Norwegian Piping AS Idrettsvegen 144 NO-5353 STRAUME

Reinertsen AS KI001 Riser Bytte Snorre

2017-05-29

Norway

Tel +47 5631 2300 Fax +47 5631 2301

100018 Reinertsen AS

KI001 Riser Bytte Snorre Your order: Kristin Lithun

Contact person: Customer's ref:

NP160929 Project: 59924 Sales order: 2017-05-29 Print date:

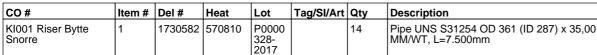
### **Certificate List**

Customer Order #	Item #	Del. #	Article #	Tag/SI/Art	Description	Qty	Unit	Heat #	Lot #	Manufacturer	Manuf. Cert. #
KI001 Riser Bytte Snorre	1	1730582	Z0000000007696		Pipe UNS S31254 OD 361 (ID 287) x 35,00 MM/WT, L=7.500mm	14	mtr	570810	P000032 8-2017	Rivit S.p.A	Z0001790-2017



\*HADocs







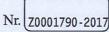
Norwegian Piping CERTIFY that the document hereunto annexed is a TRUE [electronically] COPY of the original document of which it purports to be a copy, having carefully collated and compared the said copy with the said original and found the same to agree therewith. The original documents is in our possession and can be viewed at our premises. Norwegian Piping has performed 100% document control of this certificates including all reports and annexes.



Http://www.rivit.com - e-mail: info@rivit.com tta a direzione e controllo da parte di Holding Bull sr.

### CERTIFICATO DI COLLAUDO INSPECTION CERTIFICATE

(EN 10204-2004 Type 3.1)



REV. 1 Pag 1 DEL26/05/2017





Chenie/Cu	Stomer.	NORWEGIAN	PIPING A	AS N-5353 STRAU	ME			Pata: 26/05/2017
Ordine Cliente/Or	der N°:	70488 160	929 .DATI	ED 22.12.2016				
Comm. Rivit/Our Order N°:	C0000	0498-2016	DDT N°	///////////////////////////////////////	Controllo visiv	o e dimensi	onale/Visual and dime	ensional check: OK!
Descrizione del ma	ateriale/D	escription of mate	erial – Dimen	sioni/Dimensions (mm)	Q.tà/Q.ty (m)	Pz/Pc (Nr)	Materiale/Material	RT – (X-ray) Nr.
WELDED PIPES	UNS S3	31254 De 36	1 Th 35 I	_=7000 mm	14.00	2	UNS S31254	P0000328-2017

ITEM 1 - NP STOCK N. Z000000007696 - ID 287 MM

Construction specification: ASTM A358/A358M-15 cl.1

Dimensional tolerances: ASTM A358/A358M-15 - modified (\*)

Heat treated at 1170 C /70 min/ Water quenched within 60 s. - 100% X-RAYS (PRIOR Heat Treatment)

Flamento/Flament		Valor		o Min	May	
CARATTERISTICHE LO	OTTO /	PRODUCTION	LOT	CHARACTERISTICS:	P0000328	-2017

Elemento/Element	Valore/Value	Min.	Max
0			
— Chemical Composition - Weld			
%C - Carbon	0.007		
%S - Sulfur	0.001		
%P - Phosphorus	0.004		
%Mn - Manganese	0.25		
%Si - Silicon	0.00		
%Ni - Nickel	51.34		
%Cr - Chromium	24.44		
%Mo - Molybdenum	12.59		
%Nb - Niobium	0.02		
%Cu - Copper	0.04		
— Chemical Comp. Base Metal 1			
%C - Carbon	0.013		0.020
%S - Sulfur	0.001		0.010
%P - Phosphorus	0.018		0.030
%Mn - Manganese	0.40		1.00
%Si - Silicon	0.43		0.80
%Ni - Nickel	17.82	17.50	18.50
%Cr - Chromium	19.93	19.50	20.50
%Mo - Molybdenum	6.15	6.00	6.50
%Cu - Copper	0.63	0.50	1.00
%N - Nitrogen	0.196	0.180	0.220
= Mechanical Prop. Joint Weld	1.00	0.100	1.00
Rm - N/mm2	707.00	655.00	1.00
Pieghe Laterali/Side Bends-WLD	5857 TeVOD 100 100	e/SATISFACTORY]	
Corrosion Test ASTM G48 Meth.A		e/SATISFACTORY]	
HT (Hydrostatic Test)		e/SATISFACTORY]	
PT 10% (Dye Penetrant Test)		e/SATISFACTORY]	

### CARATTERISTICHE COLATA / HEAT CHARACTERISTICS: 570810

alore/Value
0.011
0.001
0.022
0.40
0.40
17.80
19.90
6.10
0.62
0.190
673.00
322.00
350.00
59.00
57.00
82.00

Tests and supplementary test acc. to ASTM A358/A358M and Norsok M-630 Ed. 6, MDS R12 Rev. 5: Corrosion test acc. to ASTM G48 Meth. A: See report Rivit No. L0755/17.

LEGENDA/Note

RT: Radiografie/Radiographic Test (%) Lungh. Saldatura/lenght wld

ET: Correnti Indotte/Eddy Current

IIT: Ultrasuoni/Ultrasonic

PT: Liquidi Penetranti/Dye penetrant

HT: Prova idraulica/Hydraulic Test

PMI: Positive Material Identification HB: Durezza/Hardness Brinell

HRC: Durezza/Hardness Rockwell C

HRB: Durezza/Hardness Rockwell B

HV: Durezza/Hardness Vichers

Rm: Carico unitario rottura

Tensile Strength

Rp0,2% Carico unitario scost. proporz.

Yield strength

Rp1% Carico unitario scost. proporz

Yield strength

A: Allungamento % dopo rottura

Elongation % after break

NO HT: Non Trattati/ No Heat Treatm. WLD: Saldatura/Welded

Analisi chimica/Chemical Composition

Proprietà Meccaniche/Mechanical Proprieties

Controlli Non Distruttivi - NDE

Condizione superficie: Decapata e passivata Surface Condition: Pickled and passivated

The material supplied has been found complying with the order requirements

> RIVIT S.p.A. Quality Control System Department

ISPETTORE - Inspector



VIA PALLADIO, 129 – 36030 CALTRANO (VI) ITALY TEL. 0039 0445 359311 – FAX 0039 0445 359329 <u>Http://www.nivit.com</u> – e-mail: <u>info@nivit.com</u> oggotta a direzione e controllo da parte di Holding Bull srl.

## CERTIFICATO DI COLLAUDO INSPECTION CERTIFICATE

(EN 10204-2004 Type 3.1)

Nr. Z0001790-2017

REV. 1
DEL26/05/2017

Pag 2



Cliente/Cu	stomer:	NORWEGIAN	PIPING	AS N-5353 STI	RAUME				Data: 26/05/2017
Ordine Cliente/Or	der N°:	70488 160	929 .DAT	ED 22.12.2016					
Comm. Rivit/Our Order N°:	C000	0498-2016	DDT N°	111111111111111111111111111111111111111	1	Controllo visiv	o e dimensi	onale/Visual and dime	ensional check: OK!
Descrizione del m	ateriale/D	escription of mat	erial – Dimen	sioni/Dimensions (mm)	)	Q.tà/Q.ty (m)	Pz/Pc (Nr)	Materiale/Material	RT – (X-ray) Nr.
WELDED PIPES	UNS S	31254 De 36	1 Th 35	L=7000 mm		14.00	2	UNS S31254	P0000328-2017
ITEM 1 - NP S	STOCK I	N. Z0000000	007696 -	ID 287 MM					

Construction specification: ASTM A358/A358M-15 cl.1

Dimensional tolerances: ASTM A358/A358M-15 - modified (\*)

Heat treated at 1170 C /70 min/ Water quenched within 60 s.

- 100% X-RAYS (PRIOR Heat Treatment)
\*\*\* SEGUE DA PAGINA PRECEDENTE/ FOLLOW FROM PREVIOUS PAGE \*\*\*

#### NDE Examination:

- Hydrostatic test at 190 Bar for 15 s. or a time sufficient to permit inspection of the entire length of the welded seam: Satisfactory.
- Dye penetrant test: See report Rivit No. 0262/17.
- Ultrasonic test: See report Delta No. 86/17.
- (\*) Wall thickness tolerance: 0/+10%. Internal diameter tolerance: 0/+5 mm.
- Bevelled ends acc. to ASME B 16.25 Ed. 2012.
- QTR No.: QTR-009.
- Plate Manufacturer: Outokumpu.
- Melting Process: Electric Arc Furnace + AOD.

SNORRE A - RISER PIPES PROJECT.

#### LEGENDA/Note

RT: Radiografie/Radiographic Test
(%) Lungh. Saldatura/lenght wld

ET: Correnti Indotte/Eddy Current

UT: Ultrasuoni/Ultrasonic

PT: Liquidi Penetranti/Dye penetrant

HT: Prova idraulica/Hydraulic Test

PMI: Positive Material Identification

HB: Durezza/Hardness Brinell

HRC: Durezza/Hardness Rockwell C

HRB: Durezza/Hardness Rockwell B

HV: Durezza/Hardness Vichers

Rm: Carico unitario rottura

Tensile Strength

Rp0,2% Carico unitario scost. proporz.

Yield strength

Rp1% Carico unitario scost. proporz

Yield strength

A: Allungamento % dopo rottura

Elongation % after break

NO HT: Non Trattati/ No Heat Treatm.

WLD: Saldatura/Welded

Analisi chimica/Chemical Composition

Proprietà Meccaniche/Mechanical Proprieties

Controlli Non Distruttivi - NDE

Condizione superficie: Decapata e passivata

Surface Condition: Pickled and passivated

The material supplied has been found complying with the order requirements

RIVIT S.p.A. Quality Control System Department

ISPETTORE - Inspector



VIA PALLADIO, 129 – 36030 CALTRANO (VI) ITALY TEL. 0039 0445 359311 – FAX 0039 0445 359329 Http://www.fvii.com – e-mail: info@rivit.com Soggetta a direzione e controllo da parte di Holding Bull sri.

### BOLLETTINO RADIOGRAFICO RADIOGRAPHIC REPORT

Nr X0001424-2017

REV.0001 DEL 22/05/2017





Pag. 1
Documento: DR047 Rev. 04 del/dated 04/04/2012

Cliente/Customer:	NORWEGIAN	PIPING AS	N-53	53 5	STRAUME				
Ordine/Your Order N°:	70488_1609	929 .DATED	22.12.	2016	Comm. Rivi	t Nr.: C000	0498-201	Data/Date:	12/05/2017
	Descriz	ione del materi	ale – Des	scriptio	on of material			Lotto Prod/Pro	od.Lot - Colata/Heat N
Dim	ensioni/Dimens	sions (mm)				Pz/Pc (Nr)	Q.tà/Q.ty (m)	P000	00328-2017
WELDED PIPES UNS	and the second	2000 N. W. W. C. C.	With MANAGERS TO	Astrony		2	14,00	570810	
ITEM 1 - NP STOC			ID 28	7 MM			ale/Mat.	UNS \$3125	54
Specifica di controllo Testing Procedure	ASME V-RP	/023			Estensione RT RT Extension	100% PRI	OR HEAT	TR.	
Accettabilità Acceptance Standard		DIV.1 UW51	T 40	10	Sensibilità Rad. Image Quality	2/2T-0.9		Apparecchio Equipment	RX 350/20
Pellicola/Film	MX 125	Formato/size	10 x	48	Penetrametro	ASTM 1B/	3B III Pos	izione/Location	Source Side
Schermi al piombo mm Lead Screens	0,05-0,10	Parete attrave. Radiat. Thro.	Single	е	Macchia focale Focus Size	5,5 x 5,		ensità pellicola Film Density	1,8-4
Distanza fuoco film mm Tocus-to-object distance	800	Intensità mA Current	12		Tensione KV Voltage	320	E	po esposizione sposure Time	130 s.
Nr. Pellicola/Film No.	Tratto/Tract	Difetti/De	fects		Matricola/ Welder ID	Densità/ Film Densit	Esito/ y Judgement	LEGI	ENDA/NOTE
032801/2017	1/ 2 2/ 3 3/ 4 4/ 5 5/ 6 6/ 7 7/ 8 8/ 9 9/ 10 10/ 11 11/ 12 12/ 13 13/ 14 14/ 15 15/ 16 16/ 17 17/ 18 18/ 19			236 236 236 236 236 236 236 236 236 236	- 246 - 246	2,60 2,60 2,60 2,60 2,60 2,60 2,60 2,60		IG= Inclusion IW= Inclusion GP= Porosità IM= Incisioni incision RI= Ripresa i Root CE= Cordone Ext Irreg	DEFECTS  ii Gas/Gas inclusion  ii di W/W inclusion  da Gas / Gas pockets  i marginali/Marginal  rregolare/Irregular  e est. Irregolare/  ular bead  Int. Irregolare/
032802/2017 Ug=0,24 mm.	1/ 2 2/ 3 3/ 4 4/ 5 5/ 6 6/ 7 7/ 8 8/ 9 9/ 10 10/ 11 11/ 12 12/ 13 13/ 14 14/ 15/ 16 16/ 17 17/ 18 18/ 19			236 236 236 236 236 236 236 236 236 236	- 246 - 246	2,60 2,60 2,60 2,60 2,60 2,60 2,60 2,60	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	DS= Dislilive  Edges m  EP= Eccessiv  Excess P  DF= Difetto p  RT= Ritiri/Sh  MF= Mancata fusion  CR= Cricche SC= Scorie/S  ESITO/JU  R= Riparare/ S= Soddisface A1-2-3= Acce Ripa	isalignment is a penetrazione/ enetration pellicola/Film defect prinkages a fusione/Lack of  Cracks lags TOGEMENT TO Repair ente/Satisfactory ptabile dopo la 1-2-3 razione trable after the 1-2-3 matico
					P. Sgarboss	r.i. a C-PND		ISP	ETTORE spector



# QUALITY CONTROL DEPARTMENT



Laboratory Test Report							
Certificate No.:	L 0755/17	Rev.	0	Date:	18/05/2017		

Client:	NORWEGIAN PIPING AS.						
Purchase order no.:	70488_160929.	DATED 22.12.	2016.				
Job Rivit:	C0498/2016.						
Material description:	ITEM 1 - NP STOCK N. Z000000007696 - ID 287 MM WELDED PIPES UNS S31254 De 361 Th 35 L=7000 mm						
Construction normative:	ASTM A358/A3	358M-15 cl.1 +	Norsok M-630 Ed. 6, MDS R12 Rev. 5				
Production lot number:	0328/17						
No. of pipes on production lot:	2						
Rt number from:	032801/17	to	032802/17				
Heat number:	570810						

Type of testing:	Corrosion test: Ferric Chloride Pitting Test.
Testing normative:	ASTM G48 met. A.
Ferric Chloride Test Solution:	Approximately 6% FeCl3 by weight (100g of FeCl3.6H2O in 900ml distilled water).
Test Speciment Preparation:	120-grit abrasive paper (Wet polishing).

Time	Hours	24	Dimensions (mm)			Weight	Weight Loss	
Temp.	°C	50	Thickness	10,09	Initial	Final	Loss	ar/m²
			Width	39,75	(g)	(g)	(g)	g/m²
Area	Lat. (mm²)	6729	Length	59,46	189,1322	189,1322	0,0000	0,000

Acceptance criteria:	Weight Loss < 4 g/m <sup>2</sup> .
Note:	No pitting at 20X magnification.
Examination results:	SATISFACTORY.

Operator:	Document controlled:	Inspector:
	Control	
	Quality Control	
	Water Denartment	



# QUALITY CONTROL DEPARTMENT



### Dye penetrant test examination report

Certificate no.:	0262/17	Rev.	0
Date:	22/05/2017		

Client:	NORWEGIAN PIPING AS.						
Purchase order no.:	70488_160929.DATED	70488_160929.DATED 22.12.2016.					
Job Rivit:	C0000498/2016.						
Material description:	ITEM 1 - NP STOCK N. Z0000000007696 - ID 287 MM WELDED PIPES UNS S31254 De 361 Th 35 L=7000 mm						
Construction normative:	ASTM A358/A358M-15 cl.1 + Norsok M-630 Ed. 6, MDS R12 Rev. 5						
Production lot number:	0328/17						
Number of pipes on production lot:	2						
Rt number from:	032801/17 to 032802/17						
Heat number:	570810						

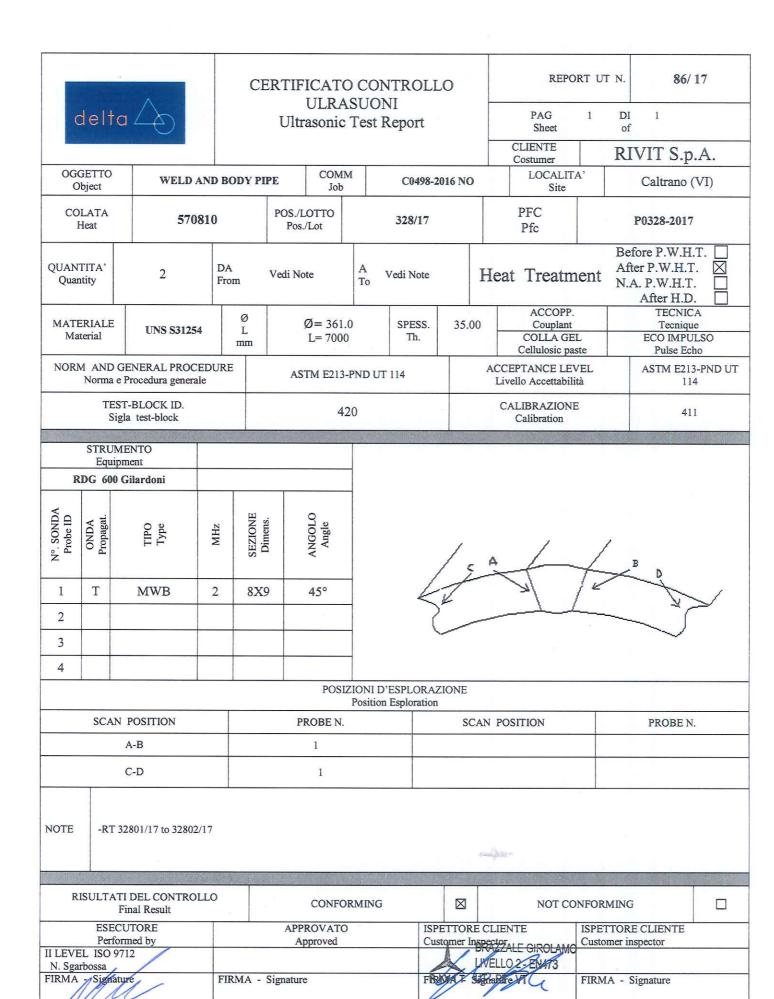
Pipe test, Rt no.	032801/17	to	11			
Extension check:	100% of external welding surfaces on 10% of pipes.					
Procedure:	RIVIT RP/PROC/024 - ASME V Article 6					
Acceptance standard	RIVIT RP/PROC/024 - ASME CODE SECT. VIII DIV. 1 App. 8					
Temperature [°C]:	Ambient.					

X	Water washable	х	Visible	Fluorescent
	Solvent removable		Visible	Fluorescent
	Post emulsified		Visible	Fluorescent

Cleaner:	VELNET	Penetrant:	RED-WW	Emulsifier:	11
Developer:	ROTRIVEL UWHITE- W	Trade name:	ссм	Cleaning:	Paper
Penetrant application:	Brush	Penetrant Minimum time:	10 min	Emulsifier application:	//
Penetrant removal:	WATER	Developer application:	Spry	Drying process:	11
Checking time:	Min 10 Max 60 minutes	Developing Time	10 min	Cleaning after examination:	Yes.

Examination results:	SATISFACTORY.
Note:	

DEL Operator.	Document controlled BATTISTA	Inspector:
F. Giobriddo	LIVELLO 2 - EN473	
LIVELLO COPNO	RIVIT RT-PT-VT	



DATA

Date

DATA

Date

DATA

Date

19/05/2017

DATA

Date

Page 1(2)

EN 10 204-3.1

Date - Datum Load - Ladung - Charge No Cert.No - Zeugnis Nr

170424 9713 7048325.R00



Your order - Ihre Bestellung - Votre commande

F0000008/2017/RITA

Purchaser - Besteller - Achetur

Rivit S.P.A.

Via Palladio 129

IT-36030 CALTRANO VICENZA (VI)

**ITALIEN** 

Dest

Certificate via Email

Product - Erzeugnisform - Produit

Stainless steel plate, hot rolled

Solution annealed, pickled/1D/No.1 Finish

Grade - Werkstoff - Nuance

254 SMO

1.4547/UNS S31254

Outokumpu Order - Auftrag - Ordre

Pack - Kolli - Colis No

700015

0

Requirements - Anforderungen - Exigences

PED 2014/68/EU / EN 10028-7:2007

EN 10088-2:14

ASME SA-240M Code Sect. II. Part A. Ed.2015

ASTM A240M-16a

NORSOK Standard MDS-R15 Rev.5

NACE Standard MR0175-03/ISO 15156-3

NACE Standard MR0103-2012

A480/A480M

EN 10 029 - C

Length tolerance:-0/+10 mm

See below for further requirements

Brand-Mark Herstellerzeichen Signe du Producteur



Inspectors stamp Abnahme - Stempel Estamp de l'expert



Melting process Erschmelzungsart Procédé de fusion

E+AOD

Marking - Kennzeichnumg - Marquage

Plate No, Dimension, Heat No, Lot No, Incl. \*

Extent of delivery - Lieferumfang - Etendue de livrasion

Item Pcs Anzahl Pos Nombre

Dimension Abmessung

36 \* 150 \* 400

Heat No Schmelze Nr Coulée

Lot No Los Nr Lot No

570810 328310

Plate No

2

5276 2603,-2604,-2605,-2606

Blech Nr Tôle No

	ze - Coulée No		mmenzetzung	- Composition	chunique%						
	C	Si	Mn	P	S	Cr	Ni	Mo	Cu	N	
Min	0.000	0.0	0.0	0.000	0.000	19.5	17.5	6.0	0.50	0.18	
Max	0.020	0.7	1.0	0.030	0.010	20.5	18.5	6.5	1.00	0.25	
570810	0.011	0.4	0.4	0.022	0.001	19.9	17.8	6.1	0.62	0.19	

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

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 thickne

Mechanical Properties

Tensile testing (ASTM) Centre

Plate-NoDirec. Top/BotLocation Form Temp. Rp 0,2 Rm A50 C N/mm2 N/mm2 % Min 310 655 35 Max

2602 T F 1 C 20 310 671 57 Tensile testing Plate-NoDirec. Top/BotLocation Form Temp. Rp 0,2 Rp 1,0 Rm A5

A50 C N/mm2 N/mm2 N/mm2 % % Min 35 310 340 40 655 Max 850 2602 T F 4 C 20 322 350 59 673 57

36030 CALTRANO (VI) ITALY QUALITY CONTROL SYSTEM DEPARTMENT COPY ACCORDING TO THE ORIGINAL ONE

KIVII

RIVIT - C.Q. DEPT. REGISTRATO Nº ... CODICE MATERIALE N° ....

The results comply with the requirements of the order.

Outokumpu Stainless AB Business Area Quarto Plate Quarto Plate Europe SE-693 81 Degerfors, Sweden Tel. +46 586 470 00, Fax +46 586 470 16, www.outokumpu.com Registered office: Stockholm, Sweden.

Reg. No. 556001-8748, Vat No. SE556001874801



Computer generated original Quality Inspector

Linda Hjali

CERTIFICA	FICAT	Page Seite	2(2)	
EN 10 204-3	.1	- 8-10-2-W-10-2-		
Date - Datum	Load - Ladung - Charge No	Cert.No - Zeug	mis Nr	ACCES.
170424	9713	7048325.R	00	* 1



Hardness Rockwell B Plate-NoDirec. Top/BotLocation Form Temp. HRB Min Max 96 2602 F 3 P 20 82 Corrosion ASTM G48 Method A +50 °C/24h: Plate-NoDirec. Top/BotLocation Form Temp. Max C g/m2x24h Min Max 4 2602 T F 3 P 50 0 Other Information Heat treated at 1200°C and Quenched in water. Dimensional control, visual inspection and grade check(PMI): Approved Certified acc. to AD2000-Guideline W0 and Pressure Equipment Directive (2014/68/EU) annex I, sec. 4.3 by Certification body for pressure equipment of the TÜV NORD Systems notified body, reg.-no. 0045 Holding time approximately 1 minute/mm plate thickness Norsok M650-QTR No.: QTR\_S31354 Rev.1 Here continue the requirements:

Ultrasonic testing see appendix:

Width tolerance:-0/+5 mm

Outokumpu Stainless AB Business Area Quarto Plate Quarto Plate Europe SE-693 81 Degerfors, Sweden

Tel. +46 586 470 00, Fax +46 586 470 16, www.outokumpu.com Registered office: Stockholm, Sweden. Reg. No. 556001-8748, Vat No. SE556001874801



Computer generated original Quality Inspector

Linda Hjalmarsson

## ULTRASONIC INSPECTION CERTIFICATE ULTRASCHALLPRÜFZEUGNIS CERTIFICAT DE CONTRÔLE PAR ULTRA-SONS



Gunnar Karlsson	2017-04-21	ngsdalum - Date de contrôle		7048	Certificate No Zeugnis Nr - Certificat No. 7048325.R00			
The second second	Date of certificate - 2017-04-24	Zuegnisdatum - Date de certifi	icale	te Appendix - Anlage - Annexe				
WATERIAL IDENTIFICATION	ON - MATERIALIDE	NTIFIKATION - IDENT	TIFICATION DU	MATERIEL				
Purchaser - Besteller - Acheteur Rivit S.P.A. Via Palladio 129 IT-36030 CALTRANO ITALIEN	) VICENZA (VI)		Your order - Ihre Bestellung - Votre commande F0000008/2017/RITA			uttraq - Ordre Ite	n-Pos	
Grade - Werkstoff - Nuance 1.4547;254 SMO;UNS		328 310 -2605, -2606	No Heat No - Screetize Nr - Coulée Dimension - Abmessungen - Dimension (mm) 36 x 150 x 400			)		
						يه البياب		
TESTING PRESUMPTIONS		ETZUNG - CONDITIO	NS D'ESSAI					
Testing method - Prüfmethodik - Me Pulse echo/contact tech kontaktiechnik - Contrô	nnique - Impuls-E le par contact/réfl		Outokumpu s	pecification:	ation - Spécification des OS 149 -Autre: Ultraljud	0	Rev.	
Inspection by - Uberwachung von - Outokumpu Stainless, I				ard - Zlassigkeit	grenze - Critère d'accep		1	
Testing scope - Prufumfang - Etend Surface, 100 %			1,101,111,1010	, 101010		The State of		
Notes - Bernerkung - Remarques OS 1490								
EQUIPMENT - GERÂT - EQ	UIPMENT		The State of the S	Will they were				
Instrument - Gerät - Appareil P-scan 4/Sonatest 250				-Nr-No 16/100223				
Probe - Prüfkopf - Palpeur TRL 4/SEB 4	Dim. probe - Apm. 6x20mm	průlkopí - Dim. Palpeur	Fre	Control of the Contro	enz - Fréquence	Angle - Einschallwir	kel - Angle	
Couplant - Ankopplung - Couplage Water	The state of the s	q - Remarques	1 30	1217111112		1		
Notes Comment		<=150 mm/s			1	and the second		
Notes - Bemerkung - Remarques		1 3 000 0000			1		***	
					1			
TESTING CONDITIONS Surface condition - Oberfläche - Etc					1			
TESTING CONDITIONS					1 1			
ESTING CONDITIONS Surface condition - Oberflache - Eta Stainless Steel, Hot roll Notes - Bemarkung - Remarques	ed, Pickled							
TESTING CONDITIONS Surface condition - Oberflache - Eta Stainless Steel, Hot roll Notes - Bemarkung - Remarques	ed, Pickled	JLTAT D'ESSAI						
Surface condition - Oberfläche - Eta Stainless Steel, Hot rolli Notes - Bemerkung - Remarques  TEST RESULTS - PRÜFER Reporting level - Registrierschwelle	ed, Pickled  GEBNISSE - RESU - Seuil d'enngistrierment	JLTAT D'ESSAI	registrierschwelle -			exure - Siehe aniane -		
Surface condition - Oberflache - Etc Stainless Steel, Hot roll: Notes - Bemerkung - Remarques  TEST RESULTS - PRÜFER Reporting level - Registrierschwelle  No discontinuity indicatin Aucune indications supe	ed, Pickled  GEBNISSE - RESU  - Seuti d'enngistrement ons above the reporting le  éneure seuil 'enregistriern'	JLTAT D'ESSAI  evel - Keinefehler grösser als reent			See ann Voir ann			
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### **CERTIFICATE - ZEUGNIS - CERTIFICAT**

1(2) Seite

EN 10 204-3.1

Date - Datum Load - Ladung - Charge No Cert.No - Zeugnis Nr 170424 9716 7048327.R00



Your order - Ihre Bestellung - Votre commande F0000008/2017/RITA

Purchaser - Besteller - Achetur

Rivit S.P.A.

Via Palladio 129

IT-36030 CALTRANO VICENZA (VI)

**ITALIEN** 

Dest

Certificate via Email

Product - Erzeugnisform - Produit

Stainless steel plate, hot rolled

Solution annealed, pickled/1D/No.1 Finish

Grade - Werkstoff - Nuance

254 SMO

1.4547/UNS S31254

Outokumpu Order - Auftrag - Ordre Pack - Kolli - Colis No

700015

0

Requirements - Anforderungen - Exigences

PED 2014/68/EU / EN 10028-7:2007

EN 10088-2:14

ASME SA-240M Code Sect. II. Part A. Ed.2015

ASTM A240M-16a

NORSOK Standard MDS-R15 Rev.5

NACE Standard MR0175-03/ISO 15156-3

NACE Standard MR0103-2012

A480/A480M

EN 10 029 - C

Length tolerance:-0/+10 mm

See below for further requirements

Brand-Mark Herstellerzeichen Signe du Producteur W

Inspectors stamp Abnahme - Stempel Estamp de l'expert

DJ 2

Melting process Erschmelzungsart Procédé de fusion

E+AOD

Marking - Kennzeichnumg - Marquage

Plate No, Dimension, Heat No, Lot No, Incl. \*

Extent of delivery - Lieferumfang - Etendue de livrasie

Item Pcs Anzahl Pos

Nombre

Kg Dimension Abmessung

36 \* 2103 \* 7000

Heat No Schmelze Nr Coulée

570810

Lot No Los Nr Lot No

328310

Plate No

5276 2602

Blech Nr Tôle No

2602

Min

Max

2602

Chemical composition - Chemische Zusammenzetzung - Composition chimique%

Heat - Scmelze - Coulée No C Si Mn S Cr Ni Mo Cu Min 0.000 0.0 0.0 0.000 0.000 19.5 17.5 0.50 6.0 Max 0.7 0.020 1.0 0.030 0.010 20.5 18.5 6.5 1.00

0.001

570810 0.011 0.4 0.4 0.022 Test results - Prufergebnisse - Résultats des essais (1N/mm² = 1 MPa)

T = Transverse L = Longitudinal

6.1

17.8

Top/Bot F = Front B = Back

0.62

Form P = Flat C = Round

N

0.18

0.25

0.19

Location 1 = Center 2 = Close to Surface 3 = Standard

Mechanical Properties

Tensile testing (ASTM) Centre

Plate-NoDirec. Top/BotLocation Form Temp. Rp 0,2 Rm A50 N/mm2 N/mm2 %

Plate-NoDirec. Top/BotLocation Form Temp. Rp 0,2 Rp 1,0

4

Min Max

T

T

Tensile testing

F 1 C

C

C

20

310 20 310

310

322

671

655

19.9

57

35

Rm A5 N/mm2 N/mm2 N/mm2 %

> 655 40 850 673 57

4 - At 1/4 of thickness Sp.A. 36030 CALTRANO (VI) ITALY

QUALITY CONTROL SYSTEM DEPARTMENT COPY ACCORDING TO THE ORIGINAL ONE

A50 %

35

59

RIVIT - C.Q. DEPT REGISTRATO Nº

GODICE MATERIALE No....

The results comply with the requirements of the order.

340

350

Outokumpu Stainless AB Business Area Quarto Plate Quarto Plate Europe SE-693 81 Degerfors, Sweden

Tel. +46 586 470 00, Fax +46 586 470 16, www.outokumpu.com

Registered office: Stockholm, Sweden.

Reg. No. 556001-8748, Vat No. SE556001874801

F



Computer generated original Quality Inspector

CERTIFICA	FICAT	Page 2(2)	
EN 10 204-3	.1		
Date - Datum	Load - Ladung - Charge No	Cert.No - Zeu	gnis Nr
170424	9716	7048327 R	00



Hardness Rockwell B Plate-NoDirec. Top/BotLocation Form Temp. HRB Min Max 96 2602 F 3 P 20 82 Corrosion ASTM G48 Method A +50 °C/24h: Plate-NoDirec. Top/BotLocation Form Temp. Max C g/m2x24h Min Max 4 2602 F 3 P 50 0 T Other Information Heat treated at 1200°C and Quenched in water. Dimensional control, visual inspection and grade check(PMI): Approved Certified acc. to AD2000-Guideline W0 and Pressure Equipment Directive (2014/68/EU) annex I, sec. 4.3 by Certification body for pressure equipment of the TÜV NORD Systems notified body, reg.-no. 0045 Holding time approximately 1 minute/mm plate thickness Norsok M650-QTR No.: QTR\_S31354 Rev.1 Here continue the requirements:

Ultrasonic testing see appendix:

Width tolerance:-0/+5 mm

36030 CALTBANG (VI) ITALY
QUALITY CONTROL SYSTEM DEPARTMENT
COPY ACCORDING TO THE ORIGINAL ONE

Outokumpu Stainless AB
Business Area Quarto Plate
Quarto Plate Europe
SE-693 81 Degerfors, Sweden
Tel. +46 586 470 00, Fax +46 586 470 16, www.outokumpu.com
Registered office: Stockholm, Sweden.
Reg. No. 556001-8748, Vat No. SE556001874801



Computer generated original Quality Inspector

Daniel Mälman

## ULTRASONIC INSPECTION CERTIFICATE ULTRASCHALLPRÜFZEUGNIS CERTIFICAT DE CONTRÔLE PAR ULTRA-SONS



Ret. Gunnar Karlsson	Testan date - Prüfungsdatum - Date de contrôle 2017-04-24 Date of certificate - Zuegnisdatum - Date de certificate 2017-04-25				Certificate No Zeutnis Nr - Certificat No. 7048327.R00  Appendix - Anlage - Annexe			
				Appen 1				
MATERIAL IDENTIFICATION	ON - MATERIALIDE	ENTIFIKATION - IDE	NTIFICATION	DU MATERIEL	F IFRI			
Purchaser - Besteller - Acheteur		Your order - Ihre Bestell				u order - Auftrag - Ordre	Item - Pos	
Rivit S.P.A.		F0000008/2017/RITA			700015	5	1	
Via Palladio 129 IT-36030 CALTRANO VICENZA (VI)								
ITALIEN	VICENZA (VI)							
Grade - Werkstoff - Nuance		Lot No - Los Nr - Lot No Heat No - Samelize Nr - Coulé		cmeltze Nr - Coulée	Dimension - Abmessurgen - Dimension (mm)			
1.4547;254 SMO;UNS S31254		328 310	570810	570810		36 x 2103 x 7000		
Plate No - Blech Nr - Tôle No	5276 2602							
					-			
ESTING PRESUMPTIONS		SETZUNG - CONDIT						
Testing method - Prüfmethodik - M Pulse echo/contact tecl	cho	Testing specification - Pr'Ispezifikation - Spécification d'essai Rev. Outokumpu specification: OS 1490						
kontakttechnik - Contrô				:-Autre: Ultraljudprovning av plå				
Inspection by - Uberwachung von -		Acceptance standard - Zlassigkeitgr			renze - Critére d'acceptation			
Outokumpu Stainless, I Testing scope - Prüfumfang - Etend			ASIMA	578; Level C-	<b>ે</b>			
Surface,100 %		The state of the state of	and the same				2.02	
Notes - Bemerkung - Remarques			1					
OURNESSE OFFICE	N IIDREENS							
EQUIPMENT - GERÄT - EQUIPMENT Instrument - Gerät - Appareil I No - Nr - No								
P-scan 4/Sonatest 250	atest 250			206/100223				
Probe - Prüfkopf - Palpeur TRL 4/SEB 4	Dim. probe - Apm 6x20mm	. průřkopř - Dim. Palpeur		Frequency - Frequence Angle - Einschaltwinkel - Angle - Marchaeltwinkel - Angle - Einschaltwinkel - Eins				
Couplant - Ankopplung - Couplage	The second secon	ng - Remarques						
Water								
ETTINGS								
Reference method - Bezugsmethod			shohe - Eche de ré	férence			*	
Backwall-Reflection (BR) Sensetivity - Empfindlichkeit - Sensibilité		TVG/DAC Scanning rate - Prüfgeschwindigkeit - Vitesse d'essai			Pulse energy - Impulsstarke - Puissance			
Reference level +6dB		<=150 mm/s			1			
Notes - Bemerkung - Remarques			THE RESERVE					
		LINE W. II. WILL.						
ESTING CONDITIONS	448							
Surface condition - Oberflache - Et Stainless Steel, Hot roll			77					
Notes - Bernerkung - Remarques								
					State of			
EST RESULTS - PRŬFER								
Reporting level - Registrierschwell	e - Seuil d'enrigistriermen				-			
No discontinuity indications above the reporting level - Keinefehler grösser als regis				e-	To	See annexure - Siehe	e anlage -	
Aucune indications supérieure seuil 'enregistrien  Disposition - Beschluss - Evaluation		Disposition - Beschluss - Evaluation				Voir annexe Further investigation	- Meitor	
X Accepted - Akzeptiert -		Rejected - Kassie				untersuschung- Exam		
Notes - Bemerkung - Remarques					7965		THE PERSON	
DEDATOR INCREATOR	DOUGED DOUG				TEA.			
PERATOR, INSPECTOR Testing performed by - Abriahme of			THE RESERVE OF THE PARTY OF THE	ROLEUR	I Sign		- 6	
Gunnar Karlsson	Level acc Niveau gem Niveau s. 2		Sign					
Testing performed by - Abnahme of	Level acc Niveau gem Niveau s. 2		Sign.					
Approved by - Akzeptiert von - App		Inspector - Prufaufsi	icht - Contrôleur		Inspe	ctor - Prüfaufsicht - Cont	rôleur	
Outokumpu Stainless/Gunnar Karlsson Position - Stellung - Poste		Anency - TUO - Anence disconting			Agency - TLIO - Agence d'insperiina			
Level 2 acc. to EN 473	Agency - TUO - Agence d'inspection			Agency - TUO - Agence d'inspection				
Clas					-			
Sign.		Sign.			Sign.			
Notes - Bemerkung - Remarques			based on internal r			Nr-No I		