. Sarže Heat No. Schmelzen Nr.	Št. plošče Plate No. Tafel Nr.	Teoretična teža Mass Masse (kg)	Teža neto Actual mass Ist Masse (kg)	Dimenzije izdelka Product dimension Maße des Erzeugnisses (mm)	Št. kosov No. of pieces Stückzahl	Št. vzorca Sample No. Probe Nr.
7	318598	213209270102	1440,00	1440,00	20,000 /1500 /6000	1	213209270102
7	318945	213225940101	1440,00	1435,00	20,000 /1500 /6000	1	2132259403
8	318947	2132262103	1440,00	1440,00	15,000 /2000 /6000	1	2132262102
9	318946	213226200102	1920,00	1920,00	20,000 /2000 /6000	1	213226200101
9	318947	213226250102	1920,00	1920,00	20,000 /2000 /6000	1	213226220101

Način izdelave jekla / Steelmaking process / Stahlherstellungsverfahren **E + AOD + VD****Pogoji toplotne obdelave / Heat treatment details / Wärmebehandlung Details**

HEAT TREATMENT: SOLUTION ANNEALED AT 1070°C, HOLDING TIME 30 minutes, WATER QUENCHED

TOPLOTNA OBDELAVA: TOPILNO ŽARJENO PRI 1070°C, ČAS OGREVANJA 30 minut, GAŠENO VODA

WARMBEHANDLUNG: LOSUNGSGLUHEN BEI 1070°C, HALTEDAUER 30 Minuten, WASSER ABGESCHRECKT

Lot Numbers : 2132262103

HEAT TREATMENT: SOLUTION ANNEALED AT 1070°C, HOLDING TIME 40 minutes, WATER QUENCHED

TOPLOTNA OBDELAVA: TOPILNO ŽARJENO PRI 1070°C, ČAS OGREVANJA 40 minut, GAŠENO VODA

WARMBEHANDLUNG: LOSUNGSGLUHEN BEI 1070°C, HALTEDAUER 40 Minuten, WASSER ABGESCHRECKT

Lot Numbers : 213209270102, 213225940101, 213226200102, 213226250102

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Cert 24

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Mehanske lastnosti pri sobni temperature +20°C / Mechanical properties at room temperature +20°C / Mechanische Eigenschaften bei Raumtemperatur +20°C														
Št. sarže Heat No. Schmelzen Nr.	Št. vzorca Sample No. Probe Nr.	Smer vzorca Sample orientation Proben lage			Meja plastičnosti Yield or proof strength Streck- oder Dehngrenze (MPa)		Nat. trdnost Tensile str. Zugfestigkeit (MPa)	Zg. meja plastičnosti Upper Yield strenght Obere Streckgrenze (MPa)	Kontrakcija Reduction of area Bruch einschnü- rung (%)	Raztezek Elongation Bruchdehnung (%)			Razmerje Ratio Beziehung	Trdota Hardness Härte
		T/L	T/B	1/2; 1/3; 1/4; S2	Rp0,2	Rp1,0	Rm	Reh	Z	A5	A50	A80	Rp/Rm	HBW
Zahteve Requirements Anforderung	MIN				210,0	250,0	520,0			45,0	40,0			
	MAX						700,0							201
318598	213209270102	T	T	S2	293,0	335,0	602,0			54,0	57,0			167
318945	2132259403	T	T	S2	282,0	330,0	595,0			53,0	56,0			170
318946	213226200101	T	T	S2	257,0	300,0	594,0			55,0	58,0			170
318947	2132262102	T	T	S2	286,0	330,0	611,0			50,0	53,0			170
318947	213226220101	T	T	S2	288,0	336,0	609,0			54,0	57,0			170
T- Prečno / Transverse / Quer L- Vzdolžno / Longitudinal / Längs T- Glava / Top / Kopf B- Noga / Bottom / Fuss 1/2 - Odvzem vzorca na sredini / Taking the sample at the center of product / Unter der Probe in der Mitte des Produkt 1/3 - Odvzem vzorca po deb 1/3 pod površino / Thickness 1/3 under the surface / Dicke 1/3 unter der Oberfläche 1/4 - Odvzem vzorca po deb 1/4 pod površino / Thickness 1/4 under the surface / Dicke 1/4 unter der Oberfläche S2- Odvzem vzorca po deb 2 mm pod površino / Thickness 2 mm under the surface / Dicke 2 mm unter der Oberfläche														

Preskus udarne žilavosti / Charpy impact test / Kerbschlagbiegeversuch (J)														
Št. sarže Heat No. Schmelzen Nr.	Št. vzorca Sample No. Probe Nr.	Test temperature Temperature Prüf temperature (°C)			Smer vzorca Sample orientation Proben lage			Posamezne vrednosti Individual values Einzelwerte (J)			Povprečje Mean value Mittelwert (J)			
		T	T/L	T/B	1/2; 1/3; 1/4; S2			1	2	3				
Zahteve Requirements Anforderung	MIN							60	60	60				60
	MAX													20
318598	213209270102	20	T	T	S2			366	370	356				364
318945	2132259403	20	T	T	S2			355	367	377				366
318946	213226200101	20	T	T	S2			377	365	359				367
318947	2132262102	20	T	T	S2			350	348	376				358
318947	213226220101	20	T	T	S2			383	368	376				376
T- Prečno / Transverse / Quer L- Vzdolžno / Longitudinal / Längs T- Glava / Top / Kopf B- Noga / Bottom / Fuss 1/2 - Odvzem vzorca na sredini / Taking the sample at the center of product / Unter der Probe in der Mitte des Produkt 1/3 - Odvzem vzorca po deb 1/3 pod površino / Thickness 1/3 under the surface / Dicke 1/3 unter der Oberfläche 1/4 - Odvzem vzorca po deb 1/4 pod površino / Thickness 1/4 under the surface / Dicke 1/4 unter der Oberfläche S2- Odvzem vzorca po deb 2 mm pod površino / Thickness 2 mm under the surface / Dicke 2 mm unter der Oberfläche														

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Kemična Analiza / Chemical Composition / Chemische Zusammensetzung

Št. Sarže/ Heat No./ Schmelzen Nr.

318598

%C	%Si	%Mn	%P	%S	%Cr	%Ni	%N	%Co
0,021	0,270	1,888	0,040	0,0003	18,01	8,09	0,0888	0,123

Kemična Analiza / Chemical Composition / Chemische Zusammensetzung

Št. Sarže/ Heat No./ Schmelzen Nr.

318945

%C	%Si	%Mn	%P	%S	%Cr	%Ni	%N	%Co
0,030	0,312	1,840	0,038	0,0001	18,21	8,16	0,0944	0,153

Kemična Analiza / Chemical Composition / Chemische Zusammensetzung

Št. Sarže/ Heat No./ Schmelzen Nr.

318946

%C	%Si	%Mn	%P	%S	%Cr	%Ni	%N	%Co
0,023	0,257	1,858	0,039	0,0001	18,23	8,12	0,0963	0,194

Kemična Analiza / Chemical Composition / Chemische Zusammensetzung

Št. Sarže/ Heat No./ Schmelzen Nr.

318947

%C	%Si	%Mn	%P	%S	%Cr	%Ni	%N	%Co
0,023	0,306	1,849	0,038	0,0001	18,13	8,15	0,0968	0,196

Kontrola oznak, identifikacije, površine, oblike in dimenzij / Control of marking and identification, surface appearance, shape and dimensional properties/ Prüfung von Kennzeichnung, Identifizierung, Oberfläche, Form und Maße :

ASME SA 480 Ed.2019 OK

ASTM A480/A480M-20 OK

EN ISO 18286:2010 Thickness: OK OK

EN ISO 18286:2010 Width/Length Class B OK

Preizkus odpornosti na korozijo / Corrosion test / Korrosion test

Št. vzorca / Sample No. / Probe Nr. : 213209270102, 213225940101, 213226200102, 2132262103, 213226250102

Sulfide Stress Cracking and Stress Corrosion Cracking Resistancce v skladu z NACE MR0175: OK / Sulfide Stress Cracking and Stress Corrosion Cracking

Resistancce in accordance with NACE MR0175: OK / Sulfide Stress Cracking and Stress Corrosion Cracking Resistancce nach NACE MR0175: OK

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Opombe / Remarks / Bemerkungen

Potrujemo da dobavljeni izdelki ustrezajo zahtevam naročila / We confirm herewith that the delivered products comply with the purchase order / Es wird bestätigt, daß die Erzeugnisse den Bestellanforderungen entsprechen

Država porekla = Država izdelave taline = Država izdelave slaba - SLOVENIJA – EU / Country of Origin = Country of melt = Country of slab: SLOVENIA – EU / Herkunftsland = Land der Schmelze = Land der Bramme – SLOVENIA – EG

Material ni kontaminiran z živim srebrom. / Free from Known Contamination with Mercury. / Keine Kontamination mit Quecksilber.

Material je skladen z RoHS direktivo. Podrobnosti na: <https://sij.acroni.si/assets/magazine-files/RoHS-declaration-April-2020.pdf> / Material fully comply with RoHS directive, Details on: <https://sij.acroni.si/assets/magazine-files/RoHS-declaration-April-2020.pdf> / Material ausgestattet mit RoHS-Richtlinien, Einzelheiten auf: <https://sij.acroni.si/assets/magazine-files/RoHS-declaration-April-2020.pdf>

Sistem vodenja kakovosti je certificiran po ISO 9001. Št. Certifikata: 12 100 6200 TMS. Izdajatelj: TÜV SÜD Management Service GmbH. / Quality Management System is certified according to ISO 9001. Certificate no. 12 100 6200 TMS, issued by TÜV SÜD Management Service GmbH. / Qualitätsmanagementsystem zertifiziert nach ISO 9001. Zertifikat Nr. 12 100 6200 TMS der TÜV SÜD Management Service GmbH.

Izdano v soglasju s TÜV Bayern e.V. (08/1965) / Issued in agreement with TÜV Bayern e.V. (08/1965) / Ausgestellt im Einvernehmen mit dem TÜV Bayern e.V. (08/1965) / В порядке, согласованном с TÜV Bayern e. V. (08/1965).

Sopodpisovanje s strani TÜV Bayern Sachsen e. V. ni potrebno (dopis z dne 20.06.1996). / Gegenzeichnungsverzicht durch TÜV Bayern Sachsen e. V. mit Schreiben vom 20.06.1996. / Waiving of countersigning by TÜV Bayern Sachsen e. V. dated 20 June 1996.

Potrjen sistem kakovosti v skladu s PED, priloga I, točka 4.3 s strani priglašene organa 0036 (oktober 2002) (certifikat št. DGR-0036-QS-W 22-A/2002/MUC). / QS approved acc. to PED, Annex I, Para. 4.3 by Notified Body 0036 (October 2002) (Certification No. DGR-0036-QS-W 22-A/2002/MUC). / QS entsprechend DGRL, Anhang I, Absatz 4.3 von Notified Body 0036 überprüft (Oktober 2002) (Zertifizierungs-Nr. DGR-0036-QS-W 22-A/2002/MUC).

Meritve sevanja: NI RADIOAKTIVNEGA ONESNAŽENJA / Measuring Radiation: NO RADIOACTIVE CONTAMINATION / messen: KEINE ERHÖHTE RADIOAKTIVITÄT

Spektrometerska analiza PMI v skladu API RP 578: OK / Spectrometer Sorting Test PMI according API RP 578: OK / Spektrometer Sortiertest PMI nach API RP 578: OHNE BEANSTANDUNG

Vizualni pregled: OK / Visual inspection: OK / Sichtprüfung: OHNE BEANSTANDUNG

Priloga / Annex / Anbau :

Priloga / Annex / Anbau: 1: CE znak / CE marking / CE-Kennzeichnung

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Napetost tečenja / Streckgrenze / Yield strength
Udarno delo / Kerbschlagarbeit / Impact strength
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Trajnost / Dauerhaftigkeit / Durability

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WELDING PROCEDURES

5688B - BIODIESEL ARGENT II BV
1 x Vert. St. Steel Tanks B120300
Cap. ca 198m³ /242m³

**WELDING PROCEDURES SPECIFICATIONS**

Client : BIODIESEL ARGENT II BV
Drawings : A0051-5688B-0821

Prepared by:



Quality - Stefaan Holvoet

Validated by approved WPAR N°	Applied standard	Gr.N° / Material Type	Welding process	Joint type	Parent metal thickness (mm)	Range of diameter (mm)	Welding positions
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WPS 02.2A

03992 ADM	ISO 15614-1+AD HP 2/1	8.1 / 1.4301	141	BW	3 - 5,2	≥ 500	PF
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WPS 03.2A

03993 ADM	ISO 15614-1+AD HP 2/1	8.1 / 1.4301	15	BW	3 - 5,2	≥ 500	PC
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WPS 04.3A

03994 ADM	ISO 15614-1+AD HP 2/1	8.1 / 1.4301	15	BW	3 - 7,3	≥ 500	PA
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WPS 06.1A

080561 ADM	ISO 15614-1+AD HP 2/1	8.1 / 1.4301	135	FW	3 - 7,2	≥ 500	PB
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WPS 08.1A

03998 ADM	ISO 15614-1+AD HP 2/1	8.1 / 1.4301	141	BW	1,4 - 2,6	≥ 30	PC + PF
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WPS 09A

03999 ADM	ISO 15614-1+AD HP 2/1	8.1 / 1.4301	141	BW	2,1 - 3,9	≥ 84	PC + PF
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WPS 09.3A

930303 ADM	ISO 15614-1+AD HP 2/1	8.1 / 1.4301	141	BW	2,1 - 6	≥ 30	PC + PF
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WPS 17.2A

03998 ADM	ISO 15614-1+AD HP 2/1	8.1 / 1.4301	141	FW	1,4 - 2,6	≥ 30	PB
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**WELDING PROCEDURES SPECIFICATIONS**

Client : BIODIESEL ARGENT II BV
Drawings : A0051-5688B-0821

Prepared by:



Quality - Stefaan Holvoet



Validated by approved WPAR N°	Applied standard	Gr.N° / Material Type	Welding process	Joint type	Parent metal thickness (mm)	Range of diameter (mm)	Welding positions
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WPS 21.2A

120209 ADM	ISO 15614-1+AD HP 2/1	8.1 / 1.4301	141	BW	3 - 8	≥ 110	PC
0119821 EUN	ISO 15614-1	8.1 / 1.4301	141	BW	3 - 9	≥ 25	PC

WPS 24A

930303 ADM	ISO 15614-1+AD HP 2/1	8.1 / 1.4301	141	BW	3 - 6	≥ 30	PC + PF
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WPS 25.1A

930303 ADM	ISO 15614-1+AD HP 2/1	8.1 / 1.4301	141	FW	3 - 6	≥ 30	PB
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WPS 25.2A

930303 ADM	ISO 15614-1+AD HP 2/1	8.1 / 1.4301	141	FW	3 - 6	≥ 30	PB
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WPS 26A

930303 ADM	ISO 15614-1+AD HP 2/1	8.1 / 1.4301	141	FW	3 - 6	≥ 30	PB
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WELDING PROCEDURE SPECIFICATION

WPS n° : 02.2A

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Date : 05 / 2009

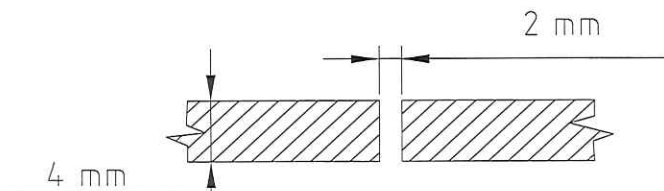
Parent Metal Specifications : 1.4301 / X5 CrNi 18 10 (304) 1.4307 / X2 CrNi 18 9 (304L)

PQR Code / Standard	PQR N°	Material group	Qualified thickness range	Qualified Ø range
EN 288-3 + AD HP 2/1	03992 ADM	9	3,2 to 4,4 mm	≥ 500 mm
ISO 15614-1 + AD HP 2/1	03992 ADM	8.1	3,0 to 5,2 mm	≥ 500 mm

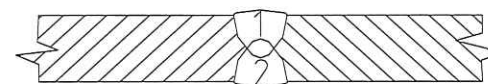
TECHNIQUE

Single or double side welding	: double side	Pre-heat temperature min (°C)	: 5
Single or multiple pass per side	: single pass	Interpass temperature max. (°C)	: -
Initial and interpass cleaning	: brushing of grinding	Filler material brand	: AVESTA
Degreasing before cleaning	: yes	AWS classification	: ER308LSi
Root removed by grinding	: no	EN ISO 14343 spec.	: W 19 9 L Si
Backing strip	: no	Werkstoff NR.	: 1.4316
Type backing strip	: n.a.		

Joint design



Welding sequence



Layer n°	Weld. process	Weld. position	Filler mat. Ø mm	DC +/- DC -	Current range (A)	Voltage range (V)	Speed cm/min	Electrode type	Ø mm	Shielding gas comp.	flow ltr/min	Plasma gas comp.	flow ltr/min	Backing gas Comp.	flow ltr/min
Tack	141	PF	2	DC-	80	12	-	WC 20	3,2	I1	12	-	-	-	-
1	141	PF	2	DC-	120	12	-	WC 20	3,2	I1	12	-	-	-	-
2	141	PF	-	DC-	80	12	-	WC 20	3,2	I1	12	-	-	-	-

REMARKS : I1 = Argon Ar 99,99% / Layers 1 + 2 are simultaneous welded

Q. C. DEPT.

Signature

Date : 08-05-2009

[Signature]

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QUALITY
CHRISTOPHE LOOF

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Date :

06/22 ATC *[Signature]*

WELDING PROCEDURE SPECIFICATION

WPS n°: 03.2A

Page : 1 of 1

Date : 05 / 2009

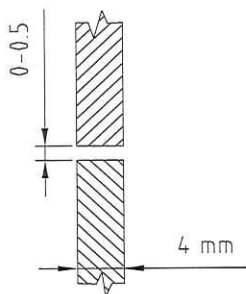
Parent Metal Specifications : 1.4301 / X5 CrNi 18 10 (304) 1.4307 / X2 CrNi 18 9 (304L)

PQR Code / Standard	PQR N°	Material group	Qualified thickness range	Qualified Ø range
EN 288-3 + AD HP 2/1	03993ADM	9	3,2 to 4,4 mm	≥ 500 mm
ISO 15614-1 + AD HP 2/1	03993 ADM	8.1	3,0 to 5,2 mm	≥ 500 mm

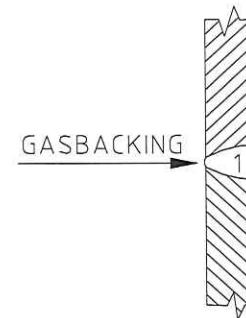
TECHNIQUE

Single or double side welding	: single side	Pre-heat temperature min (°C)	: 5
Single or multiple pass per side	: single pass	Interpass temperature max. (°C)	: -
Initial and interpass cleaning	: brushing of grinding	Filler material brand	: AVESTA
Degreasing before cleaning	: yes	AWS classification	: ER308LSi
Root removed by grinding	: no	EN ISO 14343 spec.	: G 19 9 L Si
Backing strip	: no	Werkstoff NR.	: 1.4316
Type backing strip	: n.a.		

Joint design



Welding sequence



Layer n°	Weld. process	Weld. position	Filler mat. Ø mm	DC +/- DC -	Current range (A)	Voltage range (V)	Speed cm/min	Electrode type	Ø mm	Shielding gas comp.	flow ltr/min	Plasma gas comp.	flow ltr/min	Backing gas Comp.	flow ltr/min
Tack	141	PC	1,6	DC-	80	12	-	WC 20	3,2	I1	12	-	-	-	-
1	15	PC	1,2	DC-	180	28	60	WC 20	4,2	I1	25	R1	6	I1	30

REMARKS : I1 = Argon Ar 99,99% - R1 = Argon/Hydrogen Ar/H2 95/5%

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Date :

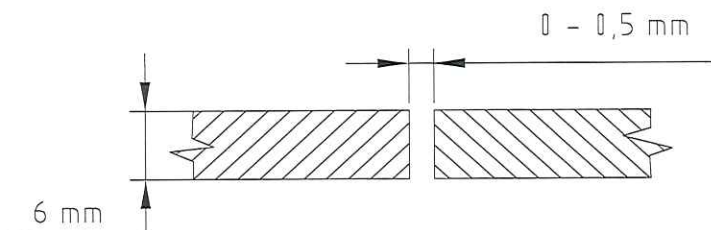
Parent Metal Specifications :	1.4301 / X5 CrNi 18 10 (304)	1.4307 / X2 CrNi 18 9 (304L)	
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PQR Code / Standard	PQR N°	Material group	Qualified thickness range	Qualified Ø range
EN 288-3 + AD HP 2/1	03994 ADM	9	4,8 to 6,6 mm	≥ 500 mm
ISO 15614-1 + AD HP 2/1	03994 ADM	8.1	3,0 to 7,3 mm	≥ 500 mm

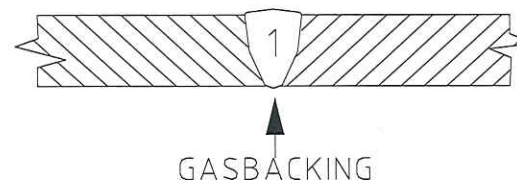
TECHNIQUE

Single or double side welding	: single side	Pre-heat temperature min (°C)	: 5
Single or multiple pass per side	: single pass	Interpass temperature max. (°C)	: -
Initial and interpass cleaning	: brushing of grinding	Filler material brand	: AVESTA
Degreasing before cleaning	: yes	AWS classification	: ER308LSi
Root removed by grinding	: no	EN ISO 14343 spec.	: G 19 9 L Si
Backing strip	: no	Werkstoff NR.	: 1.4316
Type backing strip	: n.a.		

Joint design



Welding sequence



Layer n°	Weld. process	Weld. position	Filler mat. Ø mm	DC +/- DC -	Current range (A)	Voltage range (V)	Speed cm/min	Electrode type	Ø mm	Shielding gas comp.	flow ltr/min	Plasma gas comp.	flow ltr/min	Backing gas Comp.	flow ltr/min
Tack	141	PA	1,6	DC-	80	12	-	WC 20	3,2	I1	12	-	-	-	-
1	15	PA	1,2	DC-	195	32	25	WC 20	4	I1	50	R1	12	I1	22

REMARKS : I1 = Argon Ar 99,99% - R1 = Argon/Hydrogen Ar/H2 95/5%

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Date : 06/22/2009

WELDING PROCEDURE SPECIFICATION

WPS n°: 06.1A

Page : 1 of 1

Date : 05 / 2009

Parent Metal Specifications : 1.4301 / X5 CrNi 18 10 (304) 1.4307 / X2 CrNi 18 9 (304L)

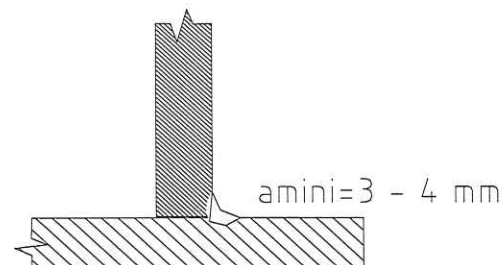
PQR Code / Standard	PQR N°	Material group	Qualified thickness range	Qualified Ø range
EN 288-3 + AD HP 2/1	080561 ADM	9	3,0 to 12,0 mm	≥ 500 mm
ISO 15614-1 + AD HP 2/1	080561ADM	8.1	3,0 to 7,2 mm	≥ 500 mm

TECHNIQUE

Single or double side welding	: single side	Pre-heat temperature min (°C)	: 5
Single or multiple pass per side	: single pass	Interpass temperature max. (°C)	: -
Initial and interpass cleaning	: brushing of grinding	Filler material brand	: AVESTA
Degreasing before cleaning	: yes	AWS classification	: ER308LSi
Root removed by grinding	: no	EN ISO 14343 spec.	: G 19 9 L Si
Backing strip	: no	Werkstoff NR.	: 1.4316
Type backing strip	: n.a.		

Joint design

Welding sequence



Layer n°	Weld. process	Weld. position	Filler mat. Ø mm	DC +/- DC -	Current range (A)	Voltage range (V)	Speed cm/min	Electrode type	Ø mm	Shielding gas comp.	flow ltr/min	Backing gas Comp.	flow ltr/min
Tack	141	PB	1,6	DC-	80	12	-	WC 20	3,2	I1	12	-	-
1	135	PB	1,2	DC-	160	24	-	-	-	M12	12	-	-

REMARKS : I1 = Argon Ar 99,99%

M12 = Argon/Helium/Carbondioxide Ar/He/Co2 63/35/2 %

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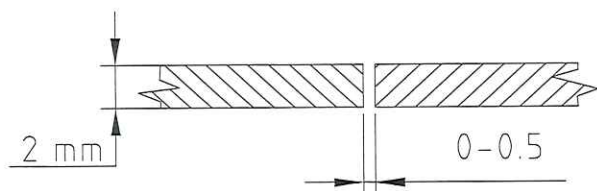
Parent Metal Specifications : 1.4301 / X5 CrNi 18 10 (304) 1.4307 / X2 CrNi 18 9 (304L)

PQR Code / Standard	PQR N°	Material group	Qualified thickness range	Qualified Ø range
EN 288-3 + AD HP 2/1	03998 ADM	9	1,6 to 2,2 mm	30,0 to 120,0 mm
ISO 15614-1 + AD HP 2/1	03998 ADM	8.1	1,4 to 2,6 mm	≥ 30,0 mm

TECHNIQUE

Single or double side welding	: single side	Pre-heat temperature min (°C)	: 5
Single or multiple pass per side	: single pass	Interpass temperature max. (°C)	: -
Initial and interpass cleaning	: brushing of grinding	Filler material brand	: AVESTA
Degreasing before cleaning	: yes	AWS classification	: ER308LSi
Root removed by grinding	: no	EN ISO 14343 spec.	: W 19 9 L Si
Backing strip	: no	Werkstoff NR.	: 1.4316
Type backing strip	: n.a.		

Joint design



Welding sequence



Layer n°	Weld. process	Weld. position	Filler mat. Ø mm	DC +/- DC -	Current range (A)	Voltage range (V)	Speed cm/min	Electrode type	Ø mm	Shielding gas comp.	flow ltr/min	Plasma gas comp.	flow ltr/min	Backing gas Comp.	flow ltr/min
Tack	141	PC/PF	1,6	DC-	80	12	-	WC 20	3,2	I1	10	-	-	I1	9
1	141	PC/PF	1,6	DC-	80 - 120	12	-	WC 20	3,2	I1	10	-	-	I1	9

REMARKS : I1 = Argon Ar 99,99%

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WELDING PROCEDURE SPECIFICATION

WPS n° : 09A

Page : 1 of 1

Date : 05 / 2009

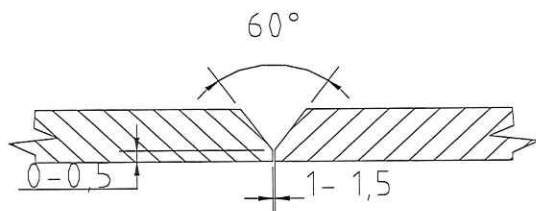
Parent Metal Specifications : 1.4301 / X5 CrNi 18 10 (304) 1.4307 / X2 CrNi 18 9 (304L)

PQR Code / Standard	PQR N°	Material group	Qualified thickness range	Qualified Ø range
EN 288-3 + AD HP 2/1	03999 ADM	9	2,4 to 3,3 mm	≥ 84 mm
ISO 15614-1 + AD HP 2/1	03999 ADM	8.1	2,1 to 3,9 mm	≥ 84 mm

TECHNIQUE

Single or double side welding	: single side	Pre-heat temperature min (°C)	: 5
Single or multiple pass per side	: single pass	Interpass temperature max. (°C)	: -
Initial and interpass cleaning	: brushing of grinding	Filler material brand	: AVESTA
Degreasing before cleaning	: yes	AWS classification	: ER308LSi
Root removed by grinding	: no	EN ISO 14343 spec.	: W 19 9 L Si
Backing strip	: no	Werkstoff NR.	: 1.4316
Type backing strip	: n.a.		

Joint design



Welding sequence



Layer n°	Weld. process	Weld. position	Filler mat. Ø mm	DC +/- DC -	Current range (A)	Voltage range (V)	Speed cm/min	Electrode type	Ø mm	Shielding gas comp.	flow ltr/min	Plasma gas comp.	flow ltr/min	Backing gas Comp.	flow ltr/min
Tack	141	PC/PF	1,6	DC-	60	12	-	WC 20	3,2	I1	10	-	-	I1	9
1	141	PC/PF	1,6	DC-	65	12	-	WC 20	3,2	I1	10	-	-	I1	9

REMARKS : I1 = Argon Ar 99,99%

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Date : 06/05/2009

WELDING PROCEDURE SPECIFICATION

WPS n°: 09.3A

Page : 1 of 1

Date : 05 / 2009

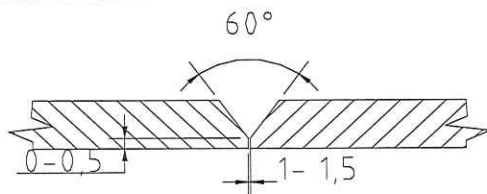
Parent Metal Specifications : 1.4301 / X5 CrNi 18 10 (304) 1.4307 / X2 CrNi 18 9 (304L)

PQR Code / Standard	PQR N°	Material group	Qualified thickness range	Qualified Ø range
EN 288-3 + AD HP 2/1	930303 ADM	9	3 to 6 mm	30 to 120 mm
ISO 15614-1 + AD HP 2/1	930303 ADM	8.1	2,1 to 6 mm	≥ 30 mm

TECHNIQUE

Single or double side welding	: single side	Pre-heat temperature min (°C)	: 5
Single or multiple pass per side	: single pass	Interpass temperature max. (°C)	: 150
Initial and interpass cleaning	: brushing of grinding	Filler material brand	: AVESTA
Degreasing before cleaning	: yes	AWS classification	: ER308LSi
Root removed by grinding	: no	EN ISO 14343 spec.	: W 19 9 L Si
Backing strip	: no	Werkstoff NR.	: 1.4316
Type backing strip	: n.a.		

Joint design



Welding sequence



Layer n°	Weld. process	Weld. position	Filler mat. Ø mm	DC +/- DC -	Current range (A)	Voltage range (V)	Speed cm/min	Electrode type	Ø mm	Shielding gas comp.	flow ltr/min	Plasma gas comp.	flow ltr/min	Backing gas Comp.	flow ltr/min
Tack	141	PC/PF	1,6	DC-	60	12	-	WC 20	3,2	I1	10	-	-	I1	9
1	141	PC/PF	1,6	DC-	65	12	-	WC 20	3,2	I1	10	-	-	I1	9
2	141	PC/PF	1,6	DC-	65	12	-	WC 20	3,2	I1	10	-	-	I1	9

REMARKS : I1 = Argon Ar 99,99%

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06/02 2009

WELDING PROCEDURE SPECIFICATION

WPS n°: 17.2A

Page : 1 of 1

Date : 05 / 2009

Parent Metal Specifications : 1.4301 / X5 CrNi 18 10 (304) 1.4307 / X2 CrNi 18 9 (304L)

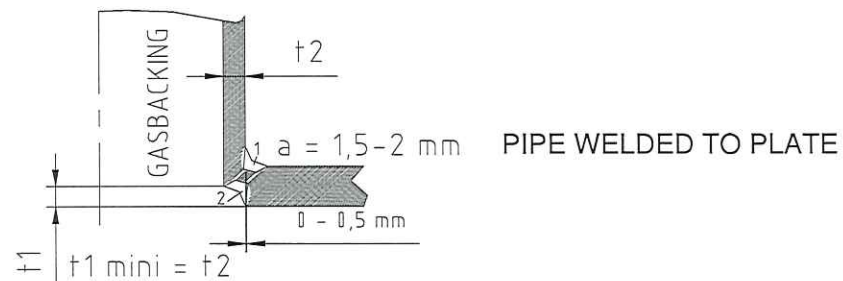
PQR Code / Standard	PQR N°	Material group	Qualified thickness range	Qualified Ø range
EN 288-3 + AD HP 2/1	03998 ADM	9	1,6 to 2,2 mm	30 to 120 mm
ISO 15614-1 + AD HP 2/1	03998 ADM	8.1	1,4 to 2,6 mm	≥ 30,0 mm

TECHNIQUE

Single or double side welding	: single side	Pre-heat temperature min (°C)	: 5
Single or multiple pass per side	: single pass	Interpass temperature max. (°C)	: -
Initial and interpass cleaning	: brushing of grinding	Filler material brand	: AVESTA
Degreasing before cleaning	: yes	AWS classification	: ER308LSi
Root removed by grinding	: no	EN ISO 14343 spec.	: W 19 9 L Si
Backing strip	: no	Werkstoff NR.	: 1.4316
Type backing strip	: n.a.		

Joint design

Welding sequence



Layer n°	Weld. process	Weld. position	Filler mat. Ø mm	DC +/- DC -	Current range (A)	Voltage range (V)	Speed cm/min	Electrode type	Ø mm	Shielding gas comp.	flow ltr/min	Plasma gas comp.	flow ltr/min	Backing gas Comp.	flow ltr/min
Tack	141	PB	1,6	DC-	80	12	-	WC 20	3,2	I1	10	-	-	-	-
1	141	PB	1,6	DC-	80 - 120	12	-	WC 20	3,2	I1	10	-	-	I1	9
2	141	PB	1,6	DC-	80 - 120	12	-	WC 20	3,2	I1	10	-	-	-	-

REMARKS : I1 = Argon Ar 99,99%

Q. C. DEPT.

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WELDING PROCEDURE SPECIFICATION

WPS n°: 21.2A

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Date : 05 / 2009

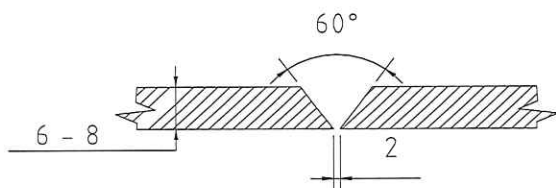
Parent Metal Specifications : 1.4301 / X5 CrNi 18 10 (304) 1.4307 / X2 CrNi 18 9 (304L)

PQR Code / Standard	PQR N°	Material group	Qualified thickness range	Qualified Ø range
ISO 15614-1 + AD HP 2/1	120209 ADM	8.1	3,0 to 8,0 mm	≥ 110 mm
ISO 15614-1	0119821 EUN	8.1	3,0 to 9,0 mm	≥ 25 mm

TECHNIQUE

Single or double side welding	: single side	Pre-heat temperature min (°C)	: 5
Single or multiple pass per side	: multiple pass	Interpass temperature max. (°C)	: 150
Initial and interpass cleaning	: brushing of grinding	Filler material brand	: AVESTA
Degreasing before cleaning	: yes	AWS classification	: ER308LSi
Root removed by grinding	: no	EN ISO 14343 spec.	: W 19 9 L Si
Backing strip	: no	Werkstoff NR.	: 1.4316
Type backing strip	: n.a.		

Joint design



Welding sequence



GASBACKING

Layer n°	Weld. process	Weld. position	Filler mat. Ø mm	DC +/- DC -	Current range (A)	Voltage range (V)	Speed cm/min	Electrode type	Ø mm	Shielding gas comp.	flow ltr/min	Plasma gas comp.	flow ltr/min	Backing gas Comp.	flow ltr/min
Tack	141	PC	1,6	DC-	60	12	-	WC 20	3,2	I1	10	-	-	I1	10
1	141	PC	1,6	DC-	80 - 85	12	-	WC 20	3,2	I1	10	-	-	I1	10
2	141	PC	2,0	DC-	100	12	-	WC 20	3,2	I1	10	-	-	I1	10
3	141	PC	2,4	DC-	100	12	-	WC 20	3,2	I1	10	-	-	I1	10

REMARKS : I1 = Argon Ar 99,99%

Q. C. DEPT.

Signature

Date : 08-05-2009

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Date : 06/22 ATIC

WELDING PROCEDURE SPECIFICATION

WPS n°: 24A

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Date : 05 / 2009

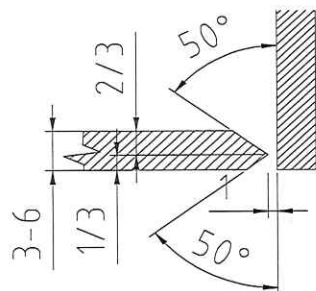
Parent Metal Specifications :	1.4301 / X5 CrNi 18 10 (304)	1.4307 / X2 CrNi 18 9 (304L)	
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PQR Code / Standard	PQR N°	Material group	Qualified thickness range	Qualified Ø range
EN 288-3 + AD HP 2/1	930303 ADM + 120209 ADM	9	3 - 6 mm	≥ 30 mm
ISO 15614-1 + AD HP 2/1	930303 ADM	8.1	3 - 6 mm	≥ 30 mm

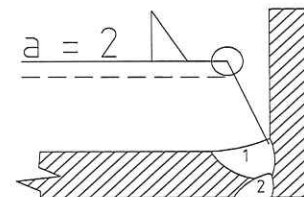
TECHNIQUE

Single or double side welding	: double side	Pre-heat temperature min (°C)	: 15
Single or multiple pass per side	: single pass	Interpass temperature max. (°C)	: 150°C
Initial and interpass cleaning	: brushing of grinding	Filler material brand	: AVESTA
Degreasing before cleaning	: yes	AWS classification	: ER308LSi
Root removed by grinding	: yes	EN ISO 14343 spec.	: W 19 9 L Si
Backing strip	: no	Werkstoff NR.	: 1.4316
Type backing strip	: n.a.		

Joint design



Welding sequence



Layer n°	Weld. process	Weld. position	Filler mat. Ø mm	DC +/- DC -	Current range (A)	Voltage range (V)	Speed cm/min	Electrode type	Ø mm	Shielding gas comp.	flow ltr/min	Plasma gas comp.	flow ltr/min	Backing gas Comp.	flow ltr/min
Tack	141	PA	1,2	DC-	80	12	-	WC 20	3,2	I1	10	-	-	I1	9
1	141	PA	1,2	DC-	80 - 120	12	-	WC 20	3,2	I1	10	-	-	I1	9
2	141	PA	1,2	DC-	80 - 120	12	-	WC 20	3,2	I1	10	-	-	-	-

REMARKS : I1 = Argon Ar 99,99%

Q. C. DEPT.

Signature

Date : 08-05-2009

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Date :

WELDING PROCEDURE SPECIFICATION

WPS n°: 25.1A

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Date : 05 / 2009

Parent Metal Specifications : 1.4301 / X5 CrNi 18 10 (304) 1.4307 / X2 CrNi 18 9 (304L)

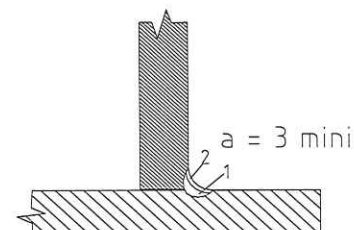
PQR Code / Standard	PQR N°	Material group	Qualified thickness range	Qualified Ø range
EN 288-3 + AD HP 2/1	930303 ADM + 120209 ADM	9	3 - 6 mm	≥ 30 mm
ISO 15614-1 + AD HP 2/1	930303 ADM	8.1	3 - 6 mm	≥ 30 mm

TECHNIQUE

Single or double side welding	: single side	Pre-heat temperature min (°C)	: 15
Single or multiple pass per side	: single pass	Interpass temperature max. (°C)	: -
Initial and interpass cleaning	: brushing of grinding	Filler material brand	: AVESTA
Degreasing before cleaning	: yes	AWS classification	: ER308LSi
Root removed by grinding	: no	EN ISO 14343 spec.	: W 19 9 L Si
Backing strip	: no	Werkstoff NR.	: 1.4316
Type backing strip	: n.a.		

Joint design

Welding sequence



Layer n°	Weld. process	Weld. position	Filler mat. Ø mm	DC +/- DC -	Current range (A)	Voltage range (V)	Speed cm/min	Electrode type	Ø mm	Shielding gas comp.	flow ltr/min	Plasma gas comp.	flow ltr/min	Backing gas Comp.	flow ltr/min
Tack	141	PB	1,6	DC-	80	12	-	WC 20	3,2	I1	10	-	-	-	-
1	141	PB	2,4	DC-	90 - 110	12	-	WC 20	3,2	I1	10	-	-	-	-
2	141	PB	2,4	DC-	90 - 110	12	-	WC 20	3,2	I1	10	-	-	-	-

REMARKS : I1 = Argon Ar 99,99%

Q. C. DEPT.

Signature

Date : 08-05-2009

HOLVRIEKA
QUALITY
CHRISTOPHE LOOF

INSPECTION AUTHORITY Signature

Date :

06/02 ATK

Parent Metal Specifications :	1.4301 / X5 CrNi 18 10 (304)	1.4307 / X2 CrNi 18 9 (304L)
-------------------------------	------------------------------	------------------------------

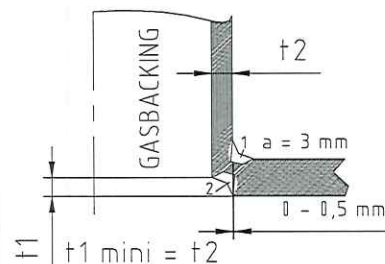
PQR Code / Standard	PQR N°	Material group	Qualified thickness range	Qualified Ø range
EN 288-3 + AD HP 2/1	930303 ADM + 120209 ADM	9	3 - 6 mm	≥ 30 mm
ISO 15614-1 + AD HP 2/1	930303 ADM	8.1	3 - 6 mm	≥ 30 mm

TECHNIQUE

Single or double side welding	: single side	Pre-heat temperature min (°C)	: 15
Single or multiple pass per side	: single pass	Interpass temperature max. (°C)	: -
Initial and interpass cleaning	: brushing of grinding	Filler material brand	: AVESTA
Degreasing before cleaning	: yes	AWS classification	: ER308LSi
Root removed by grinding	: no	EN ISO 14343 spec.	: W 19 9 L Si
Backing strip	: no	Werkstoff NR.	: 1.4316
Type backing strip	: n.a.		

Joint design

Welding sequence



PIPE WELDED TO PLATE

Layer n°	Weld. process	Weld. position	Filler mat. Ø mm	DC +/- DC -	Current range (A)	Voltage range (V)	Speed cm/min	Electrode type	Ø mm	Shielding gas comp.	flow ltr/min	Plasma gas comp.	flow ltr/min	Backing gas Comp.	flow ltr/min
Tack	141	PB	1,6	DC-	80	12	-	WC 20	3,2	I1	10	-	-	-	-
1	141	PB	2,4	DC-	90 - 110	12	-	WC 20	3,2	I1	10	-	-	I1	8
2	141	PB	2,4	DC-	90 - 110	12	-	WC 20	3,2	I1	10	-	-	-	-

REMARKS : I1 = Argon Ar 99,99%

Q. C. DEPT.

Signature

Date : 08-05-2009

HOLVRIEKA
QUALITY
CHRISTOPHE LOOF

INSPECTION AUTHORITY Signature

Date :

WELDING PROCEDURE SPECIFICATION

WPS n°: 26A

Page : 1 of 1

Date : 05 / 2009

Parent Metal Specifications : 1.4301 / X5 CrNi 18 10 (304) 1.4307 / X2 CrNi 18 9 (304L)

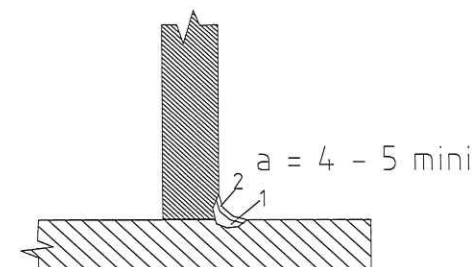
PQR Code / Standard	PQR N°	Material group	Qualified thickness range	Qualified Ø range
EN 288-3 + AD HP 2/1	930303 ADM + 120209 ADM	9	3 - 6 mm	≥ 30 mm
ISO 15614-1 + AD HP 2/1	930303 ADM	8.1	3 - 6 mm	≥ 30 mm

TECHNIQUE

Single or double side welding	: single side	Pre-heat temperature min (°C)	: 15
Single or multiple pass per side	: multiple pass	Interpass temperature max. (°C)	: 150°C
Initial and interpass cleaning	: brushing of grinding	Filler material brand	: AVESTA
Degreasing before cleaning	: yes	AWS classification	: ER308LSi
Root removed by grinding	: no	EN ISO 14343 spec.	: W 19 9 L Si
Backing strip	: no	Werkstoff NR.	: 1.4316
Type backing strip	: n.a.		

Joint design

Welding sequence



Layer n°	Weld. process	Weld. position	Filler mat. Ø mm	DC +/- DC -	Current range (A)	Voltage range (V)	Speed cm/min	Electrode type	Ø mm	Shielding gas comp.	flow ltr/min	Plasma gas comp.	flow ltr/min	Backing gas Comp.	flow ltr/min
Tack	141	PB	1,6	DC-	80	12	-	WC 20	3,2	I1	10	-	-	-	-
1	141	PB	2,4	DC-	90 - 110	12	-	WC 20	3,2	I1	10	-	-	-	-
2	141	PB	2,4	DC-	90 - 110	12	-	WC 20	3,2	I1	10	-	-	-	-

REMARKS : I1 = Argon Ar 99,99%

Q. C. DEPT.

Signature

Date : 08-05-2009

HOLVRIEKA
QUALITY
CHRISTOPHE LOOF

INSPECTION AUTHORITY Signature

Date :

CERTIFICATION OF WELDERS

5688B - BIODIESEL ARGENT II BV
1 x Vert. St. Steel Tanks B120300
Cap. ca 198m³ /242m³


WELDERS APPROVAL CERTIFICATES

Name	N°	Welding process	Plate / Pipe	Joint type	Range of thickness	Range of diameter	Welding positions	Cert. N°
------	----	-----------------	--------------	------------	--------------------	-------------------	-------------------	----------

WPS 02.2A

JEAN-MICHEL WAEGE	18	141	Plate & Pipe	BW	3 - 8 mm	$\varnothing \geq 75$ mm	PA, PF	22
BENJAMIN DESMARETS	26	141	Plate & Pipe	BW	3 - 8 mm	$\varnothing \geq 75$ mm	PA,PF	6

WPS 03.2A

CATRY RIK	19	15	Plate & Pipe	BW	3 - 14 mm	$\varnothing \geq 150$ mm	PA,PB,PC	30
VANDEVELDE LAURENS	16	15	Plate & Pipe	BW	3 - 14 mm	≥ 75 mm	PA,PB	16

WPS 04.3A

DELACHAPELLE ARNAUD	38	15	plasma TIG automatic			---	---	35
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WPS 06.1A

KANGALA KITIA	04	135	Plate & Pipe	FW	≥ 3 mm	≥ 150 mm	PA - PB	37
---------------	----	-----	--------------	----	-------------	---------------	---------	----

WPS 08.1A + WPS 09A + WPS 09.3A + WPS 17.2A

DIMITROV ATANAS	25	141	Plate & Pipe	BW - FW	1,5 - 3 mm	13,7 - 27,4 mm	H-L045	25
PAVLOV EMIL		141	Plate & Pipe	BW	3 - 8 mm	≥ 25 mm	H-L045	22 290
MITKO CHANKOV		141	Plate & Pipe	BW - FW	3 - 8 mm	≥ 25 mm	H-L045	22 291
DZHAGALOV RADOSLAV		141	Plate & Pipe	BW - FW	1,5 - 3 mm	13,7 - 27,4 mm	H-L045	20 920
STOYANOV STOYAN		141	Plate & Pipe	BW - FW	1,5 - 8 mm	≥ 13 mm	H-L045	20 518
STAMATOV ZLATKO		141	Plate & Pipe	BW - FW	1,5 - 8 mm	≥ 13 mm	H-L045	21 509
DONCHO CHONGAROV		141	Plate & Pipe	BW - FW	1,5 - 8 mm	≥ 13 mm	H-L045	22 1029

WPS 21.2A + WPS 24A + WPS 25.1A + WPS 25.2A + WPS 26A

DIMITROV ATANAS	25	141	Plate & Pipe	BW - FW	3 - 8 mm	≥ 25 mm	H-L045	60
PAVLOV EMIL		141	Plate & Pipe	BW	3 - 8 mm	≥ 25 mm	H-L045	22 290
MITKO CHANKOV		141	Plate & Pipe	BW - FW	3 - 8 mm	≥ 25 mm	H-L045	22 291
DZHAGALOV RADOSLAV		141	Plate & Pipe	BW - FW	1,5 - 8 mm	≥ 13 mm	H-L045	20 920
STOYANOV STOYAN		141	Plate & Pipe	BW - FW	1,5 - 8 mm	≥ 13 mm	H-L045	20 518
STAMATOV ZLATKO		141	Plate & Pipe	BW - FW	1,5 - 8 mm	≥ 13 mm	H-L045	21 509
DONCHO CHONGAROV		141	Plate & Pipe	BW - FW	1,5 - 8 mm	≥ 13 mm	H-L045	22 1029



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Your Inspection Authority 0029

Cert 22



Chée de Vilvorde, 156 B-1120 Brussels

Tel. +32/2/264.03.60 - Fax. +32/2/268.89.58 - e-mail : info@apragaz.com

WELDER APPROVAL TEST CERTIFICATE

1
2 DESIGNATION: **NBN-EN- ISO 9606-1 ; 141(Simultaneouswelding) ; P ; BW ; FM5 ; S ; s=4.0 ; D=- ; PF ; bs**
3
4 WPS Ref. (if applicable): **02.2A** Inspection Authority: **Apragaz**
5
6 Welder's name: **(1)Desmet Gino Maurice** Delegate: **Eng. G. Gielis**
7 Identification: **(2)Waeye Jean-Michel** Reference n°: **16781/141/RI**
8 Method of Identification: Stamp : (1) 03 Report n°: **U206803**
9 Date & Place of Birth: **(2) -** Identity card NN nr.: (1) 63.08.04-081.14
10 Employer: **Ziemann - Holvrieka (Belgium)** (2) 11125906170
11 Code / Testing standard: **NBN-EN- ISO 9606-1 ed. 2017**
12 Job Knowledge **Not tested**

Photograph
(if required)

	Weld Test Details	Range of Qualification
13		
14a	Welding process(es)	141 (simultaneous welding)
14b	Transfer mode:	-----
15	Product Type :Plate (P) or tube (T):	P
16	Joint type (BW or FW):	BW
17	Parent metal group(s):	8.1 (acc. CR ISO 15608)
18a	Filler metal group(s)	FM5
18b	Filler metal(designation):	S
19	Gas / Flux:	I1 (acc. NBN EN ISO 14175)
20a	Auxiliaries:	-----
20b	Type of Current and Polarity	DC -
21a	Material thickness [mm]:	4.0
21b	Deposited thickness [mm] :	4.0
22	Pipe outside diameter [mm]:	Ø ≥ 75mm for PA Ø ≥ 500 for PF
23	Welding positions:	PF
24a	Weld details:	Simultaneous welding
24b	Multilayer / Single layer	-----

25 Additional information is available on welding procedure specification n° 02.2A

Type of test	Performed and Acceptable	Not Required
26		
27		
28		
29	Visual	X
30	Radiography	X
31	Fracture	X
32	Bend	X
33	Macro	X
34	Notch tensile test	X
35		

Brussels, on 09/06/2021
Name et signature: **Eng. S. De Ridder**
Inspecting Authority : **APRAGAZ 0029**
Date of issue : 03/06/2021
Location : Menen

Validity of approval until

Revalidation according to §9.3a :
Revalidation according to §9.3b : **03/06/2023**
Revalidation according to §9.3c :

PROLONGATION FOR APPROVAL BY INSPECTING AUTHORITY (for revalidation acc. to §9.3b)

Date	Signature	Position or title

PROLONGATION FOR APPROVAL BY EMPLOYER / SUPERVISOR (acc. to §9.2)

Date	Signature	Position or title
03/12/21		D-Supervisor
03/06/22		D-Supervisor
03/12/23		D-Supervisor



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Your Inspection Authority 0029

Cert 06



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Tel. +32/2/264.03.60 - Fax. +32/2/268.89.58 - e-mail : info@apragaz.com

WELDER APPROVAL TEST CERTIFICATE

DESIGNATION: **NBN-EN- ISO 9606-1 ; 141(Simultaneouswelding) ; P ; BW ; FM5 ; S ; s=4.0 ; D=- ; PF ; bs**

WPS Ref. (if applicable): **02.2A** Inspection Authority: **Apragaz**

Welder's name: **(1)Desmet Gino Maurice**
(2)Desmarets Benjamin Delegate: **Eng. G. Giellis**

Identification: Stamp : (1) 03
(2) 26 Reference n°: **16851/141/RI**

Method of Identification: Identity card NN nr.: (1) 63.08.04-081.14
(2) 82.04.10-461.19 Report n°: **U206802**

Date & Place of Birth: **(1) 04/08/1963 Moeskroen**
(2) 10/04/1982 Roubaix

Employer: **Ziemann - Holvrieka (Belgium)**

Code / Testing standard: **NBN-EN- ISO 9606-1 ed. 2017**

Job Knowledge **Not tested**

Photograph
(If required)

	Weld Test Details	Range of Qualification
Welding process(es)	141 (simultaneous welding)	141 (simultaneous welding)
Transfer mode:	-----	-----
Product Type :Plate (P) or tube (T):	P	P, T
Joint type (BW or FW):	BW	BW
Parent metal group(s):	8.1 (acc. CR ISO 15608)	1 to 11 (acc. CR ISO 15608)
Filler metal group(s)	FM5	FM5
Filler metal(designation):	S	S, M, nm
Gas / Flux:	I1 (acc. NBN EN ISO 14175)	-----
Auxiliaries:	-----	-----
Type of Current and Polarity	DC -	-----
Material thickness [mm]:	4.0	3.0 to 8.0
Deposited thickness [mm] :	4.0	3.0 to 8.0
Pipe outside diameter [mm]:	-----	Ø ≥ 75mm for PA Ø ≥ 500 for PF
Welding positions:	PF	PA, PF
Weld details:	Simultaneous welding	ss mb, bs
Multilayer / Single layer	-----	-----

Additional information is available on welding procedure specification n° 02.2A
This is a transcript of report U093458 after approval of welders log

Type of test	Performed and Acceptable	Not Required
Visual	X	
Radiography	X	
Fracture		X
Bend		X
Macro		X
Notch tensile test		X

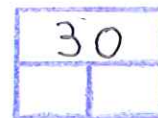
Brussels, on 09/06/2021
Name et signature: **Eng. S. De Ridder**
Inspecting Authority: **APRAGAZ 0029**
Date of issue: 03/06/2021
Location: Menen

Validity of approval until

Revalidation according to §9.3a :
Revalidation according to §9.3b : **03/06/2023**
Revalidation according to §9.3c :

PROLONGATION FOR APPROVAL BY INSPECTING AUTHORITY (for revalidation acc. to §9.3b)		
Date	Signature	Position or title

PROLONGATION FOR APPROVAL BY EMPLOYER / SUPERVISOR (acc. to §9.2)		
Date	Signature	Position or title
03/12/2021		Q. Supersman
03/06/2022		Q. Supersman
03/12/2022		Q. Supersman



WELDER APPROVAL TEST CERTIFICATE

DESIGNATION: **EN 287-1 ; 15 ; P ; BW ; 10.1 ; S ; t=7.0 ; D=- ; PC ; ss-nb**

Page 1 of 1

Manufacturer's welding procedure specification

Inspection Authority: **APRAGAZ**

Delegate: **Eng. G. Gielis**

Reference n°: **1004/P12323/000/LMI**

Report n°: **U003876**

Reference (if applicable): **0310034D**

Welder's name: **Catry Rik**

Identification: Stamp: 19

Method of identification: NN nr.: 640613-443.68

Date and place of birth: 13/06/1964 Menen

Employer: **Holvrieka – Menen (Belgium)**

Code / Testing standard: **NBN-EN287-1: 2004/A2:2006**

Job knowledge: **not tested**

Photograph
(if required)

		Weld test details	Range of approval
Welding process:		15	15
Plate (P) or tube (T):		P	P, T
Joint type (BW or FW):		BW	BW, FW
Parent metal group:		10.1 (acc. CR ISO 15608)	8, 9.2, 9.3, 10
Filler metal type / designation:		S	S
Gas / flux:	Shielding	I1 (acc. NBN EN ISO 14175)	-----
Auxiliaries:	Backing gas: Plasma gas:	I1 (acc. NBN EN ISO 14175) R1 (acc. NBN EN ISO 14175)	-----
Material thickness [mm]:		7.0	3.0 to 14.0
Pipe outside diameter [mm]:		-----	Ø ≥ 150mm
Welding positions:		PC	PA, PB, PC
Gouging / backing strips		Ss nb	Ss nb, ss mb, bs For FW: sl, ml

Additional information is available on welding procedure specification n° : PQR 0310034D

Brussels, on 06/10/2010

Name and signature: **Eng. S. De Ridder**

Inspecting Authority: **APRAGAZ**
(CEOC Member Organisation) **S. DE RIDDER**
EWE-BE-00153 EN473 FL rev II

Date of issue: 06/04/2010

Location: **Menen**

Validity of approval until: 06/04/2012

PROLONGATION FOR APPROVAL
BY EMPLOYER / SUPERVISOR

Type of test	Performed and acceptable	Not required
Visual	X	
Radiography	X	
Magnetic/ Penetrant		X
Macro		X
Fracture		X
Bend		X
Additional *		X

PROLONGATION FOR APPROVAL
BY INSPECTING AUTHORITY

Date	Signature	Position or title
15/03/2012		Testing Supervisor
15/03/14		Testing Supervisor

Date	Signature	Position or title
06/10/2010		Testing Supervisor
06/04/2011		Testing supervisor
06/10/2011		Testing supervisor

*) append separate sheet if required



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Member of
CEOC
INTERNATIONAL

Chée de Vilvorde, 156 B-1120 Brussels

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30
2

WELDER APPROVAL TEST CERTIFICATE

Page 1 of 1

DESIGNATION: **EN 287-1 ; 15 ; P ; BW ; 10.1 ; S ; t=7.0 ; D=- ; PC ; ss-nb**

Manufacturer's welding procedure specification

Inspection Authority: **APRAGAZ**
Delegate: **Eng. G. Gielis**
Reference n°: **1004/P12323/000/LMI**
Report n°: **U003876**

Reference (if applicable): **0310034D**

Welder's name: **Catry Rik**

Identification: Stamp: 19

Method of identification: NN nr.: 640613-443.68

Date and place of birth: 13/06/1964 Menen

Employer: **Holvrieka - Menen (Belgium)**

Code / Testing standard: NBN-EN287-1: 2004/A2:2006

Job knowledge: *not tested*

Photograph
(if required)

	Weld test details	Range of approval
Welding process:	15	15
Plate (P) or tube (T):	P	P, T
Joint type (BW or FW):	BW	BW, FW
Parent metal group:	10.1 (acc. CR ISO 15608)	8, 9.2, 9.3, 10
Filler metal type / designation:	S	S
Gas / flux: Shielding	I1 (acc. NBN EN ISO 14175)	-----
Auxiliaries: Backing gas: Plasma gas:	I1 (acc. NBN EN ISO 14175) R1 (acc. NBN EN ISO 14175)	-----
Material thickness [mm]:	7.0	3.0 to 14.0
Pipe outside diameter [mm]:	-----	Ø ≥ 150mm
Welding positions:	PC	PA, PB, PC
Gouging / backing strips	Ss nb	Ss nb, ss mb, bs For FW: sl, ml

PROLONGATION OF APPROVAL BY INSPECTING AUTHORITY AIB VINCOTTE INTERNATIONAL

Date	Signature	Position or title
15/03/2016		Q. Supervisor.
03/2018		Q. Supervisor.
03/2020		Q. Supervisor.
15/03/2015		Q. Supervisor.
15/09/2015		Q. Supervisor.
15/09/2016		Q. Supervisor.
15/03/2017		Q. Supervisor.
15/09/2017		Q. Supervisor.
15/09/2018		Q. Supervisor.
15/03/2019		Q. Supervisor.
15/09/2019		Q. Supervisor.
15/09/2020		Q. Supervisor.
15/03/2021		Q. Supervisor.



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30
3

WELDER APPROVAL TEST CERTIFICATE

Page 1 of 1

DESIGNATION: **EN 287-1 ; 15 ; P ; BW ; 10.1 ; S ; t=7.0 ; D=- ; PC ; ss-nb**

Manufacturer's welding procedure specification

Inspection Authority: **APRAGAZ**

Delegate: **Eng. G. Gielis**

Reference (if applicable): **0310034D**

Reference n°: **1004/P12323/000/LMI**

Report n°: **U003876**

Welder's name: **Catry Rik**

Identification: Stamp: 19

Method of identification: NN nr.: 640613-443.68

Date and place of birth: 13/06/1964 Menen

Employer: **Holvrieka - Menen (Belgium)**

Code / Testing standard: NBN-EN287-1: 2004/A2:2006

Job knowledge: *not tested*

Photograph

(If required)

		Weld test details	Range of approval
Welding process:		15	15
Plate (P) or tube (T):		P	P, T
Joint type (BW or FW):		BW	BW, FW
Parent metal group:		10.1 (acc. CR ISO 15608)	8, 9.2, 9.3, 10
Filler metal type / designation:		S	S
Gas / flux:	Shielding	I1 (acc. NBN EN ISO 14175)	-----
Auxiliaries:	Backing gas:	I1 (acc. NBN EN ISO 14175)	-----
	Plasma gas:	R1 (acc. NBN EN ISO 14175)	-----
Material thickness [mm]:		7.0	3.0 to 14.0
Pipe outside diameter [mm]:		-----	Ø ≥ 150mm
Welding positions:		PC	PA, PB, PC
Gouging / backing strips		Ss nb	Ss nb, ss mb, bs For FW: sl, ml

Date	Signature	Position or title
15/09/21		Q. Supervisor
15/04/22		Q. Supervisor

PROLONGATION OF APPROVAL BY INSPECTING AUTHORITY AIB VINCOTTE INTERNATIONAL

Date	Signature	Position or title
03/22		



WELDER APPROVAL TEST CERTIFICATE

1
2 DESIGNATION: NBN-EN- ISO 9606-1 ; 15 ; P ; BW ; FM5 ; S ; t=7.0 ; - ; PC ; ss-gb
3 Page 1 of 1
4 WPS Ref. (if applicable): Inspection Authority: **Apragaz**
5
6 Welder's name: **Vandevelde Laurens** Delegate: **Eng. G. Gielis**
7 Identification: Stamp : 16 Reference n°: **P16851/061/LMI**
8 Method of Identification: Identity card NN nr.: 95.11.07-511.90 Report n° : **U127081**
9 Date & Place of Birth: november 07, 1995 Gent
10 Employer: Ziemann-Holvrieka (Belgium)
11 Code / Testing standard: NBN-EN- ISO 9606-1 ed. 2017
12 Job Knowledge **Not tested**

Photograph
(if required)

	Weld Test Details	Range of Qualification
13a Welding process(es)	15	15
13b Transfer mode:	-----	-----
14a Product Type :Plate (P) or tube (T):	P	P, T
14b Joint type (BW or FW):	BW	BW
15 Parent metal group(s):	8.1 (acc. CR ISO 15608)	1 to 11 (acc. CR ISO 15608)
16a Filler metal group(s)	FM5	FM5
16b Filler metal(designation):	S	S, M
17 Gas / Flux: Shielding	I1 (acc. NBN EN ISO 14175)	-----
18a Auxiliaries: Backing Plasma	I1 (acc. NBN EN ISO 14175) R1 (acc. NBN EN ISO 14175)	-----
18b Type of Current and Polarity	DC +	-----
19a Material thickness [mm]:	7.0	3.0 to 14.0
19b Deposited thickness [mm] :	7.0	3.0 to 14.0
20 Pipe outside diameter [mm]:	-----	≥ 75
21 Welding positions:	PC	PA, PB, <u>PC</u>
22a Weld details:	-----	-----
22b Multilayer / Single layer	ss gb	ss mb, bs, ss gb

25 Additional information is available on attached sheet / welding procedure specification PQR nr. :0310034D

Type of test	Performed and Acceptable	Not Required
26 Visual	X	
27 Radiography	X	
28 Fracture		X
29 Bend		X
30 Macro		X
31 Notch tensile test		X

PROLONGATION FOR APPROVAL BY INSPECTING AUTHORITY (for revalidation acc. to §9.3b)		
Date	Signature	Position or title
02/2020		Eng. G. GIELIS

Brussels, on 09/04/2018
Name et signature: **Eng. S. De Ridder**
Inspecting Authority : APRAGAZ 0029
Date of issue : 22/02/2018
Location : Menen

Validity of approval until

Revalidation according to §9.3a :
Revalidation according to §9.3b : 22/02/2020
Revalidation according to §9.3c :

PROLONGATION FOR APPROVAL BY EMPLOYER / SUPERVISOR (acc. to §9.2)		
Date	Signature	Position or title
09/10/2018		Q. Supervisor
09/04/2019		Q. Supervisor
09/10/2019		Q. Supervisor
09/10/2020		Q. Supervisor
09/04/2021		Q. Supervisor



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Tel. +32/2/264.03.60 - Fax. +32/2/268.89.58 - e-mail : info@apragaz.com

1

WELDER APPROVAL TEST CERTIFICATE

2 DESIGNATION: NBN-EN- ISO 9606-1 ; 15 ; P ; BW ; FM5 ; S ; t=7.0 ; - ; PC ; ss-gb

Page 1 of 1

4 WPS Ref. (if applicable):

Inspection Authority: **Apragaz**

6 Welder's name: **Vandeveldre Laurens**

Delegate: **Eng. G. Gielis**

7 Identification: Stamp : 16

Reference n°: **P16851/061/LMI**

8 Method of Identification: Identity card NN nr.: 95.11.07-511.90

Report n° : **U127081**

9 Date & Place of Birth: november 07, 1995 Gent

10 Employer: Ziemann-Holvrieka (Belgium)

11 Code / Testing standard: NBN-EN- ISO 9606-1 ed. 2017

12 Job Knowledge **Not tested**

Photograph
(if required)

		Weld Test Details	Range of Qualification
14a	Welding process(es)	15	15
14b	Transfer mode:	-----	-----
15	Product Type :Plate (P) or tube (T):	P	P, T
16	Joint type (BW or FW):	BW	BW
17	Parent metal group(s):	8.1 (acc. CR ISO 15608)	1 to 11 (acc. CR ISO 15608)
18a	Filler metal group(s)	FM5	FM5
18b	Filler metal(designation):	S	S, M
19	Gas / Flux: Shielding	I1 (acc. NBN EN ISO 14175)	-----
20a	Auxiliaries: Backing Plasma	I1 (acc. NBN EN ISO 14175) R1 (acc. NBN EN ISO 14175)	-----
20b	Type of Current and Polarity	DC +	-----
21a	Material thickness [mm]:	7.0	3.0 to 14.0
21b	Deposited thickness [mm] :	7.0	3.0 to 14.0
22	Pipe outside diameter [mm]:	-----	≥ 75
23	Welding positions:	PC	PA, PB
23	Weld details:	-----	-----
24b	Multilayer / Single layer	ss gb	ss mb, bs, ss gb

25 Additional information is available on attached sheet / welding procedure specification PQR nr. :0310034D

Type of test	Performed and Acceptable	Not Required
26 Visual	X	
27 Radiography	X	
28 Fracture		X
29 Bend		X
30 Macro		X
31 Notch tensile test		X

Brussels, on 09/04/2018
Name et signature: **Eng. S. De Ridder**
Inspecting Authority : APRAGAZ 0029
Date of issue : 22/02/2018
Location : Menen

Validity of approval until

Revalidation according to §9.3a :
Revalidation according to §9.3b : 22/02/2020
Revalidation according to §9.3c :

PROLONGATION FOR APPROVAL BY INSPECTING AUTHORITY (for revalidation acc. to §9.3b)		
Date	Signature	Position or title
04/2022		Eng. G. Gielis

PROLONGATION FOR APPROVAL BY EMPLOYER / SUPERVISOR (acc. to §9.2)		
Date	Signature	Position or title
09/10/21		Supervisor
09/10/22		Supervisor

	APRAGAZ Your Inspection Authority	Cert 35 Member of CEOC INTERNATIONAL
Chée de Vilvorde, 156 B-1120 Brussels Phone 32/2/264.03.60 - Fax. 32/2/268.89.58 - e-mail : Info@apragaz.com		

APPROVAL TEST CERTIFICATE FOR WELDING OPERATORS / RESISTANCE WELDING IN ACCORDANCE WITH EN 14732

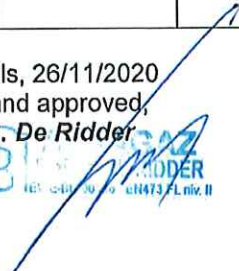
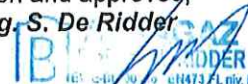
Manufacturer's welding procedure specification: Reference No.: WPS 04 Name of welding operator : Arnaud Delachapelle Identification: Stamp: Method of identification: Id card Date and place of birth: Octobre 02, 1984 Employer: Ziemann - Holvrieka Code/testing standard: EN 14732 Job knowledge: Not tested	Examiner: Eng. Gielis G. Reference (Job) No.: 16851/P133 Report No.: U193538
--	---

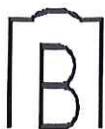
Weld details	Range of approval
Welding process 15 Welding unit SAF-Buffalo AUTO 380DC + plasma TIG Automatic plasma	15 SAF-Buffalo AUTO 380DC + plasma TIG Automatic plasma
Details in accordance with 4.2.5	
Joint sensor without Single run/multirun technique single run Robotic type automatic	With or without Single run technique Automatic

Additional information is available on attached sheet and/or welding procedure specification No.:
2018-P1-141-ORB

The approval is based on: - Welding procedure test in accordance with 4.1.a ☐ - Pre-production welding test or production test in accordance with 4.1.b ☐ - Production sampling testing in accordance with 4.1.c ☒ - Function test in accordance with 4.1.d ☐ Results of the approval test see document No.: PQR 2020-P10-01 (welding procedure approval record or other documents of testing)	Name, date and signature: Examiner or examining body: APRAGAZ Date of issue: 04/11/2020 Location: Menen Validity of approval until: 04/11/2023 see Rx-report: 01/10/2020 of Ziemann																		
Prolongation for approval by employer/welding coordinator for the following 6 months (see clause 5)																			
Prolongation for approval by examiner or examining body for the following 2 years (see clause 5)																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 20%;">Date</th><th style="width: 40%;">Signature</th><th style="width: 40%;">Position or title</th></tr> <tr> <td style="text-align: center; vertical-align: top;">11/2022</td><td style="text-align: center; vertical-align: top;">  APRAGAZ Eng. G. GIELIS </td><td style="text-align: center; vertical-align: top;"></td></tr> </table>	Date	Signature	Position or title	11/2022	 APRAGAZ Eng. G. GIELIS		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 20%;">Date</th><th style="width: 20%;">Signature</th><th style="width: 60%;">Position or title</th></tr> <tr> <td style="text-align: center; vertical-align: top;">04/05/2021</td><td style="text-align: center; vertical-align: top;">   </td><td style="text-align: center; vertical-align: top;">Q Supervisor</td></tr> <tr> <td style="text-align: center; vertical-align: top;">04/11/2021</td><td style="text-align: center; vertical-align: top;">   </td><td style="text-align: center; vertical-align: top;">Q Supervisor</td></tr> <tr> <td style="text-align: center; vertical-align: top;">04/05/2022</td><td style="text-align: center; vertical-align: top;">   </td><td style="text-align: center; vertical-align: top;">Q Supervisor</td></tr> </table>	Date	Signature	Position or title	04/05/2021	 	Q Supervisor	04/11/2021	 	Q Supervisor	04/05/2022	 	Q Supervisor
Date	Signature	Position or title																	
11/2022	 APRAGAZ Eng. G. GIELIS																		
Date	Signature	Position or title																	
04/05/2021	 	Q Supervisor																	
04/11/2021	 	Q Supervisor																	
04/05/2022	 	Q Supervisor																	

Brussels, 26/11/2020
Seen and approved,
Eng. S. De Ridder



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WELDER APPROVAL TEST CERTIFICATE

1
2 DESIGNATION: NBN-EN- ISO 9606-1 ;135; P ; FW ; FM5 ; S ; t=6.0 ; D=- ; PB ; sl
3
4 WPS Ref. (if applicable): WPS 6 Inspection Authority: **Apragaz**
5
6 Welder's name: **Kangala Kitia** Delegate: **Eng. G. Gielis**
7 Identification: Stamp : 04 Reference n°: **16851/055/RI**
8 Method of Identification: Identity card Report n° : **U122581**
9 Date & Place of Birth: novembre 22, 1968 Kinshasa
10 Employer: Ziemann-Holvrieka – Menen (Belgium)
11 Code / Testing standard: NBN-EN- ISO 9606-1 : 2017
12 Job Knowledge Not tested

Photograph
(if required)

	Weld Test Details	Range of Qualification
13a Welding process(es)	135	135, 138
14b Transfer mode:	Short circuit	Short circuit, globular, pulsed, spray arc
15 Product Type :Plate (P) or tube (T):	P	P, T
16 Joint type (BW or FW):	FW	FW
17 Parent metal group(s):	8.1 (acc. CR ISO 15608)	1 to 11 (acc. CR ISO 15608)
18a Filler metal group(s)	FM5	FM5
18b Filler metal(designation):	S	S, M
19 Gas / Flux:	M21 (acc. NBN EN ISO 14175)	-----
20a Auxiliaries:	-----	-----
20b Type of Current and Polarity	DC +	-----
21a Material thickness [mm]:	6.0	≥ 3.0
21b Deposited thickness [mm] :	-----	-----
22 Pipe outside diameter [mm]:	-----	Ø > 75mm
23 Welding positions:	PB	PA, PB
24a Weld details:	-----	-----
24b Multilayer / Single layer	sl	sl

25 Additional information is available on welding procedure specification n° WPS 6
This is a transcript of report 2AD/34/60197189/00/NL/013 after approval of welders log

Type of test	Performed & Acceptable	Not Required
26 Visual	X	
27 Radiography		X
28 Fracture		X
29 Bend		X
30 Macro	X	
31 Notch tensile test		X

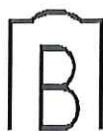
Brussels, on 22/01/18
Name et signature: **Eng. S. De Ridder**
Inspecting Authority : **APRAGAZ 0029**
Date of issue : 07/12/2017
Location : Menen

Validity of approval until

Revalidation according to §9.3a :
Revalidation according to §9.3b : 07/12/2019
Revalidation according to §9.3c :

PROLONGATION FOR APPROVAL BY INSPECTING AUTHORITY (for revalidation acc. to §9.3b)		
Date	Signature	Position or title
12/2019	Eng. G. GIELIS	

PROLONGATION FOR APPROVAL BY EMPLOYER / SUPERVISOR (acc. to §9.2)		
Date	Signature	Position or title
04/06/18		Q. Supervisor
07/12/18		"
07/06/19		"
07/06/20		Q. Supervisor



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WELDER APPROVAL TEST CERTIFICATE

DESIGNATION: NBN-EN- ISO 9606-1 ;135; P ; FW ; FM5 ; S ; t=6.0 ; D=- ; PB ; sl

Page 1 of 1

WPS Ref. (if applicable): WPS 6

Inspection Authority: Apragaz

Welder's name: Kangala Kitia

Delegate: Eng. G. Gielis

Identification: Stamp : 04

Reference n°: 16851/055/RI

Method of Identification: Identity card

Report n° : U122581

Date & Place of Birth: novembre 22, 1968 Kinshasa

Employer: Ziemann-Holvrieka – Menen (Belgium)

Code / Testing standard: NBN-EN- ISO 9606-1 : 2017

Job Knowledge Not tested

Photograph
(if required)

	Weld Test Details	Range of Qualification
14a	Welding process(es)	135
14b	Transfer mode:	Short circuit
15	Product Type :Plate (P) or tube (T):	P, T
16	Joint type (BW or FW):	FW
17	Parent metal group(s):	8.1 (acc. CR ISO 15608)
18a	Filler metal group(s)	FM5
18b	Filler metal(designation):	S, M
19	Gas / Flux:	M21 (acc. NBN EN ISO 14175)
20a	Auxiliaries:	-----
20b	Type of Current and Polarity	DC +
21a	Material thickness [mm]:	6.0
21b	Deposited thickness [mm] :	-----
22	Pipe outside diameter [mm]:	Ø > 75mm
23	Welding positions:	PB
24a	Weld details:	-----
24b	Multilayer / Single layer	sl

Additional information is available on welding procedure specification n° WPS 6

This is a transcript of report 2AD/34/60197189/00/NL/013 after approval of welders log

Type of test	Performed & Acceptable	Not Required
Visual	X	
Radiography		X
Fracture		X
Bend		X
Macro	X	
Notch tensile test		X

Brussels, on 22/01/18
Name et signature: Eng. S. De Ridder
Inspecting Authority : APRAGAZ 0029
Date of issue : 07/12/2017
Location : Menen

Validity of approval until

Revalidation according to §9.3a :
Revalidation according to §9.3b : 07/12/2019
Revalidation according to §9.3c :

PROLONGATION FOR APPROVAL BY INSPECTING AUTHORITY (for revalidation acc. to §9.3b)		
Date	Signature	Position or title
12/2021	Eng. G. Gielis	

PROLONGATION FOR APPROVAL BY EMPLOYER / SUPERVISOR (acc. to §9.2)		
Date	Signature	Position or title
07/12/2020		Q. Supervisor
07/06/2021		Q. Supervisor
07/06/2022		Q. Supervisor
07/12/2022		Q. Supervisor



WELDER APPROVAL TEST CERTIFICATE

1
2 DESIGNATION: NBN-EN-ISO 9606-1 ;141 ; T ; BW+ suppl FW; FM5 ; S ; t=1.5 ; D=13.72 ; H-L045 ; ss gb
3 Page 1 of 1
4 WPS Ref. (if applicable): Inspection Authority: **Apragaz**
5
6 Welder's name: **Dimitrov Atanas Petrov** Delegate: **Eng. G. Glelis**
7 Identification: Stamp : 25 Reference n°: **16851/091/RI**
8 Method of Identification: Identity card Report n° : **U152664**
9 Date & Place of Birth: september 22, 1960 Lyulyakovo
10 Employer: Ziemann-Holvreleka (Belgium)
11 Code / Testing standard: NBN-EN- ISO 9606-1 ed. 2017
12 Job Knowledge **Not tested**

Photograph
(If required)

	Weld Test Details	Range of Qualification
13		
14a	Welding process(es)	141
14b	Transfer mode:	141, 142, 143 and 145
15	Product Type :Plate (P) or tube (T):	-----
16	Joint type (BW or FW):	T
17	Parent metal group(s):	P, T
18a	Filler metal group(s)	BW + suppl FW
18b	Filler metal(designation):	BW / FW
19	Gas / Flux:	8.1 (acc. CR ISO 15608)
20a	Auxiliaries: Gas backing	1 to 11 (acc. CR ISO 15608)
20b	Type of Current and Polarity	FM5
21a	Material thickness [mm]:	S
21b	Deposited thickness [mm] :	S, M, nm
22	Pipe outside diameter [mm]:	I1 (acc. NBN EN ISO 14175)
23	Welding positions:	I1 (acc. NBN EN ISO 14175)
24a	Weld details:	DC -
24b	Multilayer / Single layer	1.5
		1.5
		13.72
		13.72 to 27.44
		BW: H-L045
		FW: PB
		All, except down
		ss gb
		ss mb; ss gb; bs
		BW+ suppl FW

25 Additional information is available on attached sheet / welding procedure specification n° WPS08.2

Type of test	Performed and Acceptable	Not Required
26 Visual	X	
27 Radiography	X	
28 Fracture	X	
29 Bend		X
30 Macro		X
31 Notch tensile test		X

Brussels, on 02/05/2019
Name et signature: **Eng. G. Glelis**
Inspecting Authority: **APRAGAZ 0029**
Date of issue : 04/04/2019
Location : Menen

Validity of approval until

Revalidation according to §9.3a :
Revalidation according to §9.3b : **04/04/2021**
Revalidation according to §9.3c :

PROLONGATION FOR APPROVAL BY INSPECTING AUTHORITY (for revalidation acc. to §9.3b)		
Date	Signature	Position or title
04/04/2021	Eng. G. Glelis	

PROLONGATION FOR APPROVAL BY EMPLOYER / SUPERVISOR (acc. to §9.2)		
Date	Signature	Position or title
04/04/2019	Eng. G. Glelis	Supervisor
04/04/2020	Eng. G. Glelis	Supervisor
04/04/2020	Eng. G. Glelis	Supervisor
04/04/2021	Eng. G. Glelis	Supervisor
04/04/2022	Eng. G. Glelis	Supervisor



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Tel. +32/2/264.03.60 - Fax. +32/2/268.89.58 - e-mail : info@apragaz.com

WELDER APPROVAL TEST CERTIFICATE

DESIGNATION: NBN-EN-ISO 9606-1 ;141 ; T ; BW+ suppl FW; FM5 ; S ; t=1.5 ; D=13.72 ; H-L045 ; ss gb
WPS Ref. (if applicable):
Welder's name: **Dimitrov Atanas Petrov**
Identification: Stamp : 25
Method of Identification: Identity card
Date & Place of Birth: september 22, 1960 Lyulyakovo
Employer: Ziemann-Holvrieka (Belgium)
Code / Testing standard: NBN-EN- ISO 9606-1 ed. 2017
Job Knowledge: Not tested

Inspection Authority: **Apragaz**
Delegate: **Eng. G. Giellis**
Reference n°: **16851/091/RI**
Report n° : **U152664**

Photograph
(if required)

	Weld Test Details	Range of Qualification
14a	Welding process(es)	141
14b	Transfer mode:	141, 142, 143 and 145
15	Product Type :Plate (P) or tube (T):	T
16	Joint type (BW or FW):	P, T
17	Parent metal group(s):	BW / FW
18a	Filler metal group(s):	8.1 (acc. CR ISO 15608)
18b	Filler metal(designation):	1 to 11 (acc. CR ISO 15608)
19	Gas / Flux:	FM5
20a	Auxiliaries: Gas backing	S, M, nm
20b	Type of Current and Polarity	I1 (acc. NBN EN ISO 14175)
21a	Material thickness [mm]:	DC -
21b	Deposited thickness [mm] :	1.5
22	Pipe outside diameter [mm]:	1.5 to 3.0
23	Welding positions:	1.5 to 3.0
24b	Multilayer / Single layer	13.72
		13.72 to 27.44
		All, except down
		ss mb; ss gb; bs
		BW+ suppl FW

Additional information is available on attached sheet / welding procedure specification n° WPS08.2

Type of test	Performed and Acceptable	Not Required
Visual	X	
Radiography	X	
Fracture	X	
Bend		X
Macro		X
Notch tensile test		X

Brussels, on 02/05/2019
Name et signature: **Eng. S. DE Ridder**
Inspecting Authority : APRAGAZ 0029
Date of issue : 04/04/2019
Location : Menen

Validity of approval until

Revalidation according to §9.3a :
Revalidation according to §9.3b : 04/04/2021
Revalidation according to §9.3c :

PROLONGATION FOR APPROVAL BY INSPECTING AUTHORITY (for revalidation acc. to §9.3b)		
Date	Signature	Position or title

PROLONGATION FOR APPROVAL BY EMPLOYER / SUPERVISOR (acc. to §9.2)		
Date	Signature	Position or title
04/04/2022		Q. Supervisor



WELDER APPROVAL TEST CERTIFICATE

DESIGNATION: **NBN-EN-ISO 9606-1 ;141 ; T ; BW+ suppl FW; FM5 ; S ; t=4.0 ; D=42.0 ; H-L045 ; ss gb**

WPS Ref. (if applicable):

Welder's name: **Dimitrov Atanas Petrov**

Identification: **Stamp : 25**

Method of Identification: **Identity card**

Date & Place of Birth: **september 22, 1960 Lyulyakovo**

Employer: **Ziemann-Holvrieka (Belgium)**

Code / Testing standard: **NBN-EN- ISO 9606-1 ed. 2017**

Job Knowledge: **Not tested**

Page 1 of 1

Inspection Authority: **Apragaz**

Delegate: **Eng. G. Giellis**

Reference n°: **16851/091/RI**

Report n° : **U152663**

Photograph
(If required)

	Weld Test Details	Range of Qualification
Welding process(es)	141	141, 142, 143 and 145
Transfer mode:	-----	-----
Product Type :Plate (P) or tube (T):	T	P, T
Joint type (BW or FW):	BW + suppl FW	BW / FW
Parent metal group(s):	8.1 (acc. CR ISO 15608)	1 to 11 (acc. CR ISO 15608)
Filler metal group(s)	FM5	FM5
Filler metal(designation):	S	S, M, nm
Gas / Flux:	I1 (acc. NBN EN ISO 14175)	-----
Auxiliaries: Gas backing	I1 (acc. NBN EN ISO 14175)	-----
Type of Current and Polarity	DC -	-----
Material thickness [mm]:	4.0	3.0 to 8.0
Deposited thickness [mm] :	4.0	3.0 to 8.0
Pipe outside diameter [mm]:	42.0	Ø ≥ 25.0
Welding positions:	BW: H-L045 FW: PB	All, except down
Weld details:	ss gb	ss mb; ss gb; bs
Multilayer / Single layer	BW+ suppl FW	BW+ suppl FW

Additional information is available on attached sheet / welding procedure specification n° WPS08.2

Type of test	Performed and Acceptable	Not Required
Visual	X	
Radiography	X	
Fracture	X	
Bend		X
Macro		X
Notch tensile test		X

Brussels, on 02/05/2019

Name et signature: **Eng. S. DE RIDDER**

Inspecting Authority : **APRAGAZ**

Date of issue : 04/04/2019

Location : Menen

Validity of approval until

Revalidation according to §9.3a :

Revalidation according to §9.3b : **04/04/2021**

Revalidation according to §9.3c :

PROLONGATION FOR APPROVAL BY INSPECTING AUTHORITY (for revalidation acc. to §9.3b)		
Date	Signature	Position or title
04/2021	Eng. G. GIELIS	

PROLONGATION FOR APPROVAL BY EMPLOYER / SUPERVISOR (acc. to §9.2)		
Date	Signature	Position or title
04/2019		Supervisor
04/04/2020		Supervisor
04/10/2020		Supervisor
04/10/2021		Supervisor
04/04/2022		Supervisor



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WELDER APPROVAL TEST CERTIFICATE

DESIGNATION: **NBN-EN-ISO 9606-1 ;141 ; T ; BW+ suppl FW; FM5 ; S ; t=4.0 ; D=42.0 ; H-L045 ; ss gb**
Page 1 of 1
WPS Ref. (if applicable):
Inspection Authority: **Apragaz**
Welder's name: **Dimitrov Atanas Petrov**
Delegate: **Eng. G. Giellis**
Identification: **Stamp : 25**
Reference n°: **16851/091/RI**
Method of Identification: **Identity card**
Report n°: **U152663**
Date & Place of Birth: **september 22, 1960 Lyulyakovo**
Employer: **Ziemann-Holvrieka (Belgium)**
Code / Testing standard: **NBN-EN- ISO 9606-1 ed. 2017**
Job Knowledge: **Not tested**

Photograph
(if required)

	Weld Test Details	Range of Qualification
14a	Welding process(es)	141
14b	Transfer mode:	141, 142, 143 and 145
15	Product Type :Plate (P) or tube (T):	T
16	Joint type (BW or FW):	P, T
17	Parent metal group(s):	BW + suppl FW
18a	Filler metal group(s)	1 to 11 (acc. CR ISO 15608)
18b	Filler metal(designation):	FM5
19	Gas / Flux:	FM5
20a	Auxiliaries: Gas backing	S, M, nm
20b	Type of Current and Polarity	I1 (acc. NBN EN ISO 14175)
21a	Material thickness [mm]:	DC -
21b	Deposited thickness [mm] :	4.0
22	Pipe outside diameter [mm]:	3.0 to 8.0
23	Welding positions:	4.0
24a	Weld details:	42.0
24b	Multilayer / Single layer	Ø ≥ 25.0

Additional information is available on attached sheet / welding procedure specification n° WPS08.2

Type of test	Performed and Acceptable	Not Required
Visual	X	
Radiography	X	
Fracture	X	
Bend		X
Macro		X
Notch tensile test		X

Brussels, on 02/05/2019
Name et signature: **Eng. S. DE RIDDER**
Inspecting Authority: **APRAGAZ 0029**
Date of issue: 04/04/2019
Location: Menen

Validity of approval until

Revalidation according to §9.3a :
Revalidation according to §9.3b : **04/04/2021**
Revalidation according to §9.3c :

PROLONGATION FOR APPROVAL BY INSPECTING AUTHORITY (for revalidation acc. to §9.3b)		
Date	Signature	Position or title

PROLONGATION FOR APPROVAL BY EMPLOYER / SUPERVISOR (acc. to §9.2)		
Date	Signature	Position or title
04/10/2022		Q. Supervisor

Certificate
in the scope of the directive 2014/68/EU Appendix I, 3.1.2.
Welder's qualification test certificate

2 Designation: **EN ISO 9606-1 141 T BW FM5 S s4.0 D42 H-L045 ss gb**

3

4 WPS - Reference: **WPS 2-12**

5 Document No. (if applicable):

6 Welder's Name: **Pavlov, Emil (35)**

7 Identification:

8 Method of Identification:

9 Date and place of birth: **9/19/1975 in Sofia**

10 Employer: **Fitting montage Ltd**

11 Code / Testing Standard: **EN ISO 9606-1:2017**

Comments: **Base material: TP 321**

Supplementary fillet weld test:

no

Examiner: **Georgi Krastev**

12 Job knowledge: **Accepted**

	Test piece	Range of qualification
14 Welding process(es):	141	141, 142, 143, 145
15 Product type (plate or pipe):	T	P, T
16 Type of weld:	BW	BW
17 Material group(s):	8.1	
Filler material group(s)	FM5	FM5
18 Filler material (Designation):	W 19 12 3 L	S, M; nm
19 Shielding gas:	EN ISO 14175 - I1	Similar shielding gas
20 Auxiliaries / Flux:	EN ISO 14175 - I1	
Type of current and polarity	=-	- - -
21 Material thickness (mm):	4.00	
Deposited thickness	4.00	3.00 - 8.00
22 Outside pipe diameter. (mm):	42.00	≥ 25.00
23 Welding position(s):	H-L045	PA, PC, PE, PF
24 Weld details:	ss gb	ss mb, bs, ss gb

25 Additional information is available on attached sheet and / or WPS

Type of test	Performed and accepted
26 Visual testing	X
27 Radiographic testing	X
30 PT testing	X
31 Fracture testing	X
32	
34	

The applications of PED 2014/68/EU Appendix 1, 3.1.2., permission of staff are fulfilled.

Certificate Authority: **TÜV Rheinland Bulgaria Ltd.**
Notified Body for Pressure Equipment 1853

Certificate No.: **01 202 BG/S-22 290**

Certifier: **Bissera Nikolova**

Place / Date: **Sofia, 31/12/2022**

Signature: 

Date of welding: **2/25/2022**

Validity of qualification: **2/25/2025**



37 *) Append separate sheet, if required

38 According 9.3a: Confirmation of the validity by welding coordinator / examine / examining body for the following 6 month (refer to 9.2)

Date	Signature	Position or Title	Date	Signature	Position or Title
25/08/2022					

Certificate
in the scope of the directive 2014/68/EU Appendix I, 3.1.2.
Welder's qualification test certificate

2 Designation: **EN ISO 9606-1 141 T BW FM5 S s4.0 D42 H-L045 ss gb**
3
4 WPS - Reference: **WPS 2-12**
5 Document No. (if applicable):
6 Welder's Name: **Chankov, Mitko (3)**
7 Identification:
8 Method of Identification:
9 Date and place of birth: **5/25/1972 in Burgas**
10 Employer: **Fitting montage Ltd**
11 Code / Testing Standard: **EN ISO 9606-1:2017**
Comments: **Base material: TP 321**

Supplementary fillet weld test: **no**

Examiner: **Georgi Krastev**

12 Job knowledge: **Accepted**

	Test piece	Range of qualification
14 Welding process(es):	141	141, 142, 143, 145
15 Product type (plate or pipe):	T	P, T
16 Type of weld:	BW	BW
17 Material group(s):	8.1	
Filler material group(s)	FM5	FM5
18 Filler material (Designation):	W 19 12 3 L	S, M; nm
19 Shielding gas:	EN ISO 14175 - I1	Similar shielding gas
20 Auxiliaries / Flux:	EN ISO 14175 - I1	
Type of current and polarity	---	---
21 Material thickness (mm):	4.00	3.00 - 8.00
Deposited thickness	4.00	≥ 25.00
22 Outside pipe diameter. (mm):	42.00	PA, PC, PE, PF
23 Welding position(s):	H-L045	ss mb, bs, ss gb
24 Weld details:	ss gb	

25 Additional information is available on attached sheet and / or WPS

Type of test	Performed and accepted
26 Visual testing	X
27 Radiographic testing	X
28 PT testing	X
29 Fracture testing	X
30	
31	
32	
33	

The applications of PED 2014/68/EU Appendix I, 3.1.2., permission of staff are fulfilled.

Certificate Authority: **TÜV Rheinland Bulgaria Ltd.**
Notified Body for Pressure Equipment 1853

Certificate No: **01 202 BG/S-22 291**

Certified by: **Bissera Nikolova**

Place / Date: **Sofia, 3/17/2022**

Signature: 

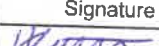
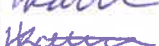
Date of welding: **2/26/2022**

Validity of qualification: **2/25/2025**



37 *) Append separate sheet, if required

38 According 9.3a: Confirmation of the validity by welding coordinator / examine / examining body for the following 6 month (refer to 9.2)

Date	Signature	Position or Title
02/2022		
08/2022		

Date	Signature	Position or Title

Certificate
In the scope of the directive 2014/68/EU Appendix I, 3.1.2.
Welder's qualification test certificate

2 Designation: **EN ISO 9606-1 141 T BW FM5 S s4.0 D42 H-L045 ss gb**
3 **EN ISO 9606-1 141 T BW FM5 S s1.5 D13 H-L045 ss gb**
4 WPS - Reference: **2-12**
6 Document No. (if applicable):
6 Welder's Name: **Dzhagalov, Radoslav (R)**
7 Identification: **6401267620**
8 Method of Identification: **Personal identity number**
9 Date and place of birth: **1/26/1964 In Shipka**
10 Employer: **Fitting montage Ltd**

11 Code / Testing Standard: **DIN EN ISO 9606-1:2017**
Comments:

Supplementary fillet weld test: **yes** Examiner: **Georgi Krastev**
12 Job knowledge: **fulfilled**

	Test pieces		Range of qualification	
13	141	141	141, 142, 143, 145	141, 142, 143, 145
14 Welding process(es):	T		P, T	
15 Product type (plate or pipe):	BW		BW, FW	
16 Type of weld:	8 (X6CrNiTi18-10)		FM5	
17 Material group(s):	FM5		S, M; nm	
18 Filler material group(s):	W 19 12 3 L		S, M; nm	
19 Shielding gas:	EN ISO 14175 - II		Similar shielding gas	
20 Auxiliaries / Flux:	EN ISO 14175 - II		Similar shielding gas	
Type of current and polarity	--		---	
21 Material thickness (mm):	4.00		1.50 - 8.00	
Deposited thickness	4.00		≥ 13.00	
22 Outside pipe diameter. (mm):	42.00		H-L045, PA; BW: PC, PE, PF; FW: PB	
23 Welding position(s):	H-L045		ss mb, bs, ss gb	
24 Weld details:	ss gb		ss mb, bs, ss gb	

25 Additional information is available on attached sheet and / or WPS

Type of test	Performed and accepted
26 Visual testing	X
27 Radiographic testing	X
30 PT testing	X
31 Fracture testing	X

The applications of PED 2014/68/EU Appendix I, 3.1.2., permission of staff are fulfilled.

Certificate Authority: **TÜV Rheinland Bulgaria Ltd.**
Notified Body for Pressure Equipment 1863

Certificate No.: **01 202 BG/S-20 920**

Certifier: **Bissera Nikolova**

Place / Date: **Sofia, 8/17/2020**

Signature:

Date of welding: **8/10/2020**

Validity of: **8/15/2023**

37 *) Append separate sheet, if required

38 According 9.3a: Confirmation of the validity by welding coordinator / examiner. Examining body for the following 6 month (refer to 9.2)

Date	Signature	Position or Title	Date	Signature	Position or Title
			02.02.2021		Mr. Hristov
			23.08.2021		
			22.02.2022		
			02.08.2022		

Certificate
in the scope of the directive 2014/68/EU Appendix I, 3.1.2.
Welder's qualification test certificate

2 Designation: **EN ISO 9606-1 141 T BW FM5 S s4.0 D42 H-L045 ss gb**
3 **EN ISO 9606-1 141 T BW FM5 S s1.5 D13 H-L045 ss gb**
4 WPS - Reference: **WPS 2-12**
5 Document No. (if applicable):
6 Welder's Name: **Stoyanov, Stoyan (21)**
7 Identification: **8512045827**
8 Method of Identification: **Personal identity number**
9 Date and place of birth: **12/4/1985 in Sliven**
10 Employer: **Fitting montage Ltd**
11 Code / Testing Standard: **EN ISO 9606-1:2017**
Comments:

Supplementary fillet weld test:

yes

Examiner:

Georgi Krastev

12 Job knowledge:

fulfilled

	Test pieces		Range of qualification	
	141	141	141, 142, 143, 145	141, 142, 143, 145
13				
14 Welding process(es):	T		P, T	
15 Product type (plate or pipe):	BW		BW, FW	
16 Type of weld:	8 (X6CrNiTi18-10)			
17 Material group(s):	FM5		FM5	
18 Filler material group(s):	W 19 12 3 L		S, M; nm	
18 Filler material (Designation):	EN ISO 14175 - I1		Similar shielding gas	
19 Shielding gas:	EN ISO 14175 - I1		Similar shielding gas	
20 Auxiliaries / Flux:	=		---	
21 Material thickness (mm):	4.00		1.50 - 8.00	
22 Deposited thickness:	4.00		≥ 13.00	
23 Outside pipe diameter. (mm):	42.00		H-L045, PA; BW: PC, PE, PF; FW: PB	
24 Welding position(s):	H-L045		ss mb, bs, ss gb	
24 Weld details:	ss gb		ss mb, bs, ss gb	

25 Additional information is available on attached sheet and / or WPS

Type of test	Performed and accepted
26 Visual testing	X
27 Radiographic testing	X
30 PT testing	X
31 Fracture testing	X
32	
34	

The applications of PED 2014/68/EU Appendix I, 3.1.2., permission of staff are fulfilled.

Certificate Authority: **TÜV Rheinland Bulgaria Ltd.**
Notified Body for Pressure Equipment 1853

Certificate No.: **01 202 BG/S-20 518**

Certifier: **Bissera Nikolova**

Place / Date: **Sofia, 5/22/2020**

Signature:

Date of welding:

5/17/2020

Validity of:

5/16/2023



37 *) Append separate sheet, if required

38 According 9.3a: Confirmation of the validity by welding coordinator / examine / examining body for the following 6 month (refer to 9.2)

Date	Signature	Position or Title

Date	Signature	Position or Title
23.09.2020	<i>[Signature]</i>	
23.02.2021	<i>[Signature]</i>	
23.08.2021	<i>[Signature]</i>	
22.02.2022	<i>[Signature]</i>	
22.08.2022	<i>[Signature]</i>	

Certificate

in the scope of the directive 2014/68/EU Appendix I, 3.1.2.

Welder's qualification test certificate



Precisely Right.

2 Designation: **EN ISO 9606-1 141 T BW FM5 S s4.0 D42 H-L045 ss gb**
 3 **EN ISO 9606-1 141 T BW FM5 S s1.5 D13 H-L045 ss gb**
 4 WPS - Reference: **WPS 2-12**

5 Document No. (if applicable):

6 Welder's Name: **Stamatov, Zlatko (30)**

7 Identification:

8 Method of Identification:

9 Date and place of birth: **11/16/1981 in Harmanli**

10 Employer: **Fitting montage Ltd**

11 Code / Testing Standard: **DIN EN ISO 9606-1:2017**

Comments: **Base material: TP321**

Supplementary fillet weld test:

yes

Examiner: **Georgi Krastev**

12 Job knowledge: **Accepted**

	Test pieces		Range of qualification	
	141	141	141, 142, 143, 145	141, 142, 143, 145
14 Welding process(es):	T		P, T	
15 Product type (plate or pipe):	BW		BW, FW	
16 Type of weld:	8 (X6CrNiTi18-10)		FM5	
17 Material group(s):	FM5		S, M; nm	
Filler material group(s)	W 19 12 3 L		S, M; nm	
18 Filler material (Designation):	FM5		Similar shielding gas	
19 Shielding gas:	EN ISO 14175 - I1		Similar shielding gas	
20 Auxiliaries / Flux:	EN ISO 14175 - I1		---	
Type of current and polarity	--		---	
21 Material thickness (mm):	4.00	1.50	1.50 - 8.00	
Deposited thickness	4.00	1.50	≥ 13.00	
22 Outside pipe diameter, (mm):	42.00	13.00	H-L045, PA; BW: PC, PE, PF; FW: PB	
23 Welding position(s):	H-L045	H-L045	ss mb, bs, ss gb	
24 Weld details:	ss gb	ss gb	ss mb, bs, ss gb	

25 Additional information is available on attached sheet and / or WPS

Type of test	Performed and accepted
26 Visual testing	X
30 Radiographic testing	X
31 PT testing	X
32 Fracture testing	X

The applications of PED 2014/68/EU Appendix I, 3.1.2., permission of staff are fulfilled.

Certificate Authority: **TÜV Rheinland Bulgaria Ltd.**
 Notified Body for Pressure Equipment 1853

Certificate No.: **01 202 BG/S-21 509**

Certifier: **Bissera Nikolova**

Place / Date: **Sofia, 3/24/2021**

Signature:

Date of welding: **3/21/2021**

Validity of: **3/20/2024**



37 *) Append separate sheet, if required

38 According 9.3a: Confirmation of the validity by welding coordinator / examine / examining body for the following 6 month (refer to 9.2)

Date	Signature	Position or Title

Date	Signature	Position or Title
November 2021	<i>Ukatov</i>	FM
22/02/2022	<i>Ukatov</i>	FM
22/08/2022	<i>Ukatov</i>	FM

Certificate

in the scope of the directive 2014/68/EU Appendix I, 3.1.2.

Welder's qualification test certificate

2 Designation: **EN ISO 9606-1 141 T BW FM5 S s1.5 D13 H-L045 ss gb**
3 **EN ISO 9606-1 141 T BW FM5 S s4.0 D42 H-L045 ss gb**

4 WPS - Reference: 02-2012

5 Document No. (if applicable):

6 Welder's Name: Chongarov, Doncho (13)

7 Identification:

8 Method of Identification:

9 Date and place of birth: 4/15/1972 in Kazanlak

10 Employer: Fitting montage Ltd

11 Code / Testing Standard: EN ISO 9606-1:2017

Comments:

Supplementary fillet weld test: yes

Examiner: Georgi Krastev

12 Job knowledge: Accepted

13	Test pieces		Range of qualification	
	141	141	141, 142, 143, 145	141, 142, 143, 145
14 Welding process(es):	T	T	P, T	P, T
15 Product type (plate or pipe):	BW	BW	BW, FW	BW, FW
16 Type of weld:				
17 Material group(s):	8 (X6CrNiTi18-10)	8 (X6CrNiTi18-10)		
Filler material group(s):	FM5	FM5	FM5	FM5
18 Filler material (Designation):	W 19 12 3 L	W 19 12 3 L	S, M; nm	S, M; nm
19 Shielding gas:	EN ISO 14175 - I1	EN ISO 14175 - I1	Similar shielding gas	Similar shielding gas
20 Auxiliaries / Flux:	EN ISO 14175 - I1	EN ISO 14175 - I1		
Type of current and polarity	--	--	---	---
21 Material thickness (mm):	1.50	4.00	1.50 - 8.00	1.50 - 8.00
Deposited thickness	1.50	4.00	≥ 13.00	≥ 13.00
22 Outside pipe diameter. (mm):	13.00	42.00	PA, PC, PE, PF, FW: PB	PA, PC, PE, PF, FW: PB
23 Welding position(s):	H-L045	H-L045		
24 Weld details:	ss gb	ss gb	ss mb, bs, ss gb	ss mb, bs, ss gb

25 Additional information is available on attached sheet and / or WPS

26	Type of test	Performed and accepted
27	Visual testing	X
30	Radiographic testing	X
31	PT testing	X
32		

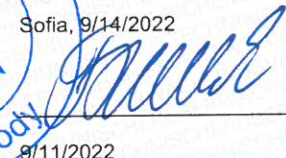
The applications of PED 2014/68/EU Appendix I, 3.1.2., permission of staff are fulfilled.

Certificate Authority: **TÜV Rheinland Bulgaria Ltd.**
Notified Body for Pressure Equipment 1853

Certificate No.: 01 202 BG/S-22 1029

Certifier: Bissera Nikolova

Place / Date: Sofia, 9/14/2022

Signature: 

Date of welding: 9/11/2022

Validity of qualification: 9/10/2025



37 *) Append separate sheet, if required

38 According 9.3a: Confirmation of the validity by welding coordinator / examine / examining body for the following 6 month (refer to 9.2)

39	Date	Signature	Position or Title	Date	Signature	Position or Title

NON-DESTRUCTIVE TESTS

CONTENTS:

- *RADIOGRAPHIC REPORT
- *VACUUM BOX CERTIFICATE
- *PENETRANT TEST CERTIFICATE
- *PENETRANT PRODUCTS CERTIFICATE
- *PERSONNEL NON-DISTRICTIVE TESTING

5688B - BIODIESEL ARGENT II BV
1 x Vert. St. Steel Tanks B120300
Cap. ca 198m³ /242m³

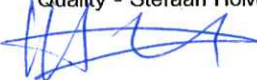
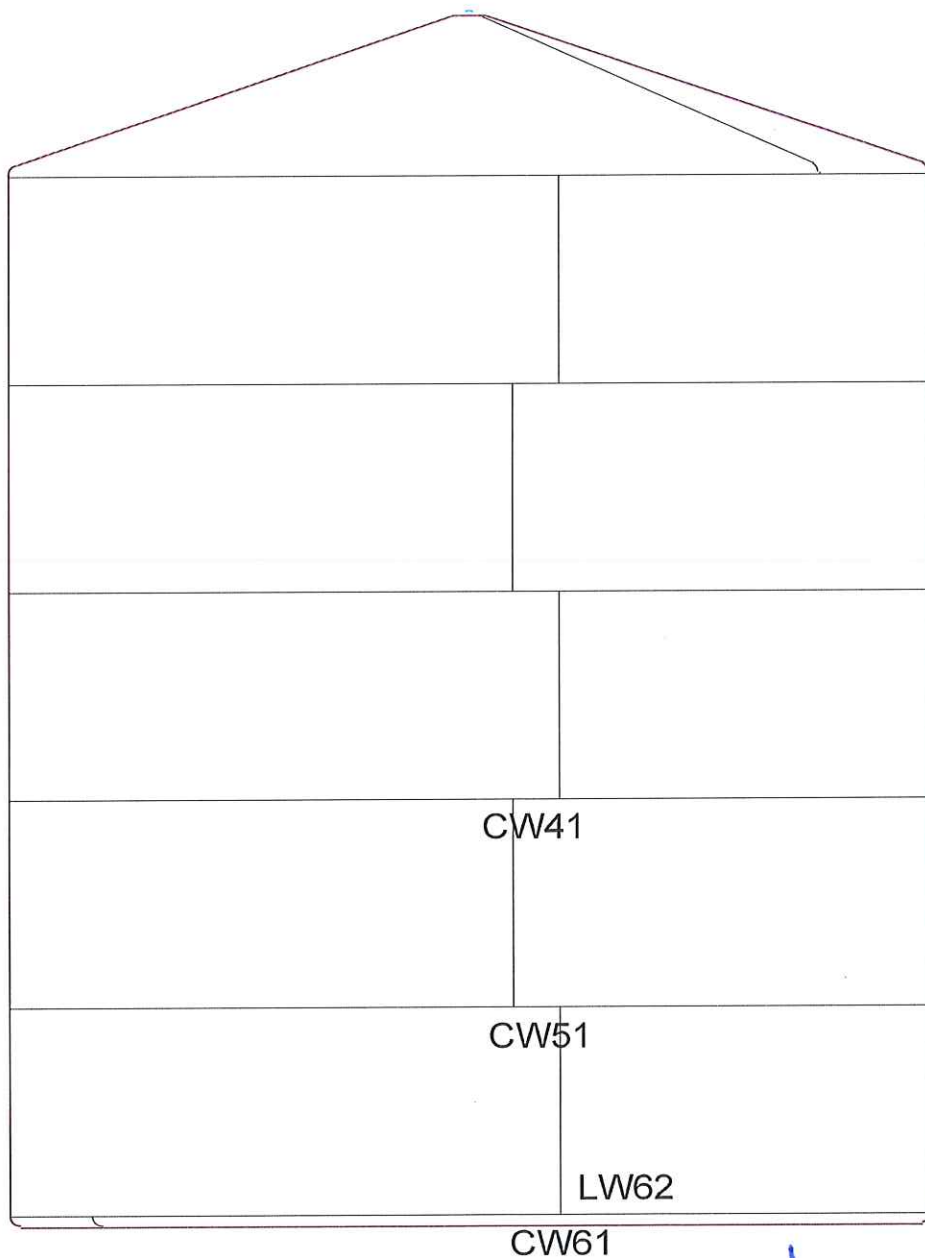
SKETCH RADIOGRAPHIC REPORT

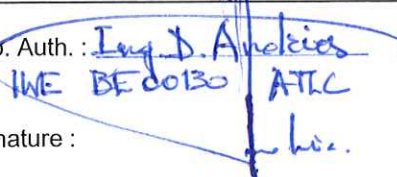
ORDER Nr: 5688

Report nr: 5688RT-01

Page: 1 / 2

TANK Nr B120300




IWE BE00130 ATLC
for h.v.

8/06/22

 Quality - Stefaan Holvoet Sign.  Cert. EN 97012 n° 15/066 RT Level 2 Date : 09/05/2022	Inspection Authority :  BE 00361 ATLC Sign.  Date : 8/02/22
---	--

RADIOGRAPHIC INSPECTION

RADIOGRAPHIC DATA

ORDER Nr **5688**

Data sheet Nr **5688D-01**

RADIOGRAPHIC STANDARD : **EN ISO 17636-1:2013**

Radiographic technique :

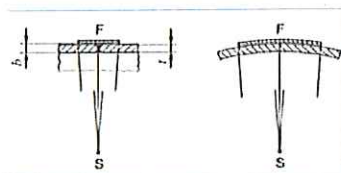
X-rays ☒
Iridium 192 ☐

Minimum required density:

Class : A ☒ → 2,0 ☒
B ☐ → 2,3 ☐

Test arrangement : **Figure Nr 2**

(Single wall penetration of curved objects)



X-ray equipment :

Eresco 42MF2 ☒ Focal spot size acc. **EN 12543** : 3,00 mm

Radiations : 140 kV / 6,4 mA

Film / type acc. EN 584-1 : AGFA D4 Pb Vacupac / C3 ☒

Screens : **0,027 mm front and back screens of lead**

Time of exposure : **35 sec.** Source-to-film distance : **700mm**

Processing technique : **Automatic / 8 mn cycle with development temperature of 28°C**

IQI acc. EN 462: 10 FE EN ☒
13 FE EN ☐

IQI Position : Source side ☒
Film side ☐

Film viewing conditions : **in accordance with EN 25580 (40 000 cd/m² maximum)**

RADIOGRAPHIC INSPECTION

RADIOGRAPHIC DATA

ORDER Nr **5688**

Data sheet Nr **5688D-02**

RADIOGRAPHIC STANDARD : EN ISO 17636-1:2013

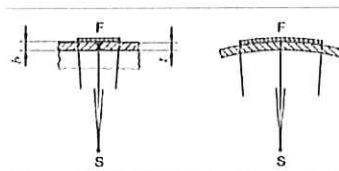
Radiographic technique :

X-rays ☒
Iridium 192 ☐

Minimum required density:

Class : A ☒ → 2,0 ☒
B ☐ → 2,3 ☐

Test arrangement : **Figure Nr 2**



(Single wall penetration of curved objects)

X-ray equipment :

Eresco 42MF2 ☒ Focal spot size acc. EN 12543 : 3,00 mm

Radiations : 145 kV / 6,2 mA

Film / type acc. EN 584-1 : AGFA D4 Pb Vacupac / C3 ☒

Screens : 0,027 mm front and back screens of lead

Time of exposure : 70 sec. Source-to-film distance : 1000mm

Processing technique : Automatic / 8 mn cycle with development temperature of 28°C

IQI acc. EN 462: 10 FE EN ☒ IQI Position : Source side ☒
13 FE EN ☐ Film side ☐

Film viewing conditions : in accordance with EN 25580 (40 000 cd/m² maximum)

VACUUM BOX TEST CERTIFICATE

Report N°	5688B VB-01	Client	BIODIESEL ARGENT II BV
Order N°	5688B	Drawing N°	:A0051-5688B-0821
Tank n°	B120300		
Part to be tested	: FLAT BOTTOM		
Dimensions	: Øins.6200*5 R=65 H=80mm		
Type of Material	: W.S.1.4307		
Scope of testing	WELDS ON FLAT BOTTOM		
Procedure according to	: EN1593		
Equipment used	Vacuum box & soapy water		
Pressure	- 300 mbar		
Metal surface Temp.	15 °C		
Light intensity	1000 Lux minimum		
Conclusion	: No leak found		
Remarks	: None		

Evaluated by :

Signature + Date:

12/04/2022

*Ing. D. Andrich, BIODIESEL
ATC BV
10/22*

VACUUM BOX TEST CERTIFICATE

Report N°	5688B VB-01	Client	BIODIESEL ARGENT II BV
Order N°	5688B	Drawing N°	A0051-5688B-0821
Tank n°	B120300		
Part to be tested : ROOF			
Dimensions : Øins. 6200*6 H=1189 ∠=20°			
Type of Material : W.S.1.4307			
Scope of testing : WELDS ON ROOF			
Procedure according to : EN1593			
Equipment used : Vacuum box & soapy water			
Pressure : - 300 mbar			
Metal surface Temp. : 15 °C			
Light intensity : 1000 Lux minimum			
Conclusion : No leak found			
Remarks : None			

Evaluated by :

Signature + Date:

07/04/2022

Ing. D. Andries, IWE-BE 00130
ATL-BV
10/22

PENETRANT TEST CERTIFICATE

Report nr. : **5688B PT-01**

Client : **BIODIESEL ARGENT II BV**

Order nr. : **5688B-B120300**

Drawing nr. : **A0051-5688B-0821**

Part to be tested : **Nozzle implants**

Dimensions : **See drawing**

Heat nr.:

Material : **1.4301 - 1.4307**

See "material traceability records"

Surface condition: **As welded**

Heat treatment conditions : **none**

Scope of testing: **100% of welds**

Penetrant system: **Water washable - colour contrast penetrant - to be applied by spraying**

Manufacturer: **KARL DEUTSCH**

Products in accordance with EN 3452-2 :

- Precleaning	KD-CHECK PR-2	Batch nr.	5508
- Penetrant	KD-CHECK RDP-1	Batch nr.	5789
- Excess penetrant remover	KD-CHECK PR-2	Batch nr.	5508
- Drying			
- Developer	KD-CHECK SD-1	Batch nr.	5700
- Postcleaning	Water	Batch nr.	-

Design code : **EN14015**

Procedure according to : **EN ISO 3452-1**

Acceptance standard : **EN ISO 23277**

Test temperature : **15°C minimum**

Penetration time : **10 min.**

Development time : **10 min.**

Type of light : **Normal light (500 lx mini)**

Test results : **no unacceptable indications according specification were detected**

Evaluation : **ACCEPTABLE**

PENETRANT TEST CERTIFICATE

Report nr. : **5688B PT-01**

Client : **BIODIESEL ARGENT II BV**

Order nr. : **5688B-B120300**

Drawing nr. : **A0051-5688B-0821**

Part to be tested : **CW between bottom plate and 1st shell**

Dimensions : **See drawing**

Heat nr.:

Material : **1.4301 - 1.4307**

See "material traceability records"

Surface condition: **As welded**

Heat treatment conditions : **none**

Scope of testing: **100% of welds**

Penetrant system: **Water washable - colour contrast penetrant - to be applied by spraying**

Manufacturer: **KARL DEUTSCH**

Products in accordance with EN 3452-2 :

- Precleaning	KD-CHECK PR-2	Batch nr.	5508
- Penetrant	KD-CHECK RDP-1	Batch nr.	5789
- Excess penetrant remover	KD-CHECK PR-2	Batch nr.	5508
- Drying			
- Developer	KD-CHECK SD-1	Batch nr.	5700
- Postcleaning	Water	Batch nr.	-

Design code : **EN14015**

Procedure according to : **EN ISO 3452-1**

Acceptance standard : **EN ISO 23277**

Test temperature : **15°C minimum**

Penetration time : **10 min.**

Development time : **10 min.**

Type of light : **Normal light (500 lx mini)**

Test results : **no unacceptable indications according specification were detected**

Evaluation : **ACCEPTABLE**

PENETRANT TEST CERTIFICATE

Report nr. : **5688B PT-01**

Client : **BIODIESEL ARGENT II BV**

Order nr. : **5688B-B120300**

Drawing nr. : **A0051-5688B-0821**

Part to be tested : **10% CW and LW between shells**

Dimensions : **See drawing**

Material : **1.4301 - 1.4307**

Heat nr.:

See "material traceability records"

Surface condition: **As welded**

Heat treatment conditions : **none**

Scope of testing: **100% of welds**

Penetrant system: **Water washable - colour contrast penetrant - to be applied by spraying**

Manufacturer: **KARL DEUTSCH**

Products in accordance with EN 3452-2 :

- Precleaning	KD-CHECK PR-2	Batch nr.	5508
- Penetrant	KD-CHECK RDP-1	Batch nr.	5789
- Excess penetrant remover	KD-CHECK PR-2	Batch nr.	5508
- Drying			
- Developer	KD-CHECK SD-1	Batch nr.	5700
- Postcleaning	Water	Batch nr.	-

Design code : **EN14015**

Procedure according to : **EN ISO 3452-1**

Acceptance standard : **EN ISO 23277**

Test temperature : **15°C minimum**

Penetration time : **10 min.**

Development time : **10 min.**

Type of light : **Normal light (500 lx mini)**

Test results : **no unacceptable indications according specification were detected**

Evaluation : **ACCEPTABLE**

PENETRANT TEST CERTIFICATE

Report nr. : **5688B PT-01**

Client : **BIODIESEL ARGENT II BV**

Order nr. : **5688B-B120300**

Drawing nr. : **A0051-5688B-0821**

Part to be tested : **Anchor chairs**

Dimensions : **See drawing**

Material : **1.4301 - 1.4307**

Heat nr.:

See "material traceability records"

Surface condition: **As welded**

Heat treatment conditions : **none**

Scope of testing: **100% of welds**

Penetrant system: **Water washable - colour contrast penetrant - to be applied by spraying**

Manufacturer: **KARL DEUTSCH**

Products in accordance with EN 3452-2 :

- Precleaning	KD-CHECK PR-2	Batch nr.	5508
- Penetrant	KD-CHECK RDP-1	Batch nr.	5789
- Excess penetrant remover	KD-CHECK PR-2	Batch nr.	5508
- Drying			
- Developer	KD-CHECK SD-1	Batch nr.	5700
- Postcleaning	Water	Batch nr.	-

Design code : **EN14015**

Procedure according to : **EN ISO 3452-1**

Acceptance standard : **EN ISO 23277**

Test temperature : **15°C minimum**

Penetration time : **10 min.**

Development time : **10 min.**

Type of light : **Normal light (500 lx mini)**

Test results : **no unacceptable indications according specification were detected**

Evaluation : **ACCEPTABLE**

Qualitätsprüf-Zertifikat / Quality Test Certificate
Abnahmeprüfzeugnis / Inspection certificate acc. to
EN 10204-3.1

DIN EN ISO 9001
KARL DEUTSCH

Gz 14-Mai-2018

KD-Check PR-2; Art.Nr. 9907

Charge / Batch: 5508
Herstelldatum / DOM: 28.04.2021
Verwendbar bis / best use before: 28.04.2024

	Messwert / Measurement	Sollwert / Setpoint
Aussehen / Appearance	bestanden / passed	Identisch mit Mustermaterial / identical with reference sample
Empfindlichkeit / Sensitivity (DIN EN ISO 3452-2) ICa, IICe	Empfindlichkeit wie Referenzsystem / sensitivity conform to reference system	Empfindlichkeit wie Referenzsystem / sensitivity conform to reference system
Dichte / Density [g/cm ³]; 20 °C (DIN 51757)	0,750	0,785 ± 0,039
Verdampfungsrückstand / residue after evaporation [mg]; (DIN EN ISO 3452-2)	bestanden / passed	< 5
Korrosives Verhalten / Corrosive properties (DIN EN ISO 3452-2)	bestanden / passed	bestanden / passed
Schwefel-Gehalt / sulfur-content [ppm]; (DIN EN ISO 3452-2)	< 10	< 200
Halogen-Gehalt / halogen-content [ppm]; (DIN EN ISO 3452-2)	< 10	< 200
Schwefel-Gehalt / sulfur-content [%]; (ASME Code Sec. V, Art. VI, T641)	< 0,001	< 1
Halogen-Gehalt / halogen-content [%]; (ASME Code Sec. V, Art. VI, T641)	< 0,001	< 1

Hinsichtlich des Gehalts an korrosiven Bestandteilen (F, Cl, S) erfüllt das Prüfmittel KD-Check PR-2 die Anforderungen der DIN EN ISO 3452-2 und darf mit dem Prädikat "Niedriger Schwefel- und Halogengehalt" bezeichnet werden. Es werden ebenfalls die Anforderungen des ASME-Code, Section V, Artikel 6, T641 (unter Anwendung der dort genannten Untersuchungsmethoden) erfüllt.

Concerning the concentration of corrosive ingredients (F, Cl, S) the product KD-Check PR-2 meets the requirements of DIN EN ISO 3452-2 and is a product with "low sulfur and halogen-content". The product meets also the requirements of ASME-Code, Section V, article 6, T641, when analysed with the analytical methods prescribed there.

Alle Messwerte liegen innerhalb der zulässigen Toleranz. / All measurements are within the permissible tolerance.

Datum / date: 04.05.2021

Unterschrift / signature: i.A.

Dr. Oliver Görtz

Hinweis / Remark:

Dieses Abnahmeprotokoll dokumentiert die Ergebnisse unserer umfassenden Qualitätsprüfung. Vor und während des Gebrauchs von Penetriermitteln muss deren Anzeigefähigkeit dem Einsatzzweck entsprechend und in angemessenen Intervallen vom Anwender überprüft werden. Die Angaben im Sicherheitsdatenblatt und im Technischen Merkblatt sind zu beachten.
 This acceptance report shows the results of our comprehensive quality control. Prior to and during the use of penetrants their indication-ability must be verified by the user corresponding to the application and within reasonable intervals. Please consider the information given in the Material Safety Data Sheet (MSDS) and in our technical information sheet.

DO-9.1-085-05_9902_Abnahmeprotokoll_EN 10204-3.1

Seite / page 1 von / of 1

KARL DEUTSCH Prüf- und Messgerätebau GmbH + Co KG · Otto-Hausmann-Ring 101 · D-42115 Wuppertal · Tel. (+49 -202) 71 92 - 0 · Fax (+49 -202) 71 49 32 · e-mail: info@karldeutsch.de

KD-Check SD-1; Art.Nr. 9903

Charge / Batch: 5700
Herstelldatum / DOM: 15.07.2021
Verwendbar bis / best use before: 15.07.2024

	Messwert / Measurement	Sollwert / Setpoint
Aussehen / Appearance	bestanden / passed	Identisch mit Mustermaterial / identical with reference sample
Empfindlichkeit / Sensitivity (DIN EN ISO 3452-2) IAd, IBd, IIAe, IIBe	Empfindlichkeit wie Referenzsystem / sensitivity conform to reference system	Empfindlichkeit wie Referenzsystem / sensitivity conform to reference system
Dichte / Density [g/cm ³]; 20 °C (DIN 51757)	0,783	0,785 ± 0,039
Feststoffgehalt / Solid content [%]; (DIN EN ISO 3452-2)	12,8	13,8 ± 1,4
Leistung des Entwicklers / Developer Performance (DIN EN ISO 3452-2)	bestanden / passed	Feine, ebene, nicht reflektierende bzw. nicht fluoreszierende Deckschicht; Vergrößerung der Anzeigen / fine, even, not-reflective and not-fluorescent coating; increase of indications
Abwaschbarkeit / Removability (AMS 2644)	bestanden / passed	Abwaschbarkeit wie Referenzsystem / removability conforms to reference system
Dispersionsfähigkeit / Redispersibility (AMS 2644; DIN EN ISO 3452-2)	bestanden / passed	bestanden / passed
Korrosives Verhalten / Corrosive properties (DIN EN ISO 3452-2)	bestanden / passed	bestanden / passed
Schwefel-Gehalt / sulfur-content [ppm]; (DIN EN ISO 3452-2)	< 10	< 200
Halogen-Gehalt / halogen-content [ppm]; (DIN EN ISO 3452-2)	10	< 200
Schwefel-Gehalt / sulfur-content [%]; (ASME Code Sec. V, Art. VI, T641)	< 0,001	< 1
Halogen-Gehalt / halogen-content [%]; (ASME Code Sec. V, Art. VI, T641)	0,001	< 1

Hinsichtlich des Gehalts an korrosiven Bestandteilen (F, Cl, S) erfüllt das Prüfmittel KD-Check SD-1 die Anforderungen der DIN EN ISO 3452-2 und darf mit dem Prädikat "Niedriger Schwefel- und Halogengehalt" bezeichnet werden. Es werden ebenfalls die Anforderungen des ASME-Code, Section V, Artikel 6, T641 (unter Anwendung der dort genannten Untersuchungsmethoden) erfüllt.

Concerning the concentration of corrosive ingredients (F, Cl, S) the product KD-Check SD-1 meets the requirements of DIN EN ISO 3452-2 and is a product with "low sulfur and halogen-content". The product meets also the requirements of ASME-Code, Section V, article 6, T641, when analysed with the analytical methods prescribed there.

Alle Messwerte liegen innerhalb der zulässigen Toleranz. / All measurements are within the permissible tolerance.

Datum / date: 10.09.2021

Unterschrift / signature: i.A.

Dr. Oliver Gortz

Hinweis / Remark:

Dieses Abnahmeprotokoll dokumentiert die Ergebnisse unserer umfassenden Qualitätsprüfung. Vor und während des Gebrauchs von Penetriermitteln muss deren Anzeigefähigkeit dem Einsatzzweck entsprechend und in angemessenen Intervallen vom Anwender überprüft werden. Die Angaben im Sicherheitsdatenblatt und im Technischen Merkblatt sind zu beachten.
 This acceptance report shows the results of our comprehensive quality control. Prior to and during the use of penetrants their indication-ability must be verified by the user corresponding to the application and within reasonable intervals. Please consider the information given in the Material Safety Data Sheet (MSDS) and in our technical information sheet.

DO-9.1-086-07_9903_Abnahmeprotokoll_EN 10204-3.1

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KD-Check RDP-1; Art.Nr. 9901

Charge / Batch: 5789
Herstelldatum / DOM: 27.08.2021
Verwendbar bis / best use before: 27.08.2024

	Messwert / Measurement	Sollwert / Setpoint
Aussehen / Appearance	bestanden / passed	Identisch mit Mustermaterial / identical with reference sample
Empfindlichkeitsklasse / Sensitivity level (DIN EN ISO 3452-2) IIAe, IICe, II Ee	2 // Empfindlichkeit wie Referenzsystem / sensitivity conform to reference system	2 // Empfindlichkeit wie Referenzsystem / sensitivity conform to reference system
Abwaschbarkeit / Removability	bestanden / passed	Identisch mit Mustermaterial / identical with reference sample
Dichte / Density [g/cm ³]; 20 °C (DIN 51757)	0,904	0,893 ± 0,045
Viskosität / Viscosity [mm ² /s]; 20 °C (EN ISO 3104)	6,1	6,6 ± 0,7
Flammpunkt / Flash point [°C]; (EN 2719)	89	> 81
Korrosives Verhalten / Corrosive properties (DIN EN ISO 3452-2)	bestanden / passed	bestanden / passed
Schwefel-Gehalt / sulfur-content [ppm]; (DIN EN ISO 3452-2)	< 10	< 200
Halogen-Gehalt / halogen-content [ppm]; (DIN EN ISO 3452-2)	< 10	< 200
Schwefel-Gehalt / sulfur-content [%]; (ASME Code Sec. V, Art. VI, T641)	< 0,001	< 1
Halogen-Gehalt / halogen-content [%]; (ASME Code Sec. V, Art. VI, T641)	< 0,001	< 1
Wassergehalt / Water content [%]; (DIN EN ISO 3452-2)	0,1	< 5

Hinsichtlich des Gehalts an korrosiven Bestandteilen (F, Cl, S) erfüllt das Prüfmittel KD-Check RDP-1 die Anforderungen der DIN EN ISO 3452-2 und darf mit dem Prädikat "Niedriger Schwefel- und Halogengehalt" bezeichnet werden. Es werden ebenfalls die Anforderungen des ASME-Code, Section V, Artikel 6, T641 (unter Anwendung der dort genannten Untersuchungsmethoden) erfüllt.
 Concerning the concentration of corrosive ingredients (F, Cl, S) the product KD-Check RDP-1 meets the requirements of DIN EN ISO 3452-2 and is a product with "low sulfur and halogen-content". The product meets also the requirements of ASME-Code, Section V, article 6, T641, when analysed with the analytical methods prescribed there.

Alle Messwerte liegen innerhalb der zulässigen Toleranz. / All measurements are within the permissible tolerance.

Datum / date: 01.09.2021

Unterschrift / signature: i.A.

Dr. Oliver Götz

Hinweis / Remark:

Dieses Abnahmeprotokoll dokumentiert die Ergebnisse unserer umfassenden Qualitätsprüfung. Vor und während des Gebrauchs von Penetrimitteln muss deren Anzeigefähigkeit dem Einsatzzweck entsprechend und in angemessenen Intervallen vom Anwender überprüft werden. Die Angaben im Sicherheitsdatenblatt und im Technischen Merkblatt sind zu beachten.
 This acceptance report shows the results of our comprehensive quality control. Prior to and during the use of penetrants their indication-ability must be verified by the user corresponding to the application and within reasonable intervals. Please consider the information given in the Material Safety Data Sheet (MSDS) and in our technical information sheet.

DO-9.1-084-06_9901_Abnahmeprotokoll_EN 10204-3.1

Seite / page 1 von / of 1



Siège Social - Sociale Zetel
Rue Bruynstraat 51 - B-1120 Brussels

National organisation in compliance with EN ISO/IEC 17024

**BELGIAN
ASSOCIATION FOR
NONDESTRUCTIVE
TESTING** A.S.B.L.-V.Z.W.

Recognized Third Party Organisation
(PED 2014/68/EU, Art. 20)

CERTIFICATE Nr 21/025

Metallic Sector

We hereby state that, on basis of the qualification documents and having passed successfully the examinations

VERHEGGE Harald

Date of birth : 25-03-71 on Likasi

is certified from 23-02-21 onwards, for the NDT method

PT level II until 22-02-26

in conformity with the BANT Procedure for the Certification of NDT personnel.

This Certification Procedure is in compliance with *EN ISO9712:2012*

Signature of the holder



Seal of
BANT

Brussels, 23-02-21

A. IEZZI
President of the
Certification Bureau



Accreditation
Nr 518-PERS
Portée disponible
sur www.belac.be

CERTIFICATIE
VAN PERSONEN
Scoop op aanvraag

CERTIFICATION
OF PERSONNEL
Scope on request



This certificate is not official without
BANT's 3D authentication hologram.

Visa by employer



Siège Social - Sociale Zetel
Rue Bruynstraat 51 - B-1120 Brussels

National organisation in compliance with EN ISO/IEC 17024

**BELGIAN
ASSOCIATION FOR
NONDESTRUCTIVE
TESTING** A.S.B.L.-V.Z.W.

Recognized Third Party Organisation
(PED 2014/68/EU, Art. 20)

CERTIFICATE Nr 14/175

Metallic Sector

We hereby state that, on basis of the qualification documents and having passed successfully the examinations

HOLVOET Stefaan

Date of birth : **02-12-57** on **Wevelgem**

is certified from **18-12-14** onwards, for the NDT method

PT level **II** until **17-12-24**

Renewal without examination

in conformity with the BANT Procedure for the Certification of NDT personnel.

This Certification Procedure is in compliance with **EN ISO9712:2012**

Brussels, **07-11-19**

Signature of the holder



Seal of
BANT

A. IEZZI
President of the
Certification Bureau



Accreditation
Nr 518-PERS
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sur www.belac.be

CERTIFICATIE
VAN PERSONEN
Scoop op aanvraag

CERTIFICATION
OF PERSONNEL
Scope on request



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Visa by employer



Siège Social - Sociale Zetel
Rue Bruynstraat 51 - B-1120 Brussels

National organisation in compliance with EN ISO/IEC 17024

**BELGIAN
ASSOCIATION FOR
NONDESTRUCTIVE
TESTING** A.S.B.L.-V.Z.W.

Recognized Third Party Organisation
(PED 2014/68/EU, Art. 20)

CERTIFICATE Nr 15/066

Metallic Sector

We hereby state that, on basis of the qualification documents and having passed successfully the examinations

HOLVOET Stefaan

Date of birth : **02-12-57** on **Wevelgem**

is certified from **30-04-15** onwards, for the NDT method

RT level II until **29-04-25**

Renewal without examination

in conformity with the BANT Procedure for the Certification of NDT personnel.

This Certification Procedure is in compliance with **EN ISO9712:2012**

Brussels, **07-11-19**

Signature of the holder



Seal of
BANT

A. IEZZI
President of the
Certification Bureau



Accreditation
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CERTIFICATIE
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CERTIFICATION
OF PERSONNEL
Scope on request



This certificate is not official without
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Visa by employer



PRESSURE TEST ON VESSEL

5688B - BIODIESEL ARGENT II BV
1 x Vert. St. Steel Tanks B120300
Cap. ca 198m³ /242m³

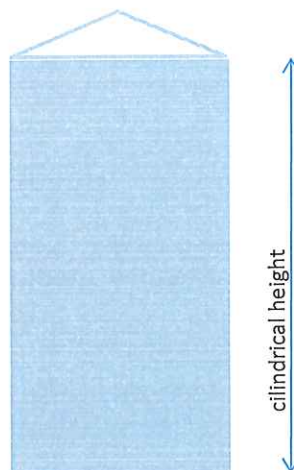
GAUGE TABLE

5688B - BIODIESEL ARGENT II BV
1 x Vert. St. Steel Tanks B120300
Cap. ca 198m³ /242m³

Order 5688B TANK B120300

diameter: 6200 mm
cylindrical height: 7580 mm

height:		Content
80 mm		2415 liter
1000 mm		30191 liter
2000 mm		60381 liter
3000 mm		90572 liter
4000 mm		120763 liter
5000 mm		150954 liter
6000 mm		181144 liter
6270 mm		189296 liter
7000 mm		211335 liter
7580 mm		228846 liter



VERIFICATON NAMEPLATE

5688B - BIODIESEL ARGENT II BV
1 x Vert. St. Steel Tanks B120300
Cap. ca 198m³ /242m³

VERIFICATION NAMEPLATE

Order Nr. **5688B B120300**

  HOLVRIEKA CIMC ENRIC CIMC ENRIC			
WERVIKSTRAAT 350 B-8930 MENEN			
Order Nr.	5688B / B120300	Constr.Year	2022
Acc. Norm	EN14015	Weight	10500 kg
TANK			
Main Dimensions	Ø6200 x 9297 mm		
Density for design	0,875	kg/l	
Min. / Max. Pressure	+0,20 / ATM	bar	
Operating Temp.	+40	°C	
Test pressure	FoW	bar	
Max. cyl. volume	198000	L	
Report Nr	ATLC 19 / 220627 / 04		Year : '22
Controle Inst.			



DRAWINGS

5688B - BIODIESEL ARGENT II BV
1 x Vert. St. Steel Tanks B120300
Cap. ca 198m³ /242m³

DATA SHEET

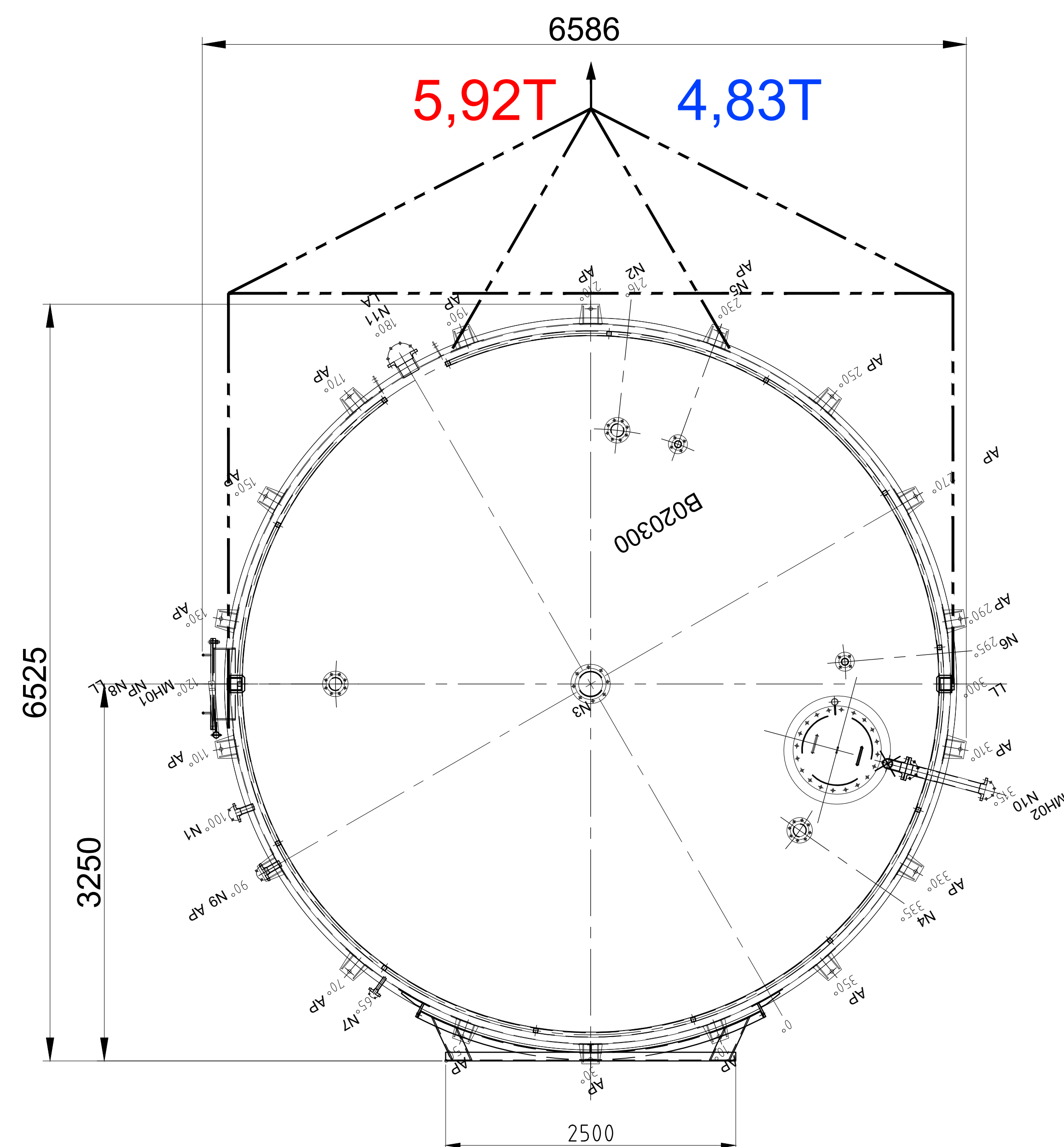
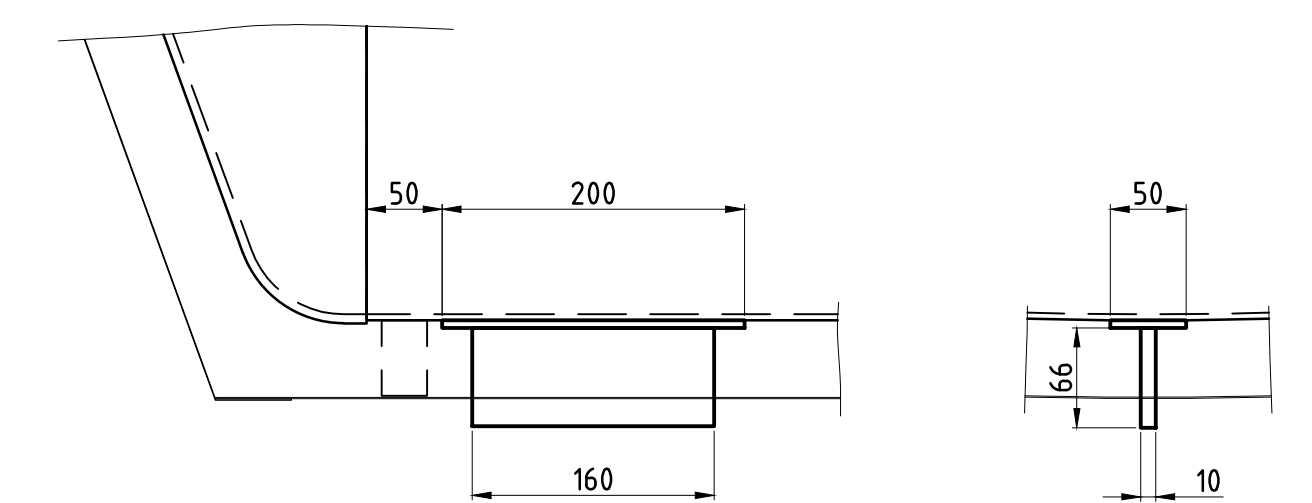
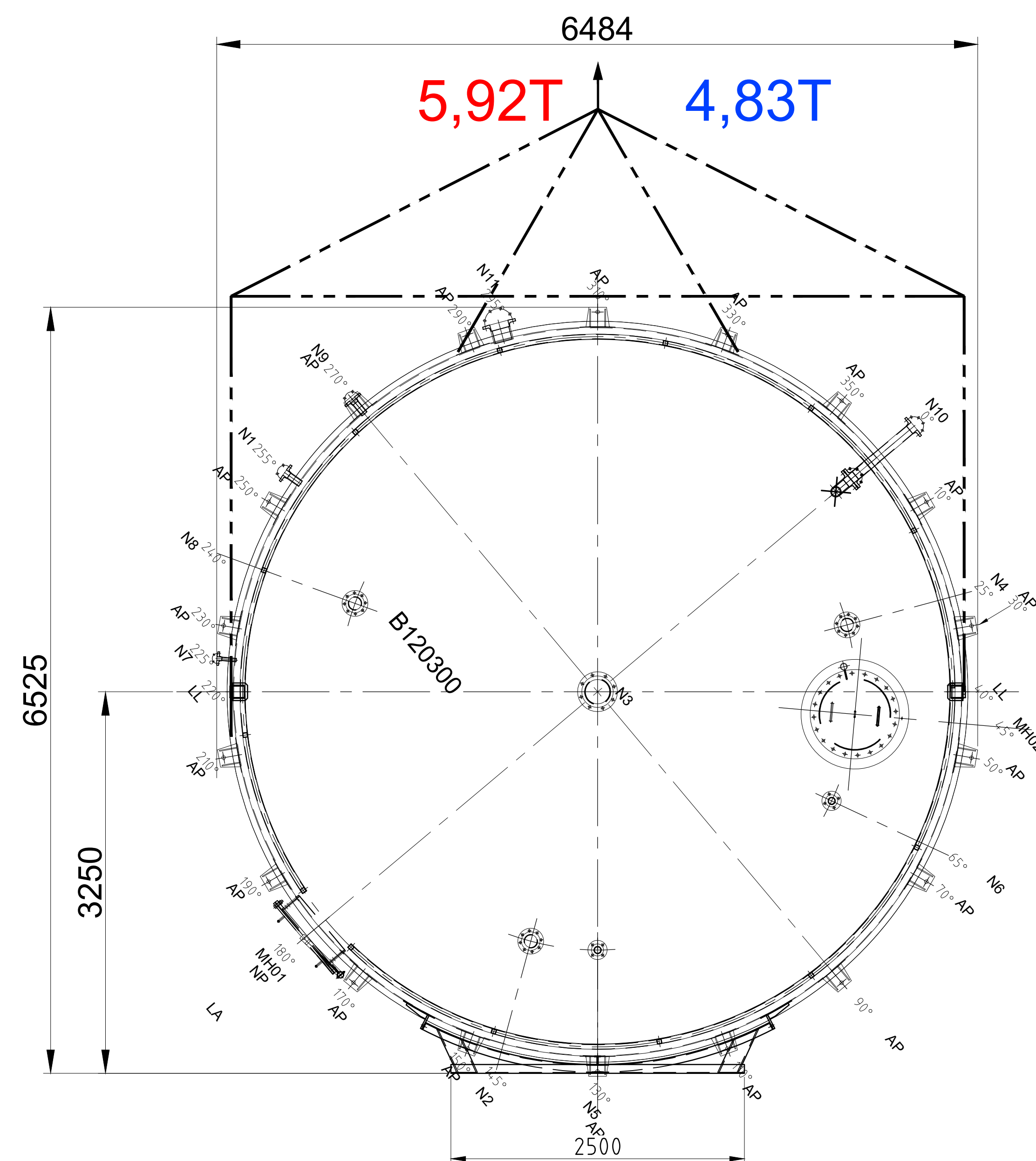
TANK									
CAPACITY	19800	l							
CONTENTS	Biodiesel								
DENSITY	0,875	Kg/l							
CODE	Good Practice								
	according EN15455								
OPERATING PRESS.	ATM	bar							
VACUUM	-4,018	bar							
DESIGN PRESSURE	9,2	bar							
TEST PRESSURE	Full of water	bar							
DESIGN TEMP.	40	°C							
DESIGN TEMP.	80	°C							
CORROSION ALLOW.	0	mm							
JOINT EFFICIENCY	0,85%								
WEIGHT	10500	Kg							
MATERIAL	Top	WS-Nr.14301 - X 5 CrNiMo 10/14301 - X 2 CrNiMo 9-9 acc. EN10028-7 AD W2 - A1w 28 (cold rolled)							
	Shell	WS-Nr.14301 - X 5 CrNiMo 10/14301 - X 2 CrNiMo 9-9 acc. EN10028-7 AD W2 - A1w 28 (cold rolled)							
	Bottom	WS-Nr.14301 - X 5 CrNiMo 10/14301 - X 2 CrNiMo 9-9 acc. EN10028-7 AD W2 - A1w 28 (cold rolled)							
	Connections	See parts list							
FILLER MAT.	N1, TiG	W 91,9 L acc. EN 14363 (WS-Nr.14370)							
	S15, MAG	G 19,9 L acc. EN 14363 (WS-Nr.14370)							
	S16, Plasma	G 19,9 L acc. EN 14363 (WS-Nr.14370)							
	T1, Beil. Electr.	E 19,9 L R 12 acc. EN 1600 (WS-Nr.14370)							
WELDING									
		Welding Procedures Approval (WPAAR) acc. ISO 5845-1							
		Welders qualification certificates acc. EN ISO 9606-1:EN 287-1							
		Symbolic representation of welding joints on drawing acc. EN ISO 2553							
		Minimum = value for filler metal = 0,5 x calculated welded wall thickness (except where stated otherwise)							
		$\delta_{\text{min}} \geq 122 = \text{Filler metal, outside, all around, with thickness } \delta \geq 15 \text{ mm, acc. Ziemann-Holvrieka WPS Nr. 172}$							
CERTIFICATES									
		Material certificates: Minimum EN10204, 3.1 - Usable acc. PED 2014/68/EU							
		Welding EN ISO 9606-1:EN 287-1 acc. ISO 5845-1							
		Pressure TUV certificate according PED 2014/68/EU							

Welding Details

Tank Construction	Plate - Tank	Pipe - Tank/Flange	Pipe - Pipe
TiG - Simultaneous 			
Horizontal 			
Vertical 			
Plasma 			
Carroussel 			
Weld Rip 			

75									
74									
73									
72	MH02	1	Double plate	WS.14301				8mm	
71	MH02	1	Davil for roof manhole	WS.14301					
70	MH02	1	Plate	WS.14301				80x10	
69	MH02	2	Handle	WS.14301				ø16	
68	MH02	20	Boilts M5x70	A2				M20x70	
67	MH02	1	Blind Flange DN600	WS.14306				ø760x16	
66	MH02	1	Gasket	P.TFE				3mm	
65	MH02	1	Flange DN600	WS.14306				ø760/612x22	
64	MH02	1	Pipe DN600	WS.14306				ø612x6	
63	LA	1	Ladder	GALVA					
62	RA	1	Support railing	WS.14301				30x2x2	
61	RA	1	Railing ø6050x1220	GALVA					
60									
59									
58	EL	1	Earthing lug	WS.14301				ø40/M12 L=30	
57	AP	8	Rond	WS.14301				20mm	
56	AP	16	Gusset	WS.14301				8mm	
55	AP	8	Plate	WS.14301				20mm	
54	AP	8	Double plate	WS.14301				250x5 L=300	
53	NP	1	Support for nameplate	WS.14301				4mm	
52	NP	1	Nameplate	WS.14301				standard ZIEMANN-HOLVRIEKA	
51	LL	2	Gusset	WS.14301				6mm	
50	LL	2	Plate lifting lug	WS.14301				100x20 L=30	
49	LL	2	Double plate	WS.14301				A0056 L=325	
48	N10	2x8	Boilts M16x5	A2				M16x5	
47	N10	2	Gasket	P.TFE				3mm	
46	N10	1	Blindflange DN80 PN16 EN1992-1 Type 05	WS.14306				DN80 PN16 Type 05	
45	N10	1	Pipe DN80 (Drainage)	WS.14306				ø88x9,65	
44	N10	1	Pipe - Bend DN80 805ch (Drainage)	WS.14306				ø88,9x7,62 R=114,3	
43	N10	3	Flange DN80 PN16 EN1992-1 Type 11	WS.14306				DN80 PN16 Type 11	
42	N11	1	Pipe DN50 805ch (Outlet product)	WS.14306				ø168,28x10,97	
41	N11	1	Flange DN50 PN16 EN1992-1 Type 11	WS.14306				DN50 PN16 Type 11	
40	N9	1	Flange DN80 805ch (Low level)	WS.14306				ø63,3x5,54	
39	N9	1	Flange DN50 PN16 EN1992-1 Type 11	WS.14306				DN50 PN16 Type 11	
38	N7	1	Pipe DN50 805ch (Sampling)	WS.14306				ø33,4x5,55	
37	N7	1	Flange DN25 PN40 EN1992-1 Type 11	WS.14306				DN25 PN40 Type 11	
36	N1	1	Pipe DN25 805ch (Spare)	WS.14306				ø63,3x5,54	
35	N1	1	Flange DN50 PN16 EN1992-1 Type 11	WS.14306				DN50 PN16 Type 11	
34	MH01	1	Davil	WS.14301					
33	MH01	1	Plate	WS.14301				80x10	
32	MH01	1	Double plate	WS.14301				ø757/620x5	
31	MH01	2	Handle	WS.14301				ø16	
30	MH01	36	Boilts M20	A2				M20x70	
29	MH01	1	Blindflange DN600	WS.14306				ø785x16	
28	MH01	1	Gasket	P.TFE				ø785/620x4	
27	MH01	1	Pipe DN600	WS.14306				ø620x10	
26	MH01	1	Flange DN600	WS.14306				ø785/620x22	
25									
24	N6	1	Washer	WS.14301				75x6	
23	N6	1	Pipe DN50 (High level)	WS.14404				ø60,33x7,7	
21	N6	1	Flange DN50 PN16 EN1992-1 Type 11	WS.14404				DN50 PN16 Type 11	
20	N5	1	Washer	WS.14301				75x6	
19	N5	1	Pipe DN50 (Catalyst connection)	WS.14306				ø60,33x7,7	
18	N5	1	Flange DN50 PN16 EN1992-1 Type 11	WS.14306				DN50 PN16 Type 11	
17	N8	1	Washer	WS.14301				160x6	
16	N8	1	Pipe DN100 (Crude biodiesel)	WS.14306				ø114,3x3,05	
15	N8	1	Flange DN100 PN16 EN1992-1 Type 11	WS.14306				DN100 PN16 Type 11	
14	N3	1	Insulation ring	WS.14301				50x3	
13	N3	1	Washer	WS.14301				75x6	
12	N3	1	Pipe DN50 (Vent)	WS.14404				ø60,33x7,7	
11	N3	1	Flange DN200 PN16 EN1992-1 Type 11	WS.14404				DN200 PN16 Type 11	
10	N4	1	Washer	WS.14301				75x6	
9	N4	1	Pipe DN100 (Radar)	WS.14306				ø114,3x3,05	
8	N4	1	Flange DN100 PN16 EN1992-1 Type 11	WS.14306				DN100 PN16 Type 11	
7	N2	1	Washer	WS.14301				75x6	
6	N2	1	Pipe DN100 (Connection to 22000mm)	WS.14306				ø114,3x3,05	
5	N2	1	Flange DN100 PN16 EN1992-1 Type 11	WS.14306				DN100 PN16 Type 11	
4	N3	1	Shell øm6200x4 L=20" R=50mm	WS.14307				øm6200x4 L=1189 L=20"	
3	N4	1	Shell øm6200x4 L=1500mm	WS.14306				194,9x1500x5	
2	N4	1	Shell øm6200x5 L=1500mm	WS.14307				194,9x1500x5	
1	----	1	Flat bottom øm6200x5 R=65 H=80mm	WS.14307				øm6200x5 R=65mm H=80mm	

POS	DWG.NR.	NUMBER	DESCRIPTION	MAT.	DIMENSIONS
1 x Vert. St. Steel Tanks B120300 Cap. ca 198m³ / 242m³					
BIODIESEL ARGENT II BV ZIEMANN HOLVRIEKA					
DRW. : N/R DATE : 24/08/21 SCALE : 1/30					
ORDERNR. : 5688 REF. NR. : B120300					
DRAWING NR. : MOD. :					



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