

N. 00008562
 PAG. N. Sheet N. 1 / 1
 DATA Date 18/09/2012

ALLEGATO RIASSUNTIVO **Summary of test certificates**

Cliente Customer: DESMET BALLESTRA S.p.A.

Commessa Job N. 00002652

Ordine N. P.O. number: 121467 - 28.06.2012
C2F11A

Pos. Item	Descrizione Description	Q.ta' Q.ty	N°Colata o Marcatura <i>Heat N° or PCS. Marking</i>	Pz. Immagine Image
010	21.34x2.77 (P03.009.39)	5,25	1105-254	CTCERT201200153087_ 1
020	33.40x3.38 (P03.009.41)	30,00	804479	CTCERT201100151489_ 1
030	21.34x2.77 (P03.009.47)	30,00	807279	CTCERT201200154111_ 1
040	26.67x2.87 (P03.009.48)	6,00	807279	CTCERT201200154114_ 1
050	33.40x3.38 (P03.009.49)	16,90	070131	CTCERT201100147277_ 1
				CTCERT201100147277_ 2
				CTCERT201100147277_ 3
				CTCERT201100147277_ 4
060	60.33x3.91 (P03.009.52)	62,86	444020	CTCERT201200156751_ 1
				CTCERT201200156751_ 2
				CTCERT201200156751_ 3
				CTCERT201200156751_ 4
070	88.90x2.11 W (P03.009.54)	4,20	829277	CTCERT200900139914_ 1
080	114.30x2.11 W (P03.009.55)	36,00	VBB092627	CTCERT201100152639_ 1
090	168.28x2.77 W (P03.009.57)	24,00	VBB112829	CTCERT201200153121_ 1
010	219.10x2.77 W (P03.009.58)	12,00	ANN050008	CTCERT200900139010_ 1
011	88.90x2.11 W (P03.009.67)	6,00	4024338	CTCERT200800130236_ 1
012	114.30x2.11 W (P03.009.68)	6,00	VBC051562	CTCERT201200156777_ 1
013	141.30x3.40 W (P03.009.69)	6,00	VBC053317	CTCERT201200156778_ 1
014	168.28x2.77 W (P03.009.70)	18,00	AVC070506	CTCERT201100149645_ 1

ALLEGATO RIASSUNTIVO

Summary of test certificates

Cliente Customer: DESMET BALLESTRA S.p.A.

Commessa Job N. 00002652

Ordine N. P.O. number: 121467 - 28.06.2012
C2F11A

Pos. Item	Descrizione Description	Q.ta' Q.ty	N° Colata o Marcatura Heat N° or PCS. Marking	Pz. Immagine Image
015	CURVE 45° LR 3/4" SCH.40/S (P03.001.25)	1,00	359	CTCERT201100147622_ 1
016	CURVE 45° LR 1" SCH.40/S (P03.001.26)	2,00	000362	CT16L#20126###0003_ 1
017	CURVE 45° LR 4" SCH.5/S W (P03.001.32)	1,00	001941	CT04L#20114###0019_ 1
018	CURVE 45° LR 6" SCH.5/S W (P03.001.34)	4,00	LK8099	CTCERT201100150289_ 1
				CTCERT201100150289_ 2
019	CURVE 45° LR 6" SCH.5/S W (P03.001.47)	4,00	TP3140	CTCERT200700121968_ 1
019	CURVE 45° LR 6" SCH.5/S W (P03.001.47)	2,00	003361	CT16L#20116###0033_ 1
				CT16L#20116###0033_ 2
020	CURVE 90° LR 1" SCH.40/S (P03.002.34)	5,00	J1005-026	CTCERT201100150232_ 1
021	CURVE 90° LR 3/4" SCH.40/S (P03.002.38)	2,00	TGB090091	CTCERT201100151598_ 1
022	CURVE 90° LR 1" SCH.40/S (P03.002.39)	7,00	YT0027	CTCERT201100150259_ 1
023	CURVE 90° LR 2" SCH.40/S (P03.002.42)	9,00	Y110908	CTCERT201200153816_ 1
024	CURVE 90° LR 4" SCH.5/S W (P03.002.45)	3,00	P7767	CTCERT201000145729_ 1
				CTCERT201000145729_ 2
025	CURVE 90° LR 6" SCH.5/S W (P03.002.47)	2,00	TP5582	CTCERT201100150290_ 1
				CTCERT201100150290_ 2
026	CURVE 90° LR 6" SCH.5/S W (P03.002.60)	1,00	TP5583	CTCERT201100150292_ 1
				CTCERT201100150292_ 2
027	RID. CONC. 3/4"x1/2" SCH.40/S (P03.011.08)	1,00	J0510-177	CTCERT201100149355_ 1
028	RID. CONC. 1"x1/2" SCH.40/S (P03.011.09)	2,00	TG090568	CTCERT201100151609_ 1
029	RID. CONC. 8"x4" SCH.5/S (P03.011.42)	1,00	100342	CT04L#20124###1003_ 1
030	RID. CONC. 6"x5" SCH.5/S (P03.011.91)	3,00	11-0057	CTCERT201100152725_ 1
031	RID. ECC. 8"x6" SCH.5/S (P03.014.31)	1,00	TGB090026	CTCERT201100146180_ 1
032	1/2" SCH.40/S (P03.007.74)	2,00	QJ408	CTCERT201200156236_ 1
033	1" SCH.40/S (P03.007.76)	3,00	43427	CTCERT201200156237_ 1
034	1/2" SCH.40/S (P03.007.80)	9,00	TEP	CTCERT201200156461_ 1
035	3/4" SCH.40/S (P03.007.81)	8,00	Z4T9	CTCERT201200156239_ 1
036	1" SCH.40/S (P03.007.82)	17,00	43202	CTCERT201200156240_ 1
037	2" SCH.40/S (P03.007.85)	10,00	43827	CTCERT201200156241_ 1
038	3" SCH.5/S (P03.007.87)	1,00	K40488	CTCERT201200156560_ 1
039	4" SCH.5/S W (P03.007.88)	4,00	K120026	CTCERT201200156561_ 1
040	6" SCH.5/S W (P03.007.90)	6,00	948433	CTCERT201200156562_ 1
041	8" SCH.5/S (P03.007.91)	4,00	42752	CTCERT201200156563_ 1
042	3" SCH.5/S W (P03.008.00)	1,00	K80165	CTCERT200800131939_ 1
043	4" SCH.5/S (P03.008.01)	2,00	43238	CTCERT201200156564_ 1
044	6" SCH.5/S W (P03.008.03)	6,00	K10303	CTCERT201200156565_ 1



AN ISO 9001:2008 & PED APPROVED COMPANY

MFG. & EXPORTER OF : STAINLESS STEEL SEAMLESS, WELDED TUBES, PIPES & U-TUBES

153087

TEST CERTIFICATE

CERTIFICATE AS PER EN 10204 : 2004 - 3.2

T.C.NO :-MTCPL/2011-2012/0264

DATE :- 31/10/2011

CUSTOMERS NAME :- Raccortubi SpA

P.O. NO. :- OS000104 S dtd 15.04.2011

DATE:- 15/04/2011

O.A.NO. :- 2011/04/5110/EXP -Rev.01

DATE:- 29/04/2011

PRODUCT :- AUSTENITIC S. S. COLD DRAWN SEAMLESS PLAIN END PIPES,(SOLUTION ANNEALED & PICKLED)

MAT.SPEC. :- ASTM/ASME A/SA 312, TP 304/304L,ASME SEC II PART A LATEST EDITION-2010,NACE MR 01-75 & RTX -SE REV.01

SR. NO.	HEAT NO.	DIMENSIONS	NO.OF PCS	TOTAL METER
2	1105-254	21.34 mm OD X 2.77 mm THK X 5000 TO 5800 mm LONG	207	1099.665

CHEMICAL TEST

SR. NO.	HEAT NO.	CHEMICAL COMPOSITION %									
		S	C	Si	Mn	P	S	Ni	Cr	Mo	Ti
2	1105-254	H	0.020	0.500	1.400	0.029	0.001	8.030	18.480
		P	0.017	0.480	1.390	0.033	0.001	8.030	18.580

MECHANICAL TESTS

SR. NO.	TENSILE STRENGTH Mpa	YIELD STRENGTH ELON. % G. L. 50MM Mpa	FLARING TEST	FLATTENING TEST	HARDNESS		HYDRO TEST PRESSURE AT (2500 PSIg)
					22 HRC=99 HRB MAX	...	
REQ.	485[MIN]	170 [MIN]	35%[MIN]	-	-	-	
2	611.76	309.12	68%	N.A	OK	60-62 (HRB)	
	607.20	300.48	67%				

REMARKS:-

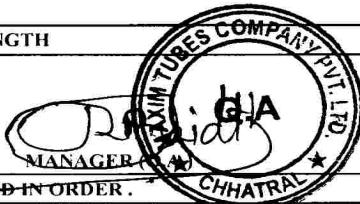
- [1] HEAT TREATMENT : SOLUTION ANNEALED AT TEMP. ABOVE 1040° C QUENCHED IN WATER.
- [2] 100% DIMENSION AND VISUAL CHECKED BY MTCPL&100% CHECKED BY VELOSI-PSC - FOUND SATISFACTORY.
- [3] 100% HYDRO TEST DONE BY MTCPL & REPORT REVIEWED BY VELOSI-PSC-FOUND SATISFACTORY.
- [4] 100% P.M.I TEST DONE BY MTCPL & 100% PMI TEST WITNESSED BY VELOSI-PSC- FOUND SATISFACTORY.
- [5] I.G.C PRACTICE "E" CONDUCTED BY MTCPL & REPORT REVIEWED BY VELOSI-PSC- FOUND SATISFACTORY.
- [6] MECHANICAL TEST CONDUCTED BY MTCPL & WITNESS BY VELOSI-PSC- FOUND SATISFACTORY.
- [5] CHEMICAL TEST CONDUCTED BY MTCPL & REPORT REVIEWED BY VELOSI-PSC- FOUND SATISFACTORY.
- [7] MARKING ON PRODUCT:- MAXIM, S.S. SEAMLESS PIPE, SIZE,SPECN, GRADE, HEAT NO.

NOTE:- S= SPECIFICATION, P= PRODUCT ANALYSIS, H= HEAT ANALYSIS, G.L.= GAUGE LENGTH

PO.STATUS:- COMPLETE

INSPECTOR'S/SURVEYOR'S SIGN

WE HEREBY CERTIFY THAT THE MATERIAL IS AS PER SIZE & SPECIFICATION MENTIONED IN ORDER.



Survey No. 105, Nr. 66 KV Sub-Station, Chhatral-Pansar Road,
Ahmedabad-Mehsana Highway, Chhatral-382729, Ta. Kalol, Dist-Gandhinagar, Gujarat, INDIA
T : +91 2764 234377, F : +91 2764 234477, E : info@maximtubes.com

www.maximtubes.com ***

Customer: DESMET BALLESTRA S.p.A.

Order : 121467 - 28.06.2012 Project: C2F11A

Descr. : 21.34x2.77 (P03.009.39)

Heat n° or Pcs. marking : 1105-254 Qtà/Qty:5,25 Posiz./Item n.: 010

Protocollo : CTCERC201200008562 * CERTIFIED TRUE COPY * Issued 18/09/12

CERTIFIED MATERIAL TEST REPORT

Messrs.	RACCORDUBI SPA	Date	Aug. 23, 2011
Note Grade	TP 304/304L	Sheet No.	SAU670
Condition	Solution Treated	Contract No.	T151T31-A
Heat No.	804479	Packing List No.	ET4890
Size	33.40 x 3.38 mm	Bundle No.	54 - 55
Length	6,000 - 6,004 mm	SANYO SPECIAL STEEL CO., LTD.	
Pieces	106	Quality Assurance Department Quality Certification Group 3007, Nakashima, Shikama-ku, Himeji, Japan TEL (079) 235-6029 FAX (079) 235-6227	
Net Weight	1,592 kg		
Chemical Composition (%)	C Si Mn P S Ni Cr X1000 X100 X100 X1000 X1000 X100 X100 35 100 200 45 30 800 1800 Standard max max max max 1100 2000 Cast 16 36 112 35 7 921 1832	151489	
Mechanical Test	Type of Specimen 0.2%Yield Strength Tensile Strength Elongation From Standard Product 30 min Ksi 75 min Ksi 35 min % Result ASTM 44 84 56 45 86 55		
Corrosion Test	(ASTM A262-E) : GOOD		
Flattening Test	GOOD		
Dimension Inspection	GOOD		
Spark Test	GOOD		
Eddy Current Test	GOOD		
Specification	ASTM A312 ASME SA312		
Remarks	Heat Treatment : 1040°C MIN R.C SEAMLESS STAINLESS STEEL PIPES PMI is based on Spark Test ACCORDING TO EN10204 TYPE3.1 HARDNESS ACC. TO NACE MR0175:GOOD ASTM A312-09 / ASME SA312 2010 PO NO. OS000050 S		
	===== END OF REPORT =====		

We hereby certify that the material described herein has been made in accordance with the rules of the contract.

Head of Quality Certification Group

K. Hashizume

Customer: DESMET BALLESTRA S.p.A.
Order : 121467 - 28.06.2012 Project: C2F11A
Descr.: 33.40x3.38 (P03.009.41)

Heat n° or Pcs. marking : 804479 Qtà/Qty:30 Posiz./Item n.: 020
Protocollo : CTCERC201200008562 * CERTIFIED TRUE COPY * Issued 18/09/12

CERTIFIED MATERIAL TEST REPORT

E3

Messrs. RACCORDUBI SPA

Date

Jan. 10, 2012

Note Grade TP 316/316L

Sheet No.

630779

Condition Cold Worked & Solution Treated

Contract No.

T181T16B

Heat No. 807279

Packing List No.

ET6223

Size 21.34 x 2.77 mm

Bundle No.

17 - 18

Length 6,000 - 6,006 mm

SANYO SPECIAL STEEL CO., LTD.

Pieces 200

Quality Assurance Department

Net Weight 1,522 kg

Quality Certification Group

3007, Nakashima, Shikama-ku, Himeji, Japan

TEL (079) 235-6029

FAX (079) 235-6227

Chemical Composition (%)	C	Si	Mn	P	S	Ni	Cr	Mo
	X1000	X100	X100	X1000	X1000	X100	X100	X100
Standard	35	100	200	45	30	1100	1600	200
	max	max	max	max	max	1400	1800	300
Cast	17	42	125	39	2	1120	1628	206

Mechanical Test	Type of Specimen	0.2%Yield Strength	Tensile Strength	Elongation
From Product	Standard	30 min ksi	175 min ksi	35 min %
	Result	ASTM 45 45	92 90	62 63

Corrosion Test	(ASTM A262-E) : GOOD
Flattening Test	GOOD
Dimension Inspection	GOOD
Spark Test	GOOD
Eddy Current Test	GOOD
Specification	ASTM A312 ASME SA312
Remarks	Heat Treatment : 1040°C MIN R.C SEAMLESS STAINLESS STEEL PIPES PMI is based on Spark Test ACCORDING TO EN10204 TYPE3.1 HARDNESS ACC. TO NACE MR0175:GOOD ASTM A312-09 / ASME SA312 2010 PO NO.0S000122 S

===== END OF REPORT =====

We hereby certify that the material described herein has been
made in accordance with the rules of the contract.

Head of Quality Certification Group

K. Hashizume

Customer: DESMET BALLESTRA S.p.A.

Order : 121467 - 28.06.2012 Project: C2F11A

Descr. : 21.34x2.77 (P03.009.47)

Heat n° or Pcs. marking : 807279 Qtà/Qty:30 Posiz./Item n.: 030

Protocollo : CTCERC201200008562 * CERTIFIED TRUE COPY * Issued 18/09/12

CERTIFIED MATERIAL TEST REPORT

E3

Messrs. RACCORDUBI SPA

Date Jan. 16, 2012

Note Grade TP 316/316L

Sheet No. 630854

Condition Cold Worked & Solution Treated

Contract No. T18IT16B

Heat No. 807279

Packing List No. ET6288

Size 26.67 x 2.87 mm

Bundle No. 26 - 27

Length 6,000 - 6,005 mm

SANYO SPECIAL STEEL CO., LTD.

Pieces 129

Quality Assurance Department

Net Weight 1,304 kg

Quality Certification Group

3007, Nakashima, Shikama-ku, Himeji, Japan

TEL (079) 235-6029

FAX (079) 235-6227

Chemical (%)	C	Si	Mn	P	S	Ni	Cr	Mo
Composition	X1000	X100	X100	X1000	X1000	X100	X100	X100
Standard	35	100	200	45	30	1100	1600	200
	max	max	max	max	max	1400	1800	300
Cast	17	42	125	39	2	1120	1628	206

154114

Mechanical Test	Type of Specimen	0.2%Yield Strength	Tensile Strength	Elongation
From Product	Standard	30 min ksi	75 min ksi	35 min %
	Result	ASTM 45 44	91 90	62 63

Corrosion Test	(ASTM A262-E) : GOOD
Flattening Test	GOOD
Dimension Inspection	GOOD
Spark Test	GOOD
Eddy Current Test	GOOD
Specification	ASTM A312 ASME SA312
Remarks	Heat Treatment : 1040°C MIN R.C SEAMLESS STAINLESS STEEL PIPES PMI is based on Spark Test ACCORDING TO EN10204 TYPE3.1 HARDNESS ACC. TO NACE MR0175:GOOD ASTM A312-09 / ASME SA312 2010 PO NO.0S000122 S

===== END OF REPORT =====

We hereby certify that the material described herein has been
made in accordance with the rules of the contract.

Head of Quality Certification Group

K. Hashizume

Customer: DESMET BALLESTRA S.p.A.

Order : 121467 - 28.06.2012 Project: C2F11A

Descr. : 26.67x2.87 (P03.009.48)

Heat n° or Pcs. marking : 807279 Qtà/Qty:6 Posiz./Item n.: 040

Protocollo : CTCERC201200008562 * CERTIFIED TRUE COPY * Issued 18/09/12

No/Nr/N° (A03)

4-11-06682-rev.01

147277

INSPECTION CERTIFICATE

Abnahmeprüfzeugnis

Certificat de réception

EN 10204: 2004 TYPE 3.1

Page/Seite

1/4

Salzgitter Mannesmann StainlessTubes Italia Srl - Via Piò 30 - 24062 Costa Volpino (BG) -
ITALY

RACCORTUBI SpA

Via Fratelli Kennedy

20010 Marcallo

Italia

Purchaser/Besteller/Acheteur

Product Description/Produkt Beschreibung/Description du produit (B01) (B02) (B04)

Seamless Stainless Steel Cold Finished Pipes Solution Annealed Free From Scale Plain Ends Square Cut Deburred

Kaltgefertigte, nahtlose Edelstahlrohre Solution Geglüht Entzundert Enden Glatt Abgeschnitten

Pipes en Acier Inox Sans Soudure Finis à Froid Solution Recuit Sans oxydation Coupés d'équerre, lisses, ébavuré

Specifications/Spezifikationen/Spécifications ASME SA 312M 07 / ASTM A 312M 09 / EN 10216-5 09.2004 AC:2008 TC1 / NACE MR0103 2007 / NACE MR0175/ISO 15156-3 2005 / RACCORTUBI 312S 01/06/2001 Rev.1

Grade/Werkstoff/Nuance 1.4401 / 1.4404 / TP 316 / TP 316L

Tolerances/Toleranzen/Tolérances A 312M / EN 10216-5

Marking of the product/Kennzeichnung des Produktes/Marquage du produit (B06-D01)

DMV-I ASTM/ASME A/SA312 EN10216-5 TC1 1.4401/4404 TP316/316L NPS1 X SCH40S 33,4 X 3,38 ET SML CFD H.\$HEAT_NBR\$ \$QUAL_LOT_NBR\$ ITALY IF 238735-23

Quantity/Menge/Quantité						Dimensions Abmessungen			
Heat no Schmelze Nr. N°de Coulée	Quality lot Qualitätslos Lot qualité	SMST item	Pieces Stück Pièces (B08)	Total weight Gesamtgewicht Masse totale (B13)	Total length Gesamtlänge Longueur totale	OD (B09)	WT (B10)	Tube length Rohrlänge Longueur tube min (B11) max	
070131	QL40004811	000023	695	9848 kg 21711 Lbs	3,805.50 m 12,485.24 Ft	33.40 mm NPS 1	3.38 mm SCH 40S	5000 mm 16.40 Ft	6500 mm 21.33 Ft

Chemical Analysis / Chemische Zusammensetzung / Analyse chimique (C71 - C92)

Heat no/Schmelzen Nr./N°de coulée 070131

Melting Process/Erschmelzungsart/Élaboration (C70) AOD

Melting Process/Erschmelzungsart/Élaboration (C70) E + AOD

Melting Process/Erschmelzungsart/Élaboration (C70)

Country of origin / Herstellungsland/Pays d'origine Germany

Country of origin / Herstellungsland/Pays d'origine Italy

Heat Analysis / Analyse de coulée

	C	Si	Mn	P	S	Cr	Ni	Mo	N
Min						16.50	11.00	2.00	
Max	0.030	1.00	2.00	0.040	0.0150	18.00	13.00	2.50	0.11
	0.024	0,42	1,66	0,020	0,008	16,86	11,24	2,05	0,067

This certificate is issued by a computerized system and is valid without signature. In case the owner of the original would release a copy of it he must attest its conformity and will be responsible for any unlawful or not allowed use. Any alterations or falsification will be subject to law.

Dieses Zeugnis bzw. Diese Bescheinigung wurde mit Hilfe der EDV erstellt und ist ohne Unterschrift gültig. Veränderungen sowie Verwendung für andere Erzeugnisse werden als Urkundenfälschung und Betrug strafrechtlich verfolgt.

Ce certificat est rédigé à l'aide d'un traitement électronique des données et est applicable sans signature. Tout changement ou application pour d'autres produits seront considérés comme falsification de documents et fraude et seront sujet à la juridiction pénale.



Salzgitter Mannesmann StainlessTubes Italia Srl ISO 9001 - IGQ9408 - ISO 14001 - IGQ A2F04



Customer: DESMET BALLESTRA S.p.A.

Order : 121467 - 28.06.2012 Project: C2F11A

Descr. : 33.40x3.38 (P03.009.49)

Heat n° or Pcs. marking : 070131 Qtà/Qty:16,9 Posiz./Item n.: 050

Protocollo : CTCERC201200008562 * CERTIFIED TRUE COPY * Issued 18/09/12

No/Nr/N° (A03)

4-11-06682-rev.01

Mechanical testing**Quality Lot : QL40004811****Tensile test at room temperature/Zugversuch bei Raumtemperatur/Essai de traction à température ambiante (C10)****ASTM A 370 EN 10002-1**

Test no Proben Nr. N° d'échantillon (C00)	Direction Probenrichtung Direction (C02)	Yield strength/Dehngrenze/Limite d'élasticité			Tensile strength / Zugfestigkeit / Résistance à la traction (C12)	Elongation/Bruchdehnung/Allongement (C13)					Reduction of area Z%
		0.2 %	0.5 %	1 %		2 "	50 mm	5D	5,65 √So	4D	
40040100	LONGITUDINAL	MPa	/	MPa	MPa	/	%	/	%	/	/
		Min	205	/	240	515	/	35	/	40	/
		Max	/	/	/	690	/	/	/	/	/
		40040100	334	/	369	654	/	53	/	55.50	/
40040125	LONGITUDINAL	332	/	371	664	/	50	/	52.50	/	/
40040131	LONGITUDINAL	369	/	407	689	/	50	/	52.00	/	/
40040526	LONGITUDINAL	368	/	406	687	/	48	/	50.00	/	/

Hardness test/Härteprüfung/Essai de dureté (C30)**NACE MR0103 NACE MR0175/ISO 15156-3**

Test no Proben Nr. N° d'échantillon	Load /			HV	HRB	HR 15-T	HR 30-T				
	HB										
	min	max	avg								
40040100	/	/	/	7.0	8.0	8	/				

This certificate is issued by a computerized system and is valid without signature. In case the owner of the original would release a copy of it he must attest its conformity and will be responsible for any unlawful or not allowed use. Any alterations or falsification will be subject to law.

Dieses Zeugnis bzw. Diese Bescheinigung wurde mit Hilfe der EDV erstellt und ist ohne Unterschrift gültig. Veränderungen sowie Verwendung für andere Erzeugnisse werden als Urkundenfälschung und Betrug strafrechtlich verfolgt.

Ce certificat est rédigé à l'aide d'un traitement électronique de données et est applicable sans signature. Tout changement ou application pour d'autres produits seront considérés comme falsification de documents et fraude et seront sujet à la juridiction pénale.

Salzgitter Mannesmann Stainless Tubes Italia Srl ISO 9001 - IGQ9408 - ISO 14001 - IGQ A2F04



Customer: DESMET BALLESTRA S.p.A.

Order : 121467 - 28.06.2012 Project: C2F11A

Descr. : 33.40x3.38 (P03.009.49)

Heat n° or Pcs. marking : 070131 Qtà/Qty:16,9 Posiz./Item n.: 050

Protocollo : CTCERC201200008562 * CERTIFIED TRUE COPY * Issued 18/09/12

No/Nr/N° (A03)

4-11-06682-rev.01

INSPECTION CERTIFICATE

Abnahmeprüfzeugnis

Certificat de réception

EN 10204: 2004 TYPE 3.1

Page/Seite

3/4

Flattening test/Faltversuch/Essai d'aplatissement (C50)

ASTM A 999

Test Number	Result
40040099	OK
40040100	OK
40040101	OK
40040102	OK
40040103	OK
40040124	OK
40040125	OK
40040126	OK
40040127	OK
40040128	OK
40040131	OK
40040132	OK
40040133	OK
40040521	OK
40040522	OK
40040525	OK
40040526	OK
40040586	OK

Drift expanding test/Dornaufweiteversuch/Essai d'évasement (C52)

EN 10234

Test Number	Result
40040100	OK
40040125	OK
40040131	OK
40040526	OK

Other testing

Quality Lot : QL40004811

Intergranular corrosion test/Prüfung interkristallinen Korrosion/Essai de corrosion intergranulaire

ASTM A 262 PRACTICE E EN ISO 3651-2 PRACTICE A

Test Number	Result
40040100	Satisfactory

This certificate is issued by a computerized system and is valid without signature. In case the owner of the original would release a copy of it he must attest its conformity and will be responsible for any unlawful or not allowed use. Any alterations or falsification will be subject to law.

Dieses Zeugnis bzw. Diese Bescheinigung wurde mit Hilfe der EDV erstellt und ist ohne Unterschrift gültig. Veränderungen sowie Verwendung für andere Erzeugnisse werden als Urkundenfälschung und Betrug strafrechtlich verfolgt.

Ce certificat est rédigé à l'aide d'un traitement électronique de données et est applicable sans signature. Tout changement ou application pour d'autres produits seront considérés comme falsification de documents et fraude et seront sujet à la juridiction pénale.

Salzgitter Mannesmann StainlessTubes Italia Srl ISO 9001 - IGQ9408 - ISO 14001 - IGQ A2F04



Customer: DESMET BALLESTRA S.p.A.

Order : 121467 - 28.06.2012 Project: C2F11A

Descr. : 33.40x3.38 (P03.009.49)

Heat n° or Pcs. marking : 070131 Qtà/Qty:16,9 Posiz./Item n.: 050

Protocollo : CTCERC201200008562 * CERTIFIED TRUE COPY * Issued 18/09/12

No/Nr/N° (A03)

4-11-06682-rev.01

INSPECTION CERTIFICATE

Abnahmeprüfzeugnis

Certificat de réception

EN 10204: 2004 TYPE 3.1

(A02)

Other Tests and Declarations / Andere Prüfungen und Prüffeststellungen / Autres tests et déclarations

QL40004811

Heat treatment/ Wärmebehandlung/ Traitement thermique 1070°C

Visual and dimensional inspection(VT) / Besichtigung und MassKontrolle / Examen visuel et dimensionel 100% : Satisfactory/Bestanden/Satisfaisant

Hydrostatic testing on the 1005 of the tubes (17 Mpa/5 sec.): satisfactory

Eddy Current testing (ET) / Wirbelstromprüfung / Courants de Foucault 100% ASTM A 999 / EN 10246-2 : Satisfactory/Bestanden/Satisfaisant

Antimixing check (PMI) of all tubes by spectrographic analysis / Verwechselungsprüfung an allen Rohren mittels Spektralprüfung / Contrôle anti-mélange par PMI : Satisfactory/Bestanden/Satisfaisant

No Weld repair / Keine Reparaturschweissung / Aucune réparation par soudure

The material is conforming to directive 2000/53/EC, 2002/95/EC and CD 2005/618/EC. / Das Material entspricht den Anforderungen der Richtlinien 2000/53/EC, 2002/95/EC und CD 2005/618/EC. / Le matériau est conforme aux directives 2000/53/EC, 2002/95/EC et CD 2005/618/EC.

Tubes are free from mercury contamination and from radioactive contamination / Die Rohre sind frei von Quecksilberverunreinigungen und frei vom radioaktiver Verunreinigung / Les tubes sont exempts de contamination par le mercure et de contamination radioactive

Confirmation with reference to Pressure Equipment Directive 97/23/EC:

The works operates a quality management system that has undergone a specific assessment for materials for pressure equipment and is certified by a competent body (TÜV-CERT.No: 70/2002/MUC)

Bestätigung in Bezug auf Druckgeräterichtlinie 97/23/EC:

Das Werk wendet ein Qualitätsmanagementsystem an, das in Bezug auf Werkstoffe für Druckgeräte einer spezifischen Bewertung unterzogen wurde und von einer zuständigen Stelle (TÜV-CERT.No: 70/2002/MUC) zertifiziert ist.

Confirmation concernant la Directive Equipements sous Pression 97/23/EC : L'usine applique un système de management de la qualité qui a fait l'objet d'une évaluation spécifique pour les matériaux pour équipements sous pression et qui est certifié par un organisme compétent (TÜV-CERT.No: 70/2002/MUC)

SMST certify that the delivered products comply with the requirements stipulated in the order. / Die Erzeugnisse wurden bestellungsgemäß geprüft und für in Ordnung befunden. / SMST-Tubes atteste que les produits livrés sont conformes aux stipulations de la commande.

Validation by manufacturer's representative / Validierung durch Vertreter des Herstellers

Mill's Inspector	F. RAZZITTI
Werksachverständiger	
Le contrôleur usine	

Date of edition	
Ausgabedatum	16/02/2011
Date d'édition	

This certificate is issued by a computerized system and is valid without signature. In case the owner of the original would release a copy of it he must attest its conformity and will be responsible for any unlawful or not allowed use. Any alterations or falsification will be subject to law.

Dieses Zeugnis bzw. Diese Bescheinigung wurde mit Hilfe der EDV erstellt und ist ohne Unterschrift gültig. Veränderungen sowie Verwendung für andere Erzeugnisse werden als Urkundenfälschung und Betrug strafrechtlich verfolgt.

Ce certificat est rédigé à l'aide d'un traitement électronique de données et est applicable sans signature. Tout changement ou application pour d'autres produits seront considérés comme falsification de documents et fraude et seront sujet à la jurisdiction pénale.

Salzgitter Mannesmann StainlessTubes Italia Srl ISO 9001 - IGQ9408 - ISO 14001 - IGQ A2F04

Customer: DESMET BALLESTRA S.p.A.

Order : 121467 - 28.06.2012 Project: C2F11A

Descr. : 33.40x3.38 (P03.009.49)

Heat n° or Pcs. marking : 070131 Qtà/Qty:16,9 Posiz./Item n.: 050

Protocollo : CTCERC201200008562 * CERTIFIED TRUE COPY * Issued 18/09/12

No/Nr/N° (A03)

245004-027154

SMST Deutschland GmbH
Postfach 16 01 20 - D-42830 Remscheid - DEUTSCHLAND
www.smst-tubes.com

INSPECTION CERTIFICATE
Abnahmeprüfzeugnis
Certificat de réception

EN 10204: 2004 TYPE 3.1

(A01)

Page/Seite

1/4

SMST Deutschland GmbH - Postfach 16 01 20 - D-42830 Remscheid - DEUTSCHLAND
RACCORDUBI Spa
Viale De Gasperi
20010 MARCALLO
Italien

Customer order no./Kunde Auftragsnr./N° Commande client (A07)

OS24

SMST-Tubes order no/Auftragsnr./N° Commande (A08)

0000245004

SMST-Tubes item Part number/Teilenummer/N° d'article (A09)

0000245004-000004

Purchaser/Besteller/Acheteur

Product Description/Produkt Beschreibung/Description du produit (B01) (B02) (B04)

156751

Seamless Stainless Steel Hot Finished Tubes Free From Scale Plain Ends Square Cut Deburred
Warmgefertigte, nahtlose Edelstahlrohre Entzundert Enden Glatt Abgeschnitten
Tubes en Acier Inox Sans Soudure Finis à Chaud Sans oxydation Coupés d'équerre, lisses, ébavuré

Specifications/Spezifikationen/Spécifications ASME SA 312M 11 a / ASTM A 312M 11 / EN 10216-5 09.2004 AC:2008 TC1 / NACE MR0103 2007 /
NACE MR0175/ISO 15156-3 2009 / RACCORDUBI RTX_S01S Rev.0

Grade/Werkstoff/Nuance 1.4401 / 1.4404 / TP 316 / TP 316L

Tolerances/Toleranzen/Tolérances A 312M / EN 10216-5

Supplementary requirements/Zusatzanforderungen/Éxigences supplémentaires (B03)

MARKING:

DMV-D – TP 316 - TP 316L 1.4401 - 1.4404 – HEAT - 60,3 x 3,91 - NPS 2 x SCH 40S –
EN 10216-5-TC1 - HFD - ASTM A 312/M - ASME SA 312/M - SML – 245004/4 - WA



Quantity/Menge/Quantité						Dimensions Abmessungen			
Heat no Schmelze Nr. N° de Coulée	Quality lot Qualitätslos Lot qualité	SMST item	Pieces Stück Pièces (B08)	Total weight Gesamtgewicht Masse totale (B13)	Total length Gesamtlänge Longueur totale (B14)	OD (B09)	WT (B10)	Tube length Rohrlänge Longueur tube min (B11) max	
444020	QL20015686	000004	247	7992,00 Kg 17618 Lbs	1405,950 m 4612,697 Ft	60,30 mm 2,374"	3,91 mm 0,154"	5000 mm 16,40 Ft	6500 mm 21,33 Ft

Chemical Analysis / Chemische Zusammensetzung / Analyse chimique (C71 - C92)

Heat no/Schmelzen Nr./N° de coulée 444020

Melting Process/Erschmelzungsart/Élaboration (C70) E + VOD

Heat Origin/Urspr. der Schmelze/Origine de la Coule Germany

Heat Analysis / Analyse de coulée

	C	Si	Mn	P	S	Cr	Ni	Mo	N
Min						16,50	11,00	2,00	
Max	0,030	1,00	2,00	0,040	0,0150	18,00	13,00	2,50	0,11
	0,021	0,42	1,60	0,023	0,008	16,88	11,26	2,13	0,066

Quality Lot : QL20015686

Product Analysis / Analyse du produit

	C	Si	Mn	P	S	Cr	Ni	Mo	N
Min						16,30	11,00	2,00	
Max	0,035	1,00	2,00	0,045	0,0180	18,00	13,15	2,60	0,12
	20017204	0,019	0,40	1,59	0,012	0,0062	16,84	11,17	2,11

EN 10216-5 ASTM A 312M ASME SA 312M

This certificate is issued by a computerized system and is valid without signature. In case the owner of the original would release a copy of it he must attest its conformity and will be responsible for any unlawful or not allowed use. Any alterations or falsification will be subject to law.

Dieses Zeugnis bzw. Diese Bescheinigung wurde mit Hilfe der EDV erstellt und ist ohne Unterschrift gültig. Veränderungen sowie Verwendung für andere Erzeugnisse werden als Urkundenfälschung und Betrug strafrechtlich verfolgt.

Ce certificat est rédigé à l'aide d'un traitement électronique de données et est applicable sans signature. Tout changement ou application pour d'autres produits seraient considérés comme falsification de documents et fraude et seront sujet à la juridiction pénale.

Salzgitter Mannesmann Stainless Tubes Deutschland GmbH - ISO 9001 - LRQA Nr. 923284

Customer: DESMET BALLESTRA S.p.A.

Order : 121467 - 28.06.2012 Project: C2F11A

Descr. : 60,33x3,91 (P03.009,52)

Heat n° or Pcs. marking : 444020 Qtà/Qty:62,86 Posiz./Item n.: 060

Protocollo : CTCERC201200008562 * CERTIFIED TRUE COPY * Issued 18/09/12

No/Nr/N° (A03)

245004-027154
INSPECTION CERTIFICATE
Abnahmeprüfzeugnis
Certificat de réception

EN 10204: 2004 TYPE 3.1

(A01)

Page/Seite
2/4

(A02)

Mechanical testing**Quality Lot : QL20015686****Tensile test at room temperature/Zugversuch bei Raumtemperatur/Essai de traction à température ambiante (C10)****EN 10002-1 ASTM A 370**

Test no Proben Nr. N° d'échantillon (C00)	Direction Probenrichtung Direction (C02)	Yield strength/Dehngrenze/Limite d'élasticité (C11)			Tensile strength / Zugfestigkeit / Résistance à la traction (C12)	Elongation/Bruchdehnung/Allongement (C13)					Reduction of area Z%
		0.2 %	0.5 %	1 %		2 "	50 mm	5D	5,65 √So	4D	
		MPa	/	MPa	MPa	/	%	/	%	/	/
		Min	205	/	240	515	/	35	/	40	/
		Max	/	/	/	690	/	/	/	/	/
20017204	LONGITUDINAL	291	/	354	612	/	49	/	49,14	/	/
20017210	LONGITUDINAL	287	/	354	623	/	45	/	45,14	/	/
20017219	LONGITUDINAL	276	/	346	615	/	45	/	45,43	/	/

Hardness test/Härteprüfung/Essai de dureté (C30)**NACE MR0175/ISO 15156-3 NACE MR0103**

Test no Proben Nr. N° d'échantillon	Load			HB			HRC			HV			HRB			HR 15-T			HR 30-T		
	min	max	avg	min	max	avg	min	max	avg	min	max	avg	min	max	avg	min	max	avg	min	max	avg
20017204	/	/	/	<22,0	<22,0	22	/	/	/	81,0	82,0	81,50	/	/	/	/	/	/	/	/	/
20017210	/	/	/	<22,0	<22,0	22	/	/	/	81,0	82,0	81,50	/	/	/	/	/	/	/	/	/
20017219	/	/	/	<22,0	<22,0	22	/	/	/	81,0	82,0	81,50	/	/	/	/	/	/	/	/	/

This certificate is issued by a computerized system and is valid without signature. In case the owner of the original would release a copy of it he must attest its conformity and will be responsible for any unlawful or not allowed use. Any alterations or falsification will be subject to law.

Dieses Zeugnis bzw. Diese Bescheinigung wurde mit Hilfe der EDV erstellt und ist ohne Unterschrift gültig. Veränderungen sowie Verwendung für andere Erzeugnisse werden als Urkundenfälschung und Betrug strafrechtlich verfolgt.

Ce certificat est rédigé à l'aide d'un traitement électronique de données et est applicable sans signature. Tout changement ou application pour d'autres produits seront considérés comme falsification de documents et fraude et seront sujet à la juridiction pénale.

Salzgitter Mannesmann Stainless Tubes Deutschland GmbH - ISO 9001 - LRQA Nr. 923284

Customer: DESMET BALLESTRA S.p.A.

Order : 121467 - 28.06.2012 Project: C2F11A

Descr. : 60.33x3.91 (P03.009.52)

Heat n° or Pcs. marking : 444020 Qtà/Qty:62,86 Posiz./Item n.: 060

Protocollo : CTCERC201200008562 * CERTIFIED TRUE COPY * Issued 18/09/12

No/Nr/N° (A03)

245004-027154

INSPECTION CERTIFICATE
Abnahmeprüfzeugnis
Certificat de réception

EN 10204: 2004 TYPE 3.1

(A02)

Page/Seite
3/4

Flattening test/Faltversuch/Essai d'aplatissement (C50)

ASTM A 999

Test Number	Result
20017203	OK
20017204	OK
20017205	OK
20017206	OK
20017207	OK
20017209	OK
20017210	OK
20017215	OK
20017216	OK
20017217	OK
20017218	OK
20017219	OK
20017220	OK

Drift expanding test/Dornaufweiteversuch/Essai d'évasement (C52)

EN 10234

Test Number	Result
20017204	OK
20017210	OK
20017219	OK

Other testing

Quality Lot : QL20015686

Intergranular corrosion test/Prüfung interkristallinen Korrosion/Essai de corrosion intergranulaire

ASTM A 262 PRACTICE E

Test Number	Result
20017204	Satisfactory
20017210	Satisfactory
20017219	Satisfactory

This certificate is issued by a computerized system and is valid without signature. In case the owner of the original would release a copy of it he must attest its conformity and will be responsible for any unlawful or not allowed use. Any alterations or falsification will be subject to law.

Dieses Zeugnis bzw. Diese Bescheinigung wurde mit Hilfe der EDV erstellt und ist ohne Unterschrift gültig. Veränderungen sowie Verwendung für andere Erzeugnisse werden als Urkundenfälschung und Betrug strafrechtlich verfolgt.

Ce certificat est rédigé à l'aide d'un traitement électronique de données et est applicable sans signature. Tout changement ou application pour d'autres produits sera considéré comme falsification de documents et fraude et seront sujet à la juridiction pénale.

Salzgitter Mannesmann Stainless Tubes Deutschland GmbH - ISO 9001 - LRQA Nr. 923284

Customer: DESMET BALLESTRA S.p.A.
Order : 121467 - 28.06.2012 Project: C2F11A
Descr. : 60.33x3.91 (P03.009.52)
Heat n° or Pcs. marking : 444020 Qtà/Qty:62,86 Posiz./Item n.: 060
Protocollo : CTCERC201200008562 * CERTIFIED TRUE COPY * Issued 18/09/12

No/Nr/N° (A03)

245004-027154

SMST Deutschland GmbH (A01)
Postfach 16 01 20 - D-42830 Remscheid - DEUTSCHLAND
www.smst-tubes.com

INSPECTION CERTIFICATE
Abnahmeprüfzeugnis
Certificat de réception

EN 10204: 2004 TYPE 3.1

Page/Seite
4/4

(A02)

Other Tests and Declarations / Andere Prüfungen und Prüffeststellungen / Autres tests et déclarations

VISUAL AND DIMENSIONAL INSPECTION: SATISFACTORY / BESICHTIGUNG UND MASSKONTROLLE: BESTANDEN
MATERIAL IDENTIFICATION TEST OF ALL TUBES BY SPECTROGRAPHIC ANALYSIS: SATISFACTORY
VERWECHSLUNGSPRUEFUNG ALLER ROHRE DURCH SPECTRAL ANALYSE: BESTANDEN
HYDROSTATIC TEST, 130 BAR (1BAR=100KPA), HOLDING TIME 5 SEC.: SATISFACTORY
INNENDRUCKVERSUCH MIT WASSER 130 BAR (1BAR=100KPA), HALTEZEIT 5 SEC.: BESTANDEN
HEAT TREATMENT: 1040 - 1120 °C RAPID COOLING BY AIR / WAERMEBEHANDLUNG: 1040 - 1120 °C LUFTDUSCHE

No Weld repair / Keine Reparaturschweissung / Aucune réparation par soudure

The material is conforming to directive 2000/53/EC, 2002/95/EC and CD 2005/618/EC. / Das Material entspricht den Anforderungen der Richtlinien 2000/53/EC, 2002/95/EC und CD 2005/618/EC. / Le matériau est conforme aux directives 2000/53/EC, 2002/95/EC et CD 2005/618/EC.

Tubes are free from mercury contamination and from radioactive contamination / Die Rohre sind frei von Quecksilberverunreinigungen und frei vom radioaktiver Verunreinigung / Les tubes sont exempts de contamination par le mercure et de contamination radioactive

Confirmation with reference to Pressure Equipment Directive 97/23/EC:

The works operates a quality management system that has undergone a specific assessment for materials for pressure equipment and is certified by a competent body (TÜV-Cert.No:01202811/Q-020025)

Bestätigung in Bezug auf Druckgeräterichtlinie 97/23/EC:

Das Werk wendet ein Qualitätsmanagementsystem an, das in Bezug auf Werkstoffe für Druckgeräte einer spezifischen Bewertung unterzogen wurde und von einer zuständigen Stelle (TÜV-Cert.No:01202811/Q-020025) zertifiziert ist.

Confirmation concernant la Directive Équipements sous Pression 97/23/EC : L'usine applique un système de management de la qualité qui a fait l'objet d'une évaluation spécifique pour les matériaux pour équipements sous pression et qui est certifié par un organisme compétent (TÜV-Cert.No:01202811/Q-020025)

SMST certify that the delivered products comply with the requirements stipulated in the order. / Die Erzeugnisse wurden bestellungsgemäß geprüft und für in
Ordnung befunden. / SMST-Tubes atteste que les produits livrés sont conformes aux stipulations de la commande.

Validation by manufacturer's representative / Validierung durch Vertreter des Herstellers

Mill's Inspector Werksachverständiger Le contrôleur usine	D. Brozulat
---	-------------

Date of edition Ausgabedatum Date d'édition	24/07/2012
---	------------

This certificate is issued by a computerized system and is valid without signature. In case the owner of the original would release a copy of it he must attest its conformity and will be responsible for any unlawful or not allowed use. Any alterations or falsification will be subject to law.

Dieses Zeugnis bzw. Diese Bescheinigung wurde mit Hilfe der EDV erstellt und ist ohne Unterschrift gültig. Veränderungen sowie Verwendung für andere Erzeugnisse werden als Urkundenfälschung und Betrug strafrechtlich verfolgt.

Ce certificat est rédigé à l'aide d'un traitement électronique de données et est applicable sans signature. Tout changement ou application pour d'autres produits sera considéré comme falsification de documents et fraude et sera sujet à la juridiction pénale.

Salzgitter Mannesmann Stainless Tubes Deutschland GmbH - ISO 9001 - LRQA Nr. 923284

Customer: DESMET BALLESTRA S.p.A.

Order : 121467 - 28.06.2012 Project: C2F11A

Descr. : 60.33x3.91 (P03.009.52)

Heat n° or Pcs. marking : 444020 Qtà/Qty:62,86 Posiz./Item n.: 060

Protocollo : CTCERC201200008562 * CERTIFIED TRUE COPY * Issued 18/09/12



**COMPANY WITH QUALITY MANAGEMENT
SYSTEM CERTIFIED BY DNV
= ISO 9001:2008 =**
CERT-00149-94-AQ-MIL-SINCERT

**COMPANY WITH ENVIRONMENTAL
MANAGEMENT SYSTEM CERTIFIED BY DNV
= ISO 14001:2004 =**
CERT-1194-2005-AE-MIL-SINCERT

Ita Inox S.p.A.
Strade Statale 45 bis
26010 Robecco d'Oglio (CR) - Italia
Tel. + 39 0372 9801
Fax + 39 0372 921538
e-mail: sales@ita.arvedi.it
quality@ita.arvedi.it
www.arvedi.it

itainox**TEST CERTIFICATE ACCORDING TO EN 10204/ 3.1**

ABNAHMEPRÜFZEUGNIS - CERTIFICAT D'ESSAIS - CERTIFICATO DI COLLAUDO
for longitudinally welded tubes//längsnahgeschweißte rohre/pour tubes soudes longitudinalmente/Per tubi saldati longitudinalmente

N° 102945

Pag. 1 di 1

Customer: Besteller/Client/Cliente	RACCORDUBI S.p.A. Viale De Gasperi, 194	20010 MARCALLO CON CASONE MI					
Customer Order N°: Bestellung/Commande Client/Ordine Cliente	OF 005666	Mill's Ita Inox N°: 2009/5182 Werks N°/N° référence interne/Conferma ordine					
Specifications: Anforderungen/Specifications/Specifiche	ASTM A312 / ASME SA312 SEC II-par A, ED. 2007	Tolerances: ASTM A312/A1016/ASME SA312 Toleranzen/Tolérances/Tolleranze					
Manufacturer's mark: Inspector's stamp: M.S. Stempel des Sachverständigen/Poinçon de l'inspecteur/Punzone dell'ispettore	ITA	Marking: ASTM A312/ASME SA312 Kennzeichnung/Marquage/Marcatura					
Item Pos. N°	DIMENSIONS Abmessungen Dimensions/Dimensioni	PIECES N° Stückzahl Pièces/Pezzi	METERS Meter Mètres/Metri	WEIGHT(Kg) Gewicht/Poids Peso	GRADE Werkstoff/Nuance Matéria	STANDARD CODE Normbezeichnung Designation/Designazione	EXECUTION Ausführung Execution/Esecuzione
001	88.90x 2.11x6000	19	114.00	478.00	TP 304L 1.4307 Z3 CN 19-09 UNS S30403	X2 CrNi 18-9	ER

**Chemical analysis acc.to: ASTM A240 / EN 10088-2/EN 10028-7 Last Edition
Steel making process : E/AOD**

Schmelzanalyse/Chimique analyse/Analisi chimica
Erschmelzungsart/Procédé d'élaboration/Procedimento di elaborazione acciaio

Item N°	Manuf. Hersteller	HEAT N° Schmelze/Coulée/Coleta	% C	% Si	% S	% P	% Mn	% Cr	% Ni	% Mo	% Ti	% Co	% Cu	% N
001	829277	0.019	0.380	0.001	0.033	1.760	18.300	8.110			0.100		0.070

Mechanical test acc.to tab.:

Item Pos. N°	HEAT N° Schmelze Coulée Coleta	HOMOLOG Zulassung Omplagation Omologazione	TEST Probe Eprouvette Provina N°	SPECIMEN SIZE Abmessung Probstab Dimen. Eprouvette Dimensione provetta mm.	YIELD STRENGTH Streck-Dehngrenze Limite d'élasticité Limite di snervamento 0,2% N/mm² 1%	TENSILE STRENGTH Zugfestigkeit Résistance à traction Limite di rottura N/mm²	ELONGAT. Bruchdehnung Allongement Allungamento 2 %	HARDNESS Härte Dureté Durezza HRB
Requirement Anforderungen/Exigences/Requisiti				X2 CrNi 18-9 20 x 2.11	>= 170 303	>= 485 597	>= 35 57.0	
001	829277							

Test Results

Ergebnisse der Prüfungen/Résultat des essais/Risultati delle prove

Heat treatment: 1050 °C BRIGHT ANNEALING + RAPIDLY COOLED BY AIR

Wärmebehandlung/Traitement termique/Trattamento termico

Tecnological test : Flattening: OK- / / /

Technologische Prüfung/Examen technologique/Prove tecnologiche

**Residual Corrosion Test acc. to.:
Intergranular Corrosion Test acc. to.:
Non Destructive Test acc to:**

Korrosionsfördernde Rückständen/Essai résidus corrosif/Prova residui corrosivi

ASTM A262/Practice E: OK

IK Beständigkeit/Essai corr.intergr./Prova di corrosione intergranulare

Eddy current according to ASTM A999/E426 : OK

Zerstörungsfreie Prüfung/Contrôle non destructif/Controllo non distruttivo

Leak Test/Hydrostatic test to:

Dichtheitsprüfung/Essai d'étanchéité/Prova di tenuta

Uncorrect Material Test: OK

Verwechlungsprüfung/Essai P.M.I./Prova antimiscuglio

Visual and gauging control: FAVOURABLE

Besichtigung und Ausmessung/Contrôle visuel et dimensionnel/Controllo Visivo e dimensionale

Notes:

Material fully conform to Type AISI 4301/304 According to Specific NACE MR0175-1999 Rockwell Hardness Test=< 22 HRC

139914

**We certify that the delivered products comply with the specification of the order.**

entspricht/Nous attestons que les produits livrés sont conformes aux références de la commande/ Noi attestiamo che il materiale spedito è conforme ai requisiti dell'ordine

Robecco d'Oglio, 17/11/2009

Issued by: Cordani A.

S

Mill's Inspector / Der Werksachverständige

Mazzolari p.i. Stefano

Inspecteur de l'usine / Firma Ispettore

Customer: DESMET BALLESTRA S.p.A.

Order : 121467 - 28.06.2012 Project: C2F11A

Descr. : 88.90x2.11 W (P03.009.54)

Heat n° or Pcs. marking : 829277 Qtà/Qty:4,2 Posiz./Item n.: 070

Protocollo : CTCERC201200008562 * CERTIFIED TRUE COPY * Issued 18/09/12



524彰化縣溪州鄉中山路四段270號
No.270, Sec.4, Jungshan Rd., Shijou Shiang,
Chang-Hwa, Taiwan, R.O.C.
<http://www.yeunchyang.com.tw>
TEL : +886-4-8899666 FAX : +86-4-8899770

檢驗證明書 152639

MILL/TEST CERTIFICATES

客戶名稱 Customer	RACCORDUBI SPA	客戶編號 Customer No.	F11016	證明書編號 Certificate No.	111027P0181
產品名稱 Production	...	商業發票號碼 Commercial Invoice No.	J11100150	證明書日期 Date of Issue	2011/10/17
規範名稱 Specification	ASTM A312/A312M-09	客戶採購案號 PO No.	OS000208	訂單編號 Order No.	EP11090022-1
鋼種 Steel Grade	TP304/304L	提貨單編號 Weight No.	C11100191	P.I.號碼 P.I.NO.	P1109-019

項目 Item No.	爐號 Heat No.	產品規格 Product Description	尺寸 Dimension	數量 Quantity Pcs	表面 Finish	化學成份(%)						拉伸試驗 G.L. Tension Test				硬度試驗 Hardness Test	熱處理 Heat Treatment	壓扁試驗 Flattening Test			
						C	Si	Mn	P	S	Ni	Cr	X10 ²	X10 ³	X10 ²	X10 ³	T.S.	E.L.			
1	VBB092627	Specification 4'(114.3mm) x SCH-5S(2.11mm) x 6M	Dimension Min. Max.	40 GOOD	Surface GOOD	35	100	200	45	30	1300	2000	2	800	1818	293	679	50	82	1060	3.1 OK

STANDARDS:ASTM A312/ASME SA312 "TO EN 10204 2004 3.1 "POSITIVE HYDRAULIC TEST RESULT WITH ASTM A993/WS/PQR/WPQ APPROVED BY A THIRD PARTY INSPECTOR ***S WELDED PIPES ASTM A312/ASME SA312 TP304/304L AND TP316/316L IN 6.0 MPIC AS PER APPLICANT'S ORDER OS000208S DTD SEPTEMBER 07TH 2011 AND BENEFICIARY'S PROFORMA INVOICE DTD SEPTEMBER 08TH 2011 100% Alloy Verification (PMI) : OK Intergranular Corrosion Test (according to NACE MR0175-2003 / ISO 15156-3) Satisfactory. Hardness according to NACE MR0175-2003 / ISO 15156-3:OK	*01= Hardness Test *02= Heat Treatment *03= Hydrostatic Test *04= Flattening Test *G.L.=Gauge Length: 50mm	1.Quality management system by TÜV 1.1 ISO 9001:2008 Certificate (No.01 100 056299) 1.2 PED Certificate (No.01 202 ROCIQ-05 0105) 2.laboratory management system by TAF 2.1 ISO 17025:2005 Certificate (Laboratory Accreditation Code: 1894)
Visual Inspection (Surface) and Dimension Check : OK Surveyor By N/A	The material described above has been detected with free irradiation by the raw material supplier. 1MPa=1N/mm ² =10bar=145psi=10.2g/cm ²	茲證明本文所列產品，均依材料標準製造及試驗，並符合標準之要求 We Herby Certify that Material Described Herein has Been Manufactured and Tested with Satisfactory Results in Accordance with the Requirement of the Above Material Specification.

Customer: DESMET BALLESTRA S.p.A.
Order : 121467 - 28.06.2012 Project: C2F11A
Descr. : 114.30x2.11 W (P03.009.55)
Heat n° or Pcs. marking : VBB092627 Qtà/Qty:36 Posiz./Item n.: 080
Protocollo : CTCERC201200008562 * CERTIFIED TRUE COPY * Issued 18/09/12



檢驗證明書
MILL/TEST CERTIFICATES

524彰化縣溪州鄉中山路四段270號
No.270, Sec.4, Jungshan Rd., Shijou Shiang,
Chang-Hwa, Taiwan, R.O.C.
http://www.yeunchyang.com.tw
TEL : +886-4-8899666 FAX : +886-4-8899770

153121

客戶名稱 Customer	RACCORUBI S.p.A.	客戶編號 Customer No.	FIT016	證明書編號 Certificate No.	111201P0229
產品名稱 Production	***	商業發票號碼 Commercial Invoice No.	J11110410	證明書日期 Date of Issue	2011/12/01
規範名稱 Specification	ASTM A312/A312M-09	客戶採購案號 PO No.	OS000241	訂單編號 Order No.	EP11100068-1
鋼種 Steel Grade	TP304/304L	提貨單編號 Weight No.		P.I.號碼 P.I.NO.	P1110-042

項目 Item No.	爐號 Heat No.	產品規格 Product Description		化學成份(%)						拉伸試驗G.L. Tension Test				*01 硬度試驗 Brinell H.R.B °C/N.W.Q. MPa	*02 水 壓 試 驗 HRB E.L. % 1040	*03 壓扁試驗 Flattening Test Gauge Length: 50mm	*04 壓扁試驗 Bending Test E.L. % 1060	Coil No
		尺寸 Dimension	數量 Quantity Pcs	表面 Finish	C X10 ⁻³	Si X10 ⁻²	Mn X10 ⁻²	P X10 ⁻³	S X10 ⁻³	鉻 Ni Cr X10 ⁻²	錳 Mn X10 ⁻³	硫 S X10 ⁻³	伸長率 E.L. %					
1	VBB112829	6"(168.28mm) x SCH-5S(2.77mm) x 6M	34	GOOD	Min. Max.	35 23	100 38	200 141	45 26	30/1300/2000 5/804/1820	800 302	1800 302	205 634	51.5 53	35 53	1040 84	OK OK	1A5328437
		TOTAL:	34															

***S/S WELDED PIPES ASTM A312/ ASME SA312 TP304/304L AND TP316/316L ANNEALED AND PICKLED, PLAIN ENDS, IN 6.0 MPIC AS PER APPLICANT'S PURCHASE ORDER NR. OS000241S DATED OCTOBER 10TH, 2011 AND BENEFICIARY'S PROFORMA INVOICE DATED OCTOBER 11TH, 2011 "STANDARDS: ASTM A312-09/ASME SA312 (2010 SECTION II PART A) ALSO ISSUED IN CONFORMITY TO NACE MR0175-2003 / ISO 15156-3; SATISFACTORY WITH ACTUAL HRB VALUE AND ALSO ATTESTING POSITIVE HYDRAULIC TEST RESULT Notes WITH ASTM A99 PLUS WPQR APPROVED BY A THIRD PARTY INSPECTOR "100% Alloy Verification(PMI): OK "Intergranular Corrosion Test (according to ASTM A262 Practice E) : OK This certificate complies to EN 10201:2004 3.1	 1.Quality management system by TÜV 1.1 ISO 9001:2008 Certificate (No.01 100 056299) 1.2 PED Certificate (No.01 2012 ROC/Q-05 01 05) 2.Laboratory management system by TAF 2.1 ISO 17025:2005 Certificate (Laboratory Accreditation Code:1894)
Visual Inspection (Surface) and Dimension Check : OK Surveyor By N/A	茲證明本文所列產品，均依材料標準製造及試驗，並符合標準之要求 We Herby Certify that Material Described Herein has Been Manufactured and Tested with Satisfactory Results in Accordance with the Requirement of the Above Material Specification.

Customer: DESMET BALLESTRA S.p.A.
Order : 121467 - 28.06.2012 Project: C2F11A
Descr. : 168.28x2.77 W (P03.009.57)
Heat n° or Pcs. marking : VBB112829 Qtà/Qty:24 Posiz./Item n.: 090
Protocollo : CTCERC201200008562 * CERTIFIED TRUE COPY * Issued 18/09/12

THE MANUFACTURER:

彰源企業股份有限公司
/FROCH ENTERPRISE CO., LTD
 NO.122 INDUSTRIAL ROAD,
 TOU-LIU CITY, YUN-LIN 640
 TAIWAN

檢驗證明書

TEST CERTIFICATES

EN 10204:2004 3.1

Certificate No.	F090903001
Date:	AUG 31 2009

Customer : RACCORDUBI S.P.A.	
Invoice No.	OS000086S
Contract No.	FELEX20091161.1

產品名稱 Description	規格 Size	鋼種 Type	爐號 Heat No.	規範 Specification	ASTM A312/06, ASME SA312/04, AND ANSI/ASME B36.19						
					數量 QTY(M)	重量(Kg) 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	
E.F.W. PIPES TO ASME/ASTM SA/A-312 TP-304/304L AND TP-316/316L DIMS TO ANSI B36.19 AS PER ORDER NR. OS000086S DTD JUNE 24TH 2009 AND RELEVANT PROFORMA INVOICE NR. 20091161 DTD JUNE 30TH 2009	16 219.08 X 2.77MM	304/304L	ANN050008	144.000			1060	PICKLED	3.50		
機械試驗 Mechanical Test											
硬度試驗 Hardness HRB											
扁彎試驗 Flatening Test											
彎曲試驗 Bend Test											
撓口試驗 Flaring Test											
Elongation											
伸長率 %											
抗拉強度 Tensil (N/mm ²)											
0.2% Yield (N/mm ²)											
硬度 Tensil (N/mm ²)											
205.00											
方向 Direction											
寬度 Gauge Length											
mm											
L.T mm											
38											
ISO 9001 LLOYD'S REGISTER QUALITY ASSURANCE LTD.											
APPROVAL CERTIFICATE NO: 925916/QAM UNDER PED ESR4.3.											
THE MATERIAL DESCRIBED BY SUPPLIER AND HAS NO RADIATION CONTAMINATION.											
WE HEREBY STATE THAT ONE ITEM PER EACH PAGE											
AND ALSO ATTESTING POSITIVE HYDRAULIC TEST RESULT.											
Material Manufacturer.											
1. 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.											
2. FROCH has established QMS according to ISO 9001:2000,(Cer No:925916)											
3. FROCH has established EMS according to ISO 14001:2004,(Cer No:0992007)											
4. FROCH has been approved acc. to 97/23/EC, Annex I, 4.3 material manufacturer management system(Cer No: 01 202 ROC/Q-060145)											
5. FROCH has been approved acc. to AD WO/NZ2 material manufacturer management system(Cer No: 01 202 ROC/Q-060145-AM)											
6. The chemical compositions of the material are in accordance with ASTM A240.											
7. 1Ksi = 1000Psi , 1Mpa = 1 N/mm ² . 0.145038 Ksi											
8. The material described herein is certified for no radiation contamination by original Material Manufacturer.											

1. 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.

2. 100% Positive material identification result is satisfied.

3. Hardness to NACE MR0175-2002.

4. Our specification is according to 312WE Rev.1

5. Melting Process: EIAOD.

Remarks: WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS SPECIFIED BY YOU THAT IT SATISFIES THE REQUIREMENTS.

ISO 9001 LLOYD'S REGISTER QUALITY ASSURANCE LTD.

APPROVAL CERTIFICATE NO: 925916/QAM UNDER PED ESR4.3.

THE MATERIAL DESCRIBED BY SUPPLIER AND HAS NO RADIATION CONTAMINATION.
 WE HEREBY STATE THAT ONE ITEM PER EACH PAGE
 AND ALSO ATTESTING POSITIVE HYDRAULIC TEST RESULT.

QA Manager / Work Inspector.



CERTIFICATE EN 10204:2004/3.1

This inspection certificate fulfils the requirements of EN 10204:2004 type 3.1
and EN 10204:1991+A1:1995 type 3.1.B.

Page 1(1)

BUYER RACCORTUBI SpA Viale De Gasperi 194 IT-20010 MARCALLO CON CASONE (ITALIEN)	DATE 2008-05-28	CERTIFICATE NO N0811469/ 1										
	MANUFACTURES ORDER NO 2008001933	ITEM 20										
	BUYERS ORDER NO OF005200	SHIPMENT 807427										
PRODUCT FORM LONGITUDINALLY WELDED STAINLESS STEEL TUBES, WELD OUTSIDE GROUND, PICKLED, PLAIN ENDS, IN MILL LENGTHS, QUENCH ANNEALING 1080 C COOLED IN GAS												
SPECIFICATION ASTM A 312/ASME SA 312 (EFW)			MANUFACTURES MARK OUTOKUMPU-N									
GRADE TP 316/TP 316L			MANUFACTURES GRADE 4404U									
TUBE MARKING OUTOKUMPU-N; TP 316/TP 316L; WLD; A/SA 312; 88,90 X 2,11; 3" SCH 5S; 4024338;			TOLERANCES ASTM A 999									
EXTENT OF DELIVERY												
PCS 266	METER 1596,00	DIMENSION 88,90 2,11			HEAT NO 4024338	TEST NO A						
CHEMICAL COMPOSITION												
HEAT ANALYSIS 1	C 0,027	Si 0,410	Mn 1,81	P 0,030	S 0,002	Cr 17,20	Ni 10,10	Mo 2,03				
TEST RESULT												
TEMP C	RP0,2 MPa	RP1,0 MPa	RM MPa		A2 %	HRB HRB						
	205		515		35	90						
A1 L A2 L	20 20	351 311	399 347	632 636		52 55	85 82					
EDDY CURRENT TEST ASTM A 450/ASTM A 999, ASTM E 426 FLATTENING TEST ASTM A 999 VISUAL AND DIMENSIONAL INSPECTION MATERIAL IDENTIFICATION TEST INTERGRANULAR CORROSION TEST ASTM A 262:E HARDNESS ACC TO NACE MR 0175 Base material, EN 10028-7. Fullfill the requirements in EN 10217-7 Welding factor Z=1,0 based on EC-test acc to EN 10246-3						SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY SATISFACTORY						
						REVIEWED						
E 1 3 0 2 3 6 7												
 EN ISO 9001 : 2000 No. 78 100 3711		Certified acc: PED 97/23/EC and AD2000-W0/TRD 100 by TÜV Nord gruppe for pressure equipment NOB no: 0045 Certificate no: 07 202 0111 Z 0019/0/H (no: 0121WL04780) Procedures and personnel approved by notified bodies. WPS/WPAR: EN 288 / WLD Personnel: EN 1418 / NDT: EN 473 MELTING PROCESS: E/AOD Base material from PED 97/23/EC approved suppliers.						THE REQUIREMENTS ARE FULFILLED AS STIPULATED INSPECTOR / MAR Ulf Borsch ISSUED BY Yvonne Wannestrånd				

OUTOKUMPU STAINLESS TUBULAR PRODUCTS Telephone no +46 16 34 96 52 Telefax +46 16 34 97 00 yvonne.wannestrånd@outokumpu.com
 Torshälla Box 48 S-64421 Torshälla Sweden

Customer: DESMET BALLESTRA S.p.A.

Order : 121467 - 28.06.2012 Project: C2F11A

Descr. : 88.90x2.11 W (P03.009.67)

Heat n° or Pcs. marking : 4024338 Qtà/Qty:6 Posiz./Item n.: 011

Protocollo : CTCERC201200008562 * CERTIFIED TRUE COPY * Issued 18/09/12



允強實業股份有限公司
YEUN CHIYANG INDUSTRIAL CO., LTD.

524彰化縣溪州鄉中山路四段270號
No.270, Sec.4, Jungshan Rd., Shijou Shiang,
Chang-Hwa, Taiwan, R.O.C.
<http://www.yeunchiyang.com.tw>
TEL : +886-4-8899666 FAX : +886-4-8899770

檢驗證明書 156777

MILL/TEST CERTIFICATES TO EN 10204:2004 3.1

客戶名稱 Customer	RACCORDUBI SPA	客戶編號 Customer No.	FIT016	證明書編號 Certificate No.	120607P0129
產品名稱 Production	S/S WELDED PIPE	商業發票號碼 Commercial Invoice No.	J12050264	證明書日期 Date of Issue	2012/06/13
規範名稱 Specification	ASTM A312/A312M-11	客戶採購案號 PO No.	OS000079	訂單編號 Order No.	EP12040117-2
鋼種 Steel Grade	TP316/316L	提貨單編號 Weight No.	C12060002	P.I.號碼 P.I.NO.	PI1204-074

項目 Item No.	爐號 Heat No.	產品規格 Product Description		化學成份(%) Chemical Composition						拉伸試驗G.L. Tension Test				硬度試驗 HRB C.W.Q. MPa	水壓試驗 MPa	壓扁試驗 OK	Coil No	
		尺寸 Dimension	數量 Quantity Pcs	表面 Finish	碳 C	矽 Si	鎳 Ni	鉻 Cr	錳 Mn	磷 P	硫 S	0.2%Y.S.	I.S.	E.L.				
		Specification			Min.	Max.												
1	VBC051562	4"(114.3mm) x SCH-5S(2.11mm) x 6M	50	GOOD	20	56	104	33	310171671	204	297	607	51	74	1060	4.0	OK	0CS74128
		TOTAL:	50															

附註 Notes	*STANDARDS:ASTM A312/ASME SA312(2010 Section II Part A) *S/S WELDED PIPES ASTM A312/ASME SA 312 TP304/304L AND TP316/316L ANNEALED AND PICKLED, PLAIN ENDS, IN 6.0M/PC AS PER APPLICANT'S ORDER OS000079S DTD APRIL 10TH 2012 AND BENEFICIARY PROFORMA INVOICE DTD APRIL 16TH 2012 *ALSO ISSUED IN CONFORMITY TO NACE/IMR0175/ISO 15156-3:2009 SATISFACTORY WITH ACTUAL HRB VALUE AND ALSO ATTESTING POSITIVE HYDRAULIC TEST RESULT WITH ASTM A999 PLUS WPQR APPROVED BY A THIRD PARTY INSPECTOR. 100% Alloy Verification(PMI) : OK Intergranular Corrosion Test (according to ASTM A262 Practice E) : OK This certificate complies to 3.1/EN 10204:2004.																		
	*01= Hardness Test *02= Heat Treatment *03= Hydrostatic Test *04= Flattening Test *G.L.=Gauge Length: 50mm																		
	1.Quality management system by TÜV 1.1 ISO 9001:2008 Certificate(No.01 100 056299) 1.2 PED Certificate(No.01 202 ROC/Q-05 0105) 2.Laboratory management system by TAF 2.1 ISO 17025:2005 Certificate (Laboratory Accreditation Code: 1894)																		
	*MPa=1N/mm ² =10bar=145psi=10kgf/cm ² 1.The material described above has been detected with free irradiation by the raw material supplier. 2.We Herby Certify that Material Described Herein has Been Manufactured and Tested with Satisfactory Results in Accordance with the Requirement of the Above Material Specification.																		
Surveyor By	茲證明本文所列產品，均依材料標準製造及試驗，並符合標準之要求 We Herby Certify that Material Described Herein has Been Manufactured and Tested with Satisfactory Results in Accordance with the Requirement of the Above Material Specification.																		
N/A	Manager of Quality Assurance Department																		

Customer: DESMET BALLESTRA S.p.A.
Order : 121467 - 28.06.2012 Project: C2F11A
Descr.: 114.30x2.11 W (P03.009.68)
Heat n° or Pcs. marking : VBC051562 Qtà/Qty:6 Posiz./Item n.: 012
Protocollo : CTCERC201200008562 * CERTIFIED TRUE COPY * Issued 18/09/12



允強實業股份有限公司
YEUN CHIYANG INDUSTRIAL CO., LTD.

524彰化縣溪州鄉中山路四段270號
No.270, Sec.4, Jungsian Rd., Shijou Shiang,
Chang-Hwa, Taiwan, R.O.C.
http://www.yeunchiyang.com.tw
TEL : +886-4-8899666 FAX : +886-4-8899770

檢驗證明書 156778

MILL/TEST CERTIFICATES TO EN 10204:2004 3.1

客戶名稱 Customer		RACCORDUBI SPA		客戶編號 Customer No.	FIT016	證明書編號 Certificate No.	120607P0132												
產品名稱 Production		S/S WELDED PIPE		商業發票號碼 Commercial Invoice No.	J12050264	證明書日期 Date of Issue	2012/06/13												
規範名稱 Specification		ASTM A312/A312M-11		客戶採購案號 PO No.	OS000079	訂單編號 Order No.	EP12040117-3												
鋼種 Steel Grade	TP316/316L	提貨單編號 Weight No.	C12060002	P.I.號碼 P.I.NO.	P11204-074	Coil No													
項目 Item No.	爐號 Heat No.	產品規格 Product Description	尺寸 Dimension	數量 Quantity Pcs	表面 Finish	化學成份(%) Chemical Composition	拉伸試驗G.L. Tension Test												
Specification				Min. Max.	碳 C $\times 10^{-2}$	矽 Si $\times 10^{-2}$	錳 Mn $\times 10^{-2}$	磷 P $\times 10^{-3}$	硫 S $\times 10^{-2}$	鎳 Ni $\times 10^{-2}$	鉻 Cr $\times 10^{-2}$	钼 Mo $\times 10^{-2}$	鉬 Mo 0.2%Y.S.	降伏 Y.S. E.L.	抗拉 T.S.	伸長率 % E.L.	硬度 HRC 試驗 HRB C/W.Q. MPa	*01 *02 *03 *04 壓扁試驗 壓扁 MPa	Coil No
Specification				Min. Max.	35	100	200	45	30	1400	1800	300	200	205	515	35	1040		
1	VBC042584	5"(141.3mm) x SCH-10S(3.4mm) x 6M	17	GOOD	14	34	137	27	21000	1678	204	271	590	53	79	1060	5.0	OK	
2	VBC052466	5"(141.3mm) x SCH-10S(3.4mm) x 6M	30	GOOD	18	33	140	28	21003	1676	201	284	603	51	80	1060	5.0	OK	235377204
3	VBC053317	5"(141.3mm) x SCH-10S(3.4mm) x 6M	40	GOOD	18	33	140	28	21003	1676	201	284	603	51	80	1060	5.0	OK	243138507
4	VBC053318	5"(141.3mm) x SCH-10S(3.4mm) x 6M	30	GOOD	18	33	140	28	21003	1676	201	284	603	51	80	1060	5.0	OK	243138507
				TOTAL:	117														
*STANDARDS: ASTM A312/ASME SA312/2010 Section II Part A) *S/S WELDED PIPES ASTM A312/ASME SA 312 TP304/304L AND TP316/316L ANNEALED AND PICKLED, PLAIN ENDS, IN 6.0MIPC AS PER APPLICANT'S ORDER OS000079S DTD APRIL 10TH 2012 AND BENEFICIARY PROFORMA INVOICE DTD APRIL 16TH 2012 *ALSO ISSUED IN CONFORMITY TO NACE/MR0175/ISO 15156-3:2009 SATISFACTORY WITH ACTUAL HRB VALUE AND ALSO ATTESTING POSITIVE HYDRAULIC TEST RESULT WITH ASTM A999 Notes PLUS WPQR APPROVED BY A THIRD PARTY INSPECTOR. 100% Alloy Verification(PMI) : OK Intergranular Corrosion Test (according to ASTM A262 Practice E) : OK This certificate complies to 3.1/EN 10204:2004.								*01= Hardness Test *02= Heat Treatment *03= Hydrostatic Test *04= Flattening Test *G.L.=Gauge Length: 50mm		1MPa=1N/mm ² =10bar=14psi=10.2kgf/cm ² The material described above has been detected with free irradiation by the raw material supplier.		 1. Quality management system by TÜV 1.1 ISO 9001:2008 Certificate (No.01 100 056299) 1.2 PED Certificate (No.01 202 RC010-05 0105) 2. Laboratory management system by TAF 2.1 ISO 17025:2005 Certificate (Laboratory Accreditation Code: 1894)		Manager of Quality Assurance Department Manager of Quality Assurance Department					
Surveyor By		N/A		茲證明本文所列產品，均依材料標準製造及試驗，並符合標準之要求 We Herby Certify that Material Described Herein has Been Manufactured and Tested with Satisfactory Results in Accordance with the Requirement of the Above Material Specification.															

Customer: DESMET BALLESTRA S.p.A.
 Order : 121467 - 28.06.2012 Project: C2F11A
 Descr. : 141.30x3.40 W (P03.009.69)
 Heat n° or Pcs. marking : VBC053317 Qtà/Qty:6 Posiz./Item n.: 013
 Protocollo : CTCERC201200008562 * CERTIFIED TRUE COPY * Issued 18/09/12

Certificate No.	F110506022
Date:	MAY 05,2011

ORIGINAL
書
檢驗證
TEST CERTIFICATES
EN10204:2004 3.1
149645

Customer: RACCORDUBI SPA

Invoice No. OS00000835 S
FEX20110800

Contract No. 6014CIM0010679G0

Product Name: 鋼管
Item No.: 18

Size: 168.28 X 2.77MM

Description: E.F.W.PIPES TO ASME/ASTM SA/A-312 TP 304/304L AND

TP 316/316L, DIMS TO ANSI B36.19

AS PER APPLICANT'S ORDER NR. OS00000855

DTD MARCH 24TH 2011 AND

RELEVANT PROFORMA INVOICE NR. 20110800

DTD MARCH 25TH 2011

Chemical Composition (%)											Mechanical Test						Non-destructive Test		
Item No.	C	Si	Mn	P	S	Cr	Ni	Mo	N	其他	Tensile Strength (N/mm²)	0.2% Yield (N/mm²)	Elongation %	Direction	Gauge Length	Hardness HRB	Flattening Test	Bend Test	Flaring Test
Min.	0.35	1.000	2.00	0.45	0.30	16.00	10.00	2.00			515.00	205.00	35.00	L.T	mm			No Crack	
Max.	0.19	.490	1.76	.033	.002	17.10	10.10	2.02			623.00	305.00	53.00	Longitudinal	25	50.00	87.00	OK	
18																			

- 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.
 2. 100% Positive material identification result is satisfied.
 3. Hardness to NACE MR 0175/ISO 15156-1 ed. 2003
 4. Our specification is according to 3/12/WF Rev. 1
- Remarks: WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS SPECIFIED BY YOU THAT IT SATISFIES THE REQUIREMENTS.
- ISO 9001 LLOYD'S REGISTER QUALITY ASSURANCE LTD.
APPROVAL CERTIFICATE NO. 925916/QAM UNDER PED ESRA 3.
- WE HEREBY STATE THAT ONE ITEM PER EACH PAGE,
HEADED TO RACCORDUBI SPA AND ATTESTING
POSITIVE HYDRAULIC TEST RESULT.

1. Intergranular corrosion test according to A262 practice E.

2. 100% Positive material identification result is satisfied.

3. Hardness to NACE MR 0175/ISO 15156-1 ed. 2003

4. Our specification is according to 3/12/WF Rev. 1

5. FROCH has been approved acc. to 9/72/3(EC, Annex 1, 4.3 material manufacturer management system) cert No. 01 202 ROC/Q-060/45)

6. The chemical compositions of the material are in accordance with ASTM A240.

7. 1Ksi = 1000Psi ; 1Mpa = 1 N/mm² = 0.145038 ksi

8. The material described herein is certified for no radiation contamination by original Material Manufacturer.

BY THE MANUFACTURER



QA Manager / Work Inspector.

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

(*) Marcatura e cert. N. 000362
 Material Marking e Cert. N.
 Marquage du matériel

Data: 03/01/12
 Date:



Stab. / Plant: Via Don Spagnoli 15 - 29010 Sarmato (PC) - ITALIA
 tel. (+39) 0523 887452-887891 - fax. (+39) 0523 887687

Sede Operativa / Commercial Office:
 RACCONTUBI S.p.A. - Viale De Gasperi, 194
 20010 - Marcallo con Casone (MI) - ITALIA
 tel. (+39) 02 90376337 - info@raccortubi.it
 tel. (+39) 02 9763001 - fax. (+39) 02 90376337 - info@raccortubi.it

Quality System
 Certified

Cliente RACCONTUBI S.p.A.

Customer/Client
 Description

Ordine N. OS000171 S DEL 23/06/2011
 P.O.N./Commande N.

Pos. N. 14
 Item/Poste

Q.tà
 Qty/Q.té

347

Material base/Raw material/Matériel du départ

Fabbricante/Manufacturer/Fabriquant: SALZGITTER MANNESMANN STAINLESS TUBES Cert. No.: 0000237747_006111

Costruzione/Manufacture/Méthode de fabrication

Formato a freddo
 Cold formed

Spedizione/Inspection/Inspection
 Formés à froid

Spedizione/Inspection/Inspection

Caratteristiche meccaniche

Mechanical Properties/Caractéristiques Mécaniques

Specificazione/Specification	Colata N. Heat N. Coulée N.	N. prova Specimen N. Échantil. N.	Snervamento Yield strength Limit d'élasticité N/mm²	Rottura Tensile strength Limit d'élasticité à la traction N/mm²	Allungam. Elongation Allongement	% Hardness as per NACE MR01-75	Durezza Hardness Dureté	Resilienza Impact energy Resilience Joules
SMLS PIPES TO ASME/ASTM SA1312TP 316/316L, DIMS TO ANSI B36.19	385990	40024668	350	641	48	HRC<22		
	385990	40024668						

Analisi chimica %/Chemical composition/Composition chimique

Colata N. Heat N. Coulée N.	C	Si	Mn	P	S	Cr	Ni	Mo	N
385990	0,012	0,35	1,58	0,027	0,009	16,84	11,24	2,06	0,065

Prove/Test/Tests

Trattamento termico
 Heat treatment/Traitement Thermique

Solubilizzazione a 1045°C
 Solution Annealing at 1045°C, water quenching

Hypertermépse à 1045°C

Guaranteed characteristics (A.M. du 24.03.78)

Caractéristiques garanties pour Z2CN18-10 et Z2CND17-13
 C ≤ 0,25%
 S ≤ 0,05%
 P ≤ 0,05%

Rm ≤ 760 N/mm²
 Rm(A-2) ≤ 1050 N/mm²
 A% sur 5,65 ≤ So ≥ 16

Il materiale è stato fornito in conformità ai requisiti dell'ordine.
 The material has been furnished in accordance with purchase order requirements.
 Le matériel a été trouvé conforme aux exigences.

Note/Remarks/Notes

MATERIAL CONFORMS TO NACE MR0175/ISO 15156-1 LAST ED. AND MR 0103.ed.10
 CERTIFIED ACC TO PED 97/23/EG

Prova di corrosione A262 Prat. E: Conforme
 Corrosion Test A262 Pract. E: In conformity
 Essais de corrosion A262 Prat. E: En Conformité

I dati dall'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 caractéristique mécaniques sont en conformité au certificat émis par le producteur du matériel de base et/ou par le laboratoire qui a effectué les tests.

Responsabile Controllo Qualità

Quality Control Manager

Ispettore/Inspector/Inspecteur

Customer: DESMET BALLESTRA S.p.A.

Order : 121467 - 28.06.2012 Project: C2F11A

Descr. : CURVE 45° LR 1" SCH.40/S (P03.001.26)

Heat n° or Pcs. marking : 000362 Qtà/Qty:2 Posiz./Item n.: 016

Protocollo : CTCERC201200008675 * CERTIFIED TRUE COPY * Issued 19/09/12

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



Stab./Plant: Via Don Spagnoli 5 - 29010 Sarmato (PC) - ITALIA
 tel. (+39) 0523.887452-887991 - fax. (+39) 0523.887687

Sede Operativa / Commercial Office:
 RACCORDTUBI S.p.A. - Viale De Gasperi, 194
 20101 - Marcallo con Casone (MI) - ITALIA
 tel. (+39) 02.90376337 - fax. (+39) 02.90376337 - info@raccortubi.it

Quality System
 Certified

Cliente RACCORDTUBI S.p.A.

Customer/Client

Ordine N. OS0000079 S DEL 23/03/2011
 P.O.N./Commande N.

Pos. N. 3
 Item/Poste

Q.tà Q.ty/Q.té

100

(*) Marcatura e cert. N. 001941 Material Marking e Cert. N. Marquage du matériel	Data: 18/04/11 Date:
--	-------------------------

Materiale base/Raw material/Matériel du départ		Fabbricante/Manufacturer/Fabriquant: BUTTING Cert. No.: 46042		Caratteristiche meccaniche		Mechanical Properties/Caractéristiques Mécaniques		Specifiche/Specification		Costruzione/Manufacture/Méthode de fabrication	
Colata N. Heat N. Coulée N.	N. prova Specimen N. Échantill. N.	Rottura Tensile strength Limit d'élasticité N/mm²	Allungam. % Elongation Resistance à la traction N/mm²	Durezza Hardness as per NACE MRO175	Durezza Hardness Dureté	Resilienza Impact energy Resilience Joules	Resilienza Impact energy Resilience Joules	Specifiche/Specification	Specifiche/Specification	Formato a freddo Cold formed Formée à froid	Saldato Welded Soudée
E.F.W. PIPES TO ASTM A 312 TP 304L DIMS TO ANSI B36.19	02047	6	373	625	57.4	HRC<22					
Analisi chimica %/Chemical composition/Composition chimique	C	Si	Mn	P	S	Cr	Ni	Mo	N	Analisi chimica %/Chemical composition/Composition chimique	Analisi chimica %/Chemical composition/Composition chimique
Colata N. Heat N. Coulée N.	0,02	0,43	1,83	0,025	0,003	18,20	8,30	0,00	0,05	Prove/Test/Tests	Prove/Test/Tests
Prova di corrosione A262 Prat. E: Conforme Corrosion Test A262 Pract. E: In conformity Essais de corrosion A262 Prat. E: En Conformité	02047									Note/Remarks/Notes	Note/Remarks/Notes
I dati dall'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 caractéristique mécaniques sont en conformité au certificat émis par le producteur du matériel de base et/ou par le laboratoire qui a effectué les tests.										Responsabile Controllo Qualità Quality Control Manager	
MATERIAL CONFORMS TO NACE MRO175/ISO LAST ED. AND MR 0103-ed.10 The material has been furnished in accordance with purchase order requirements. Le matériel a été fourni conforme aux exigences.										Marchio di fabbrica Trade Mark	
(*) Material marked with certificate number as per relevant code.										Ispettore/Inspector/Inspecteur	

Customer: DESMET BALLESTRA S.p.A.

Order : 121467 - 28.06.2012 Project: C2F11A

Descr. : CURVE 45° LR 4" SCH.5/S W (P03.001.32)

Heat n° or Pcs. marking : 001941 Qtà/Qty:1 Posiz./Item n.: 017

Protocollo : CTCERC201200008675 * CERTIFIED TRUE COPY * Issued 19/09/12



INSPECTION CERTIFICATE EN 10204 3.1

150289

1 (6)

This inspection certificate fulfills the requirements of EN 10204 3.1

CUSTOMER RACCORDUBI S.P.A. VIALE DE GASPERI 194 20010 MARCALLO CON CASONE Italy	DATE 13.7.2011 / 3.8.2011	CERTIFICATE NO 00027169 AA		
	DELIVERY NO 80038710	SHIPPING POINT OSTP Jakobstad shipping		
CERTIFICATE TEXT				
ITEM	MATERIAL NO	DESCRIPTION	BATCH	DELIVERED QUANTITY
Your reference:	OS000142S	Our order:	300143955	
000010	6014092	Elbow 45° LR 168,3x2,77 6" 5S R=229 EN 1.4307/304L OT226 ASTM A403 WP-W	LK8099	10 PC
000020	6014011	Elbow 90° LR 168,3x2,77 6" 5S R=229 EN 1.4307/304L OT226 ASTM A403 WP-W	TP5582	100 PC
000030	6014013	Elbow 90° LR 219,1x2,77 8" 5S R=305 EN 1.4307/304L OT226 ASTM A403 WP-W	TP5394	50 PC
000040	6014026	Elbow 90° LR 168,3x2,77 6" 5S R=229 EN 1.4404/316L OT226 ASTM A403 WP-W	TP5583	100 PC
000050	6014032	Elbow 90° LR 323,9x3,96 12" 5S R=457 EN 1.4404/316L OT226 ASTM A403 WP-W	TI4078	20 PC

OUTOKUMPU STAINLESS TUBULAR PRODUCTS
Nordanvägen 11
68601 Jakobstad

Telephone +358 6 786 5111
Telefax +358 6 786 5222

www.outokumpu.com

Customer: DESMET BALLESTRA S.p.A.
Order : 121467 - 28.06.2012 Project: C2F11A
Descr. : CURVE 45° LR 6" SCH.5/S W (P03.001.34)
Heat n° or Pcs. marking : LK8099 Qtà/Qty:4 Posiz./Item n.: 018
Protocollo : CTCERC201200008675 * CERTIFIED TRUE COPY * Issued 19/09/12

Product description

Elbow bent from pipe, 45°, longradius

Material
WP 304L/304

150289

Technical requirements

ASTM A 403-10 and ASME SA 403-07

Melting process
E+AOD

NACE MR0175-03 Hardness max 22 HRC.

Made from welded pipes without filler material

Product marking

OUTOKUMPU JA Dimension ASTM A/ASME SA 403 WP Material W Batch Made in

Extent of delivery

Dimension
6" SCH 5SBatch number
LK8099Starting material
Elb WP 304LHeat number
727163

Deliv. cond.

Chemical composition (According to inspection certificate of steel manufacturer)

C [%]	Si [%]	Mn [%]	P [%]	S [%]	Cr [%]	Ni [%]	Mo [%]	Ti [%]	N [%]	Cu [%]
0,019	0,310	1,620	0,032	0,002	18,40	8,200			0,037	

Test results (Test number ending with L = longitudinally and T = transversely)

Test no.	R _{p0,2} [N/mm ²]	R _{p1,0} [N/mm ²]	R _m [N/mm ²]	A _s [%]	Technological tests
B3655L	387	430	656	52	Weld bend test
B3656L	389	434	658	52	EN 910

Heat treatment
1050°C/water

Eddy current test acc. to ASTM A 312 (Starting pipe) :

Accepted

Dimensional inspection ANSI B 16.9 :

Accepted

Visual inspection :

Accepted

Material identification test :

Accepted

Destructive tests made on starting material

Fittings corrosion resistant acc. to ASTM A 262 Pr. E

These components are manufactured according to
PED 97/23/EC Annex 1, chapter 3.1, 4.3 and 7.2

ISO 9001:2008 Quality Management System, certified by TÜV.

QUALITY DEPARTMENT

Certified acc. to PED 97/23/EC Annex 1, chapter 3.1, 4.3 and 7.2,
by TÜV Notified Body reg. no. 0045.Inspector Kjell Hagvik
This test certificate is made by controlled ADP-system
and is valid without signature.ADM 2000 WO by TÜV, Pipes: cert.No. 07-202-1326-WP-0562/08,
Elbows: cert.No. 07-202-1326-WP-0575/08

The requirements are fulfilled as stipulated.

Tel. +358 6 7865111, Fax. +358 6 7865222

Outokumpu Stainless Tubular Products Oy Ab
P.O.Box 15, FIN-68601 JAKOBSTAD, Finland

Domicile: Jakobstad, Finland, Business ID: 1731312-7

Customer: DESMET BALLESTRA S.p.A.

Order : 121467 - 28.06.2012 Project: C2F11A

Descr. : CURVE 45° LR 6" SCH.5/S W (P03.001.34)

Heat n° or Pcs. marking : LK8099 Qtà/Qty:4 Posiz./Item n.: 018

Protocollo : CTCERC201200008675 * CERTIFIED TRUE COPY * Issued 19/09/12

EN 10204 3.1

08.06.2007

Raccortubi SpA
Via Adamello, 1
I-20010 ARLUNO (MILANO), ITALY

Order/item
91839/140

Packing list/item
80145004/30

Your order
OSOOO106 S

Marking

Material
WP 316L/316

Product description
Elbow bent from pipe, 45°, longradius

Technical requirements
ASTM A 403-06 and ASME SA 403
NACE MR0175-03 Hardness max 22 HRC. Fulfills also prEN 10253-4-A
Made from welded pipes without filler material

Melting process
E+AOD

Product marking
OUTOKUMPU JA Dimension ASTM A/ASME SA 403 WP Material W Batch Made in Finland

Extent of delivery

Item	Quantity	Dimension	Batch number	Starting material	Heat number
010	8 pc	6" SCH 5S	TP3140	Pipe 1.4432/316L	506301

Chemical composition (According to inspection certificate of steel manufacturer)

Item	C [%]	Si [%]	Mn [%]	P [%]	S [%]	Cr [%]	Ni [%]	Mo [%]	Ti [%]	N ₂ [%]	Deliv. cond.
010	0,020	0,430	1,280	0,032	0,006	17,00	10,60	2,560	-	0,043	

Test results (Test number ending with L=longitudinally and T=transversely)

Item	Test no.	R _{p0,2} [N/mm ²]	R _{p1,0} [N/mm ²]	R _m [N/mm ²]	A ₅ [%]	Technological tests	Heat treatment
010	A3107L A3108L	343 397	397 442	615 622	59 55	Weld bend test EN 910	1050°C/water



Intergranular corrosion test EN ISO 3651-2/A :

Accepted

Eddy current test 9.5.8.3 (Starting pipe) :

Accepted

Dimensional inspection ANSI B 16.9 :

Accepted

Visual inspection :

Accepted

Material identification test :

Accepted

100% PMI-tested

10:Destructive tests made on starting material

- 1 2 1 9 6 8 -

These components are manufactured according to
PED 97/23/EC Annex 1, chapter 3.1, 4.3 and 7.2

ISO 9001:2000 Quality Management System, certified by TÜV. Certified acc. to PED 97/23/EC Annex 1, chapter 3.1, 4.3 and 7.2, by Inspected Oy Notified Body reg. no. 0424.	QUALITY DEPARTMENT
ADM 2000 WO by TÜV, Pipes: cert.No. 07-701-Z-0562, Elbows: cert.No.07-701-Z-0575-05 The requirements are fulfilled as stipulated.	Inspector Kjell Hagvik This test certificate is made by controlled ADP-system and is valid without signature.

Outokumpu Stainless Tubular Products Oy Ab
P.O.Box 15, FIN-68601 JAKOBSTAD, Finland

Tel. +358 6 7865111, Fax. +358 6 7865222

Domicile: Jakobstad, Finland. Business ID 1731317-7

Customer: DESMET BALLESTRA S.p.A.
Order : 121467 - 28.06.2012 Project: C2F11A
Descr. : CURVE 45° LR 6" SCH.5/S W (P03.001.47)
Heat n° or Pcs. marking : TP3140 Qtà/Qty:4 Posiz./Item n.: 019
Protocollo : CTCERC201200008675 * CERTIFIED TRUE COPY * Issued 19/09/12

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



Stab./Plant: Via Don Spagnoli 5 - 29010 Sarmato (PC) - ITALIA
 tel. (+39) 0523.887452-887991 - fax. (+39) 0523.887687

Sede Operativa / Commercial Office:
 RACCORDTUBI S.p.A. - Viale De Gasperi, 194
 20101 - Marcallo con Casone (MI) - ITALIA
 tel. (+39) 02.90376337 - fax. (+39) 02.90376337 - info@raccortubi.it

Quality System
 Certified

Cliente RACCORDTUBI S.p.A.

Customer/Client

Ordine N. OS0000079 S DEL 23/03/2011
 P.O.N./Commande N.

Pos. N. 12
 Item/Poste **Q.tà** Q.ty/Q.té
 50

Materiale base/Raw material/Matériel du départ	Fabbricante/Manufacturer/Fabricant: AL THAMMER Cert. No.: 23896

(*) Marcatura e cert. N. 003361 Material Marking e Cert. N. Marquage du matériel	Data: 18/04/11 Date:

Analisi chimica %/Chemical composition/Composition chimique									
Colata N. Heat N. Coulée N.	C	Si	Mn	P	S	Cr	Ni	Mo	
E.F.W. PIPES TO ASTM A 312 TP 316/316L DIMS TO ANSI B36.19									
455542	0,03	0,36	1,17	0,032	0,001	16,70	10,10	2,14	
Prove/Test/Tests									
Prova di corrosione A262 Prat. E: Conforme Corrosion Test A262 Pract. E: In conformity Essais de corrosion A262 Prat. E: En Conformité	Note/Remarks/Notes								
I dati dall'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 caractéristiques mécaniques sont en conformité au certificat émis par le producteur du matériel de base et/ou par le laboratoire qui a effectué les tests.	MATERIAL CONFORMS TO NACE MR0175/ISO 15156-1 LAST ED. AND MR 0103-ed.10 CERTIFIED ACC. TO PED 97/23/EG								
Responsabile Controllo Qualità Quality Control Manager									
(*) Material marked with certificate number as per relevant code.									

Customer: DESMET BALLESTRA S.p.A.

Order : 121467 - 28.06.2012 Project: C2F11A

Descr. : CURVE 45° LR 6" SCH.5/S W (P03.001.47)

Heat n° or Pcs. marking : 003361 Qtà/Qty:2 Posiz./Item n.: 019

Protocollo : CTCERC201200008675 * CERTIFIED TRUE COPY * Issued 19/09/12



ALTHAMMER

Rohre und Behälter aus Edelstahl

Althammer GmbH u. Co. KG - Postfach 11 05 - D-89501 Heidenheim

Raccortubi SRL

Via Adamello 1

111500

I-20010 Arluno (Milano)

Ergebnisform - Product - Produit	
Nichtrostende Rohre, längsnahgeschweißt	
Stainless steel tubes, longitudinally welded	
Tubes soudés	
Schweißnahtfaktor - Welding factor - Coefficient de soudure	
1,0	
Werkstoff-Normbez. - Standard grade - Matière	
316/316L / X 5 CrNiMo 17 13 3 / X 2 CrNiMo 17 13 2	
Lieferzustand - Delivery condition - Etat de livraison	
d2g w / Glühtemperatur 1080°C / annealing at 1080°C	
Die Wärmebehandlungseinheit wurde vom TÜV Südwest gem. AD-HP 7/1	
Überprüft: Prüf-Nr.: WB-UL-92/D 0 610.	
Lieferbedingungen und / oder Vorschriften	
Terms of order and / or other code requirements	
Normes et / ou autres spécifications	
ASTM A 312 / ASME SA 312	
/ 312 W Rev. 0	
Auftrags Nr. - Order no. - No. ref.	
KA16516	
Datum - Date - Date	
10. Februar 2006	



Bestellung Nr. / vom - Your order no. / date - No. de commande / Date
OS000279 S v. 13.12.2005

Nr.-No.: 23896

Probenummer : 23896

Pos. Item no. Poste no.	Menge Quantity Quantité	Abmessung - Dimension - Dimension mm	Toleranzklasse Tolerance class Catégorie d'tolérance	Schmelzen Nr. Heat no. No. de coulée
10	390,0 m	Ø 168,3 x 3,4 aus kontinuierlicher Fertigung vom Band / Produced out of Coil	ASTM A 312/530	455542

Analyse gemäß Abnahmeprüfzeugnis des Stahlherstellers
Chemical Composition determined by the steel producer
Analyse sur coulée

Outokumpu

Schmelzen Nr. Heat no. No. de coulée	Erschmelzungsart - Steel making process - Procédé d'élaboration	A	E=Elektrostahl - electric steel - Acier électrique A=AOD-Verfahren - AOD-process - AOD-Proceda V=VOD-Verfahren - VOD-process - VOD-Proceda
455542	% C % Si % Mn % P % S % Cr % Mo % Ni % Ti % N % Cu	0,03 0,36 1,17 0,032 0,001 16,7 2,14 10,1 --- --- ---	%

Mechanische Eigenschaften - Mechanical properties - Propriétés mécaniques

Los Nr.: Lot no.: Lot no.:	Probenform Type of spez. Type	Probenlage Test-pos. Position	Rp 0,2% [N/mm²]	Rp 1,0% [N/mm²]	Rm [N/mm²]	A 5 [%]	Ringzugversuch - Ring tension test - Essai de traction à l'anneau		Aufweitungstest - Drift expand. Test - Essai d'évasement		
							Soll : Requirement Val. Garanties	ASTM	GM	min. 205	
1		SG	-	-	515	-					
2	A 370	GM	392	-	615	51	Ultraschallprüfung der Rohrenden - Ultrasonic testing of pipe ends - Examen de ultrasonique dans le point de tube	Kerbschlagbiegeproben - Impact strength test Essai de résilience			
Ringfallversuch - Flattening Test - Essais de pliage boucle			o.B./w.c./s.o.		Biegelabiegeversuch - Transverse guided face bend test - Essai de pliage à courber		Zerstörungsfreie Prüfungen - Non-destructive tests - Examens non destructifs				

Zugversuch - Tensile test - Essai de traction		Dichtheitsprüfung - leak test - Essai d'étanchéité	
Los Nr.: Lot no.: Lot no.:	Probenform Type of spez. Type	Ringzugversuch - Ring tension test - Essai de traction à l'anneau	Aufweitungstest - Drift expand. Test - Essai d'évasement
Soll : Requirement Val. Garanties	ASTM	GM	SG

Röntgenprüfung - Radiographic examination - Examen de radiographie	---	Wirbelstromprüfung - Eddy current testing - Inspection par courants de Foucault	o.B./w.c./s.o.	Mit Luft und schaumbildendem Mittel [0,3 bar] - With air by using foam method [0,3 bar] - Avec air dans utilisation d'écume [0,3 bar]
Wirbelstromprüfung - Eddy current testing - Inspection par courants de Foucault	o.B./w.c./s.o.	8 bar Luft unter Wasser - 6 bar air under water -	—	Innendruckversuch mit Wasser - Hydrostatic pressure test - Essai de pression hydraulique 41 bar

Sonstige Prüfungen - Other tests - autres tests						
Interkristalline Korrosion Intergranular corrosion Corrosion intercrastalline	ASTM A 262 Practice E o.B./w.c./s.o.	Besichtigung und Maßkontrolle Visual & dimensional inspection Inspection du matériel et contrôle des dimensions	o.B./w.c./s.o.	Spectroscop. Identitätspr. Spectroscopic test Essai du spectre	100% PMI test o.B./w.c./s.o.	Makro-/ Mikroschliff! Macro-/Microgrinding Examen Macro-/Micrographique o.B./w.c./s.o.

Kennzeichnung - Marking - Marquage						
J/B Produktname - Werkstoff - Außendurchmesser - Wandstärke - Kurzzeichen für geschweißte Ausführung - Probennummer - Charge-Nr.	Bernerkungen - Comments - Note					

NACE MR 01-75; HRC <= 22.	RINA approved.	(*) Ø 48,3 - 114,3: quenching by water-cooled graphite blocks, Ø >114,3 - 406,4: quenching by water
Zerstörungsfreie Prüfung nach ASME / Non destructive examination acc. to ASME	(*) Ø 48,3 - 114,3: quenching by water-cooled graphite blocks, Ø >114,3 - 406,4: quenching by water	o.B. = ohne Beanstandung w.c. = without complaint s.o. = sans objection

Es wird bestätigt, daß die Lieferung den Vereinbarungen bei der Bestellung entspricht. It is certified that the material complies with the terms of the order. Nous attestons que les produits livrés sont conformes aux stipulations de la commande.	AD 2000 - WD - W2 6.2.1 - HP0 - Aquap	Zuglassen - approved - approuvée - gemäß AD 2000 und Druckgeräterichtlinie 97/23/EG Anhang I, Absatz 4.3, 0036 - Aquap	DIN EN ISO 9001 Großer Eignungsnachweis DIN 18800 T.7 § 19 I WHG
---	---	---	--

Ausgestellt mit Zustimmung des TÜV-Südwest, Prüf-Nr.: WB-UL-92/4270 Dieses Zeugnis wurde mit Hilfe der EDV erstellt und ist ohne Unterschrift gültig. Veränderungen sowie Verwendung für andere Erzeugnisse werden als Urkundenfälschung und Betrug verfolgt. e-Mail : horst.jah@althammer.de helmut.pretli@althammer.de	Dipl.-Ing. (FH) H. Jahl
--	-------------------------

Prüfzeichen der Werkstoffverständigen Inspector's stamp Poinçon de l'agent réceptionnaire	J/B	Telefon : 07321 / 3503 - 80 Telefax : 07321 / 3603 - 98
---	-----	--

Customer: DESMET BALLESTRA S.p.A.
Order : 121467 - 28.06.2012 Project: C2F11A
Descr. : CURVE 45° LR 6" SCH.5/S W (P03.001.47)
Heat n° or Pcs. marking : 003361 Qtà/Qty:2 Posiz./Item n.: 019
Protocollo : CTCERC201200008675 * CERTIFIED TRUE COPY * Issued 19/09/12

TEST CERTIFICATES

MANUFACTURER: GREAT PIPELINE INDUSTRY CO.,LTD.

XIACHANG VILLAGE, FEIYUN TOWN, RUIAN CITY, ZHEJIANG, CHINA 3225207

CERTIFICATE OF QUALITY ACCORDING TO EN 10204:2004 3.1

ISO9001:2000+PED97/23/EC+AD2000

ONE ITEM PER EACH PAGE

Client	RACCORDUBI SPA VIALE DE GASPERI 194 20010 MARCALLIO CON CASONE(MI)		Certificate No	110520-8	
Contract No	GF20110206		Delivery Conditions	Solution Annealed ,nickel and passivated	
Product	SEAMLESS STAINLESS STEEL COLD FORMED BW FITTINGS		Specification	ASME/ASTM SA/A-403-10 DIMS/ENDS ANSI B16.9/28 AND B16.25	
Item	Quantity	Size	Description	Grade	Heat NO
8	150	1"	SCH40S	WP304/304L-S	J1005-026
					1050° 15 min.
					Quenching
					RWQ

Chemical Composition (%)

Heat	C	Mn	P	S	Si	Cr	Ni	Mo	Ti	Non-destructive Test	PMI	Visual	Dimensional
J1005-026	0.018	0.96	0.037	0.003	0.500	18.2	8.10						
Heat	TS(Mpa)	YS (Mpa)	El(%)	Hardness	NACE MR0175	IC Test ASTM A262E	Impact Test	PT					
J1005-026	530	278	54	HRB≤90	OK	OK	N/A	OK	OK	OK	OK	OK	

PO NO.: OS 000037S

MARKINGS: GREAT - SPEC - SIZE - SCH - GRADE - HEAT NO
We hereby attesting satisfactory testing result as required in RACCORDUBI SPAS P.O. OS 000037S AND SPEC.PS403 REV.0

Signed: 27/07/11
Date: 2011.07.27
Q.A Manager

QC Department



Customer: DESMET BALLESTRA S.p.A.
Order : 121467 - 28.06.2012 Project: C2F11A
Descr. : CURVE 90° LR 1" SCH.40/S (P03.002.34)
Heat n° or Pcs. marking : J1005-026 Qtà/Qty.5 Posiz./Item n.: 020
Protocollo : CTCERC201200008675 * CERTIFIED TRUE COPY * Issued 19/09/12

TEST CERTIFICATES

MANUFACTURER: GREAT PIPELINE INDUSTRY CO.,LTD.

XIACHANG VILLAGE, FEIYUN TOWN, RUIAN CITY, ZHEJIANG, CHINA 325207

CERTIFICATE OF QUALITY ACCORDING TO EN 10204:2004 3.1 ISO9001:2000+PED97/23/EC+AD2000

ONE ITEM PER EACH PAGE

Client	RACCORDTUBI SPA VIALE DE GASPERI 194 20010 MARCALLO CON CASONE(MI)		Certificate No	120105-19
Contract NO	GF20111101		Delivery Conditions	Solution Annealed ,pickling and passivated
Product	SEAMLESS STAINLESS STEEL COLD FORMED BW FITTINGS		Specification	ASME/ASTM SA/A-403 -10 DIMS/ENDS ANSI B16.9/28 AND B16.25
Item	Quantity	Size	Description	Grade
19	1000	2"	SCH40S	WP316/316L-S
			Long Radius Elbows 90°	Y110908
				1050° 15 min.
				RWQ

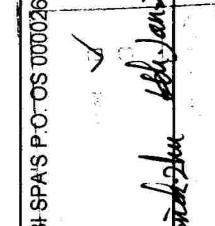
Chemical Composition (%)

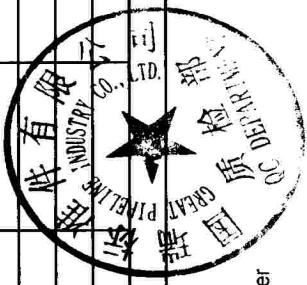
Heat	C	Mn	P	S	Si	Cr	Ni	Mo	Ti	
Y110908	0.022	0.910	0.041	0.004	0.390	16.74	10.02	2.040		
Mechanical Properties										
Heat	TS(Mpa)	YS (Mpa)	EL(%)	Hardness	NACE MR0175	IC Test	Impact Test	Non-destructive Test	PMI	Visual
Y110908	580	245	52	HRB≤90	OK	OK	N/A	PT	OK	OK

MARKINGS: GREAT - SPEC - SIZE - SCH -GRADE- HEAT NO

We hereby attesting satisfactory testing result as required in RACCORDTUBI SPA'S P.O. #OS 0000264S AND SPEC.PSA03 REV.0

PO NO: OS 0000264S

Dated: 2012.01.12 Signed:  Date: 2012.01.05



Q.A. Manager

Customer: DESMET BALLESTRA S.p.A.
Order : 121467 - 28.06.2012 Project: C2F11A
Descr. : CURVE 90° LR 2" SCH.40/S (P03.002.42)
Heat n° or Pcs. marking : Y110908 Qtà/Qty:9 Posiz./Item n.: 023
Protocollo : CTCERC201200008675 * CERTIFIED TRUE COPY * Issued 19/09/12



INSPECTION CERTIFICATE EN 10204 3.1

1 (3)

This inspection certificate fulfills the requirements of EN 10204 3.1

CUSTOMER RACCORDUBI S.P.A. VIALE DE GASPERI 194 20010 MARCALLO CON CASONE Italy	DATE 15.11.2010	CERTIFICATE NO 00001116 A		
	DELIVERY NO 80009231	SHIPPING POINT OSTP Jakobstad shipping		
CERTIFICATE TEXT				
Replaces our previous Order Acknowledgement 117906.				
ITEM	MATERIAL NO	DESCRIPTION	BATCH	DELIVERED QUANTITY
Your reference: OF005779		Our order: 300115142		
000010	6014029	Elbow 90° LR 219,1x3,76 8" 10S R=305 EN 1.4404/316L OT226 ASTM A403 WP-W	TP4892	24 PC
000020	6014010	Elbow 90° LR 114,3x2,11 4" 5S R=152 EN 1.4307/304L OT226 ASTM A403 WP-W	P7767	100 PC

OUTOKUMPU STAINLESS TUBULAR PRODUCTS
Nordanvägen 11
68601 Jakobstad

Telephone +358 6 786 5111
Telefax +358 6 786 5222

www.outokumpu.com

Customer: DESMET BALLESTRA S.p.A.
Order : 121467 - 28.06.2012 Project: C2F11A
Descr. : CURVE 90° LR 4" SCH.5/S W (P03.002.45)
Heat n° or Pcs. marking : P7767 Qtà/Qty:3 Posiz./Item n.: 024
Protocollo : CTCERC201200008675 * CERTIFIED TRUE COPY * Issued 19/09/12



INSPECTION CERTIFICATE

Product description
Elbow bent from pipe, 90°, longradius

Technical requirements
ASTM A 403-06 and ASME SA 403
NACE MR0175-03 Hardness max 22 HRC.
Made from welded pipes without filler material

Material
WP 304L/304

Melting process
E+ AOD

145729 -

Product marking
OUTOKUMPU JA Dimension ASTM A/ASME SA 403 WP Material W Batch Made in Finland

Extent of delivery		Batch number	Starting material	Heat number	Deliv. cond.
Dimension 4" SCH 5S		P7767	Pipe TP 304L	4228996	

Chemical composition (According to inspection certificate of steel manufacturer)										
C [%]	Si [%]	Mn [%]	P [%]	S [%]	Cr [%]	Ni [%]	Mo [%]	Ti [%]	N ₂ [%]	Cu [%]
0,022	0,430	1,600	0,030	0,002	18,10	8,200				

Test results (Test number ending with L= longitudinally and T= transversely)						
Test no.	R_{p0,2} [N/mm²]	R_{p1,0} [N/mm²]	R_m [N/mm²]	A_s [%]	Technological tests	Heat treatment
	302	349	637	57		1050 °C/water

Fittings corrosion resistant acc. to ASTM A 262 Pr. E: Accepted
Eddy current test acc. to ASTM A 312 (Starting pipe) : Accepted
Dimensional inspection ANSI B 16.9 : Accepted
Visual inspection : Accepted
Material identification test : Accepted



Destructive tests made on starting material
100% PMI-tested

These components are manufactured according to
PED 97/23/EC Annex 1, chapter 3.1, 4.3 and 7.2

ISO 9001:2008 Quality Management System, certified by TÜV.
Certified acc. to PED 97/23/EC Annex 1, chapter 3.1, 4.3 and 7.2,
by TÜV Notified Body reg. no. 0045.

ADM 2000 W0 by TÜV, Pipes: cert.No. 07-202-1326-WP-0562/08,
Elbows: cert.No. 07-202-1326-WP-0575/08

The requirements are fulfilled as stipulated.

Outokumpu Stainless Tubular Products Oy Ab
P.O.Box 15, FIN-68601 JAKOBSTAD, Finland

QUALITY DEPARTMENT

Inspector Kjell Hagvik
This test certificate is made by controlled ADI-system
and is valid without signature.

Tel. + 358 6 7865111, Fax. + 358 6 7865222

Domicile: Jakobstad, Finland Business ID: 1731317-7

Customer: DESMET BALLESTRA S.p.A.
Order : 121467 - 28.06.2012 Project: C2F11A
Descr. : CURVE 90° LR 4" SCH.5/S W (P03.002.45)
Heat n° or Pcs. marking : P7767 Qtà/Qty:3 Posiz./Item n.: 024
Protocollo : CTCERC201200008675 * CERTIFIED TRUE COPY * Issued 19/09/12



INSPECTION CERTIFICATE EN 10204 3.1

150290

1 (6)

This inspection certificate fulfills the requirements of EN 10204 3.1

CUSTOMER RACCORDUBI S.P.A. VIALE DE GASPERI 194 20010 MARCALLO CON CASONE Italy	DATE 13.7.2011 / 3.8.2011	CERTIFICATE NO 00027169 A A		
	DELIVERY NO 80038710	SHIPPING POINT OSTP Jakobstad shipping		
CERTIFICATE TEXT				
ITEM	MATERIAL NO	DESCRIPTION	BATCH	DELIVERED QUANTITY
Your reference: OS000142S Our order: 300143955				
000010	6014092	Elbow 45° LR 168,3x2,77 6" 5S R=229 EN 1.4307/304L OT226 ASTM A403 WP-W	LK8099	10 PC
000020	6014011	Elbow 90° LR 168,3x2,77 6" 5S R=229 EN 1.4307/304L OT226 ASTM A403 WP-W	TP5582	100 PC
000030	6014013	Elbow 90° LR 219,1x2,77 8" 5S R=305 EN 1.4307/304L OT226 ASTM A403 WP-W	TP5394	50 PC
000040	6014026	Elbow 90° LR 168,3x2,77 6" 5S R=229 EN 1.4404/316L OT226 ASTM A403 WP-W	TP5583	100 PC
000050	6014032	Elbow 90° LR 323,9x3,96 12" 5S R=457 EN 1.4404/316L OT226 ASTM A403 WP-W	TI4078	20 PC

OUTOKUMPU STAINLESS TUBULAR PRODUCTS
 Nordanvägen 11
 68601 Jakobstad

Telephone +358 6 786 5111
 Telefax +358 6 786 5222

www.autokumpu.com

Customer: DESMET BALLESTRA S.p.A.
 Order : 121467 - 28.06.2012 Project: C2F11A
 Descr. : CURVE 90° LR 6" SCH.5/S W (P03.002.47)
 Heat n° or Pcs. marking : TP5582 Qtà/Qty:2 Posiz./Item n.: 025
 Protocollo : CTCERC201200008675 * CERTIFIED TRUE COPY * Issued 19/09/12

Product description

Elbow bent from pipe, 90°, longradius

Material
WP 304L/304

Technical requirements

ASTM A 403-10 and ASME SA 403-07

NACE MR0175-03 Hardness max 22 HRC.

Made from welded pipes without filler material

Melting process
E+AOD

150290

Product marking

OUTOKUMPU JA Dimension ASTM A/ASME SA 403 WP Material W Batch Made in

Extent of delivery

Dimension
6" SCH 5SBatch number
TP5582Starting material
Pipe 1.4307/304LHeat number
727163

Deliv. cond.

Chemical composition (According to inspection certificate of steel manufacturer)

C [%]	Si [%]	Mn [%]	P [%]	S [%]	Cr [%]	Ni [%]	Mo [%]	Ti [%]	N [%]	Cu [%]
0,019	0,310	1,620	0,032	0,002	18,40	8,200			0,037	

Test results (Test number ending with L=longitudinally and T=transversely)

Test no.	R _{p0,2} [N/mm ²]	R _{p1,0} [N/mm ²]	R _m [N/mm ²]	A _s [%]	Technological tests	Heat treatment
C3655T	275	314	584	57		1050°C/water
C3656T	266	304	579	58		

Eddy current test acc. to ASTM A 312 (Starting pipe) :

Accepted

Dimensional inspection ANSI B 16.9 :

Accepted

Visual inspection :

Accepted

Material identification test :

Accepted

Fittings corrosion resistant acc. to ASTM A 262 Pr. E

These components are manufactured according to
PED 97/23/EC Annex 1, chapter 3.1, 4.3 and 7.2

ISO 9001:2008 Quality Management System, certified by TÜV.
 Certified acc. to PED 97/23/EC Annex 1, chapter 3.1, 4.3 and 7.2,
 by TÜV Notified Body, reg. no. 0045.
 ADM 2000 W0 by TÜV, Pipes: cert.No. 07-202-1326-WP-0562/08,
 Elbows: cert.No. 07-202-1326-WP-0575/08
 The requirements are fulfilled as stipulated.

Outokumpu Stainless Tubular Products Oy Ab
 P.O.Box 15, FIN-68601 JAKOBSTAD, Finland

QUALITY DEPARTMENT

Inspector

Kjell Hagvik
 This test certificate is made by controlled ADP-system
 and is valid without signature.

Tel. +358 6 7865111, Fax. +358 6 7865222

Domicile: Jakobstad, Finland, Business ID: 1731317-7

Customer: DESMET BALLESTRA S.p.A.
 Order : 121467 - 28.06.2012 Project: C2F11A
 Descr. : CURVE 90° LR 6" SCH.5/S W (P03.002.47)
 Heat n° or Pcs. marking : TP5582 Qtà/Qty:2 Posiz./Item n.: 025
 Protocollo : CTCERC201200008675 * CERTIFIED TRUE COPY * Issued 19/09/12



INSPECTION CERTIFICATE EN 10204 3.1

150292

1 (6)

This inspection certificate fulfills the requirements of EN 10204 3.1

CUSTOMER RACCORDUBI S.P.A. VIALE DE GASPERI 194 20010 MARCALLO CON CASONE Italy	DATE 13.7.2011 / 3.8.2011	CERTIFICATE NO 00027169 A A		
	DELIVERY NO 80038710	SHIPPING POINT OSTP Jakobstad shipping		
CERTIFICATE TEXT				
ITEM	MATERIAL NO	DESCRIPTION	BATCH	DELIVERED QUANTITY
Your reference:	OS000142S	Our order:	300143955	
000010	6014092	Elbow 45° LR 168,3x2,77 6" 5S R=229 EN 1.4307/304L OT226 ASTM A403 WP-W	LK8099	10 PC
000020	6014011	Elbow 90° LR 168,3x2,77 6" 5S R=229 EN 1.4307/304L OT226 ASTM A403 WP-W	TP5582	100 PC
000030	6014013	Elbow 90° LR 219,1x2,77 8" 5S R=305 EN 1.4307/304L OT226 ASTM A403 WP-W	TP5394	50 PC
000040	6014026	Elbow 90° LR 168,3x2,77 6" 5S R=229 EN 1.4404/316L OT226 ASTM A403 WP-W	TP5583	100 PC
000050	6014032	Elbow 90° LR 323,9x3,96 12" 5S R=457 EN 1.4404/316L OT226 ASTM A403 WP-W	TI4078	20 PC

OUTOKUMPU STAINLESS TUBULAR PRODUCTS
Nordanvägen 11
68601 Jakobstad

Telephone +358 6 786 5111
Telefax +358 6 786 5222

www.outokumpu.com

Customer: DESMET BALLESTRA S.p.A.
Order : 121467 - 28.06.2012 Project: C2F11A
Descr. : CURVE 90° LR 6" SCH.5/S W (P03.002.60)
Heat n° or Pcs. marking : TP5583 Qtà/Qty:1 Posiz./Item n.: 026
Protocollo : CTCERC201200008675 * CERTIFIED TRUE COPY * Issued 19/09/12

Product description

Elbow bent from pipe, 90°, longradius

Technical requirements

ASTM A 403-10 and ASME SA 403-07
 NACE MR0175-03 Hardness max 22 HRC.
 Made from welded pipes without filler material

Material
 WP 316L/316
150292
Melting process
 E + AOD
Product marking

OUTOKUMPU JA Dimension ASTM A/ASME SA 403 WP Material W Batch Made in

Extent of deliveryDimension
6" SCH 5S

Batch number

TP5583

Starting material

Pipe 1.4432/316L

Heat number

937442

Deliv. cond.

Chemical composition (According to inspection certificate of steel manufacturer)

C [%]	Si [%]	Mn [%]	P [%]	S [%]	Cr [%]	Ni [%]	Mo [%]	Ti [%]	N [%]	Cu [%]
0,023	0,370	1,300	0,032	0,003	16,70	10,60	2,550		0,036	

Test results (Test number ending with L = longitudinally and T = transversely)

Test no.	R _{p0,2} [N/mm ²]	R _{p1,0} [N/mm ²]	R _m [N/mm ²]	A ₅ [%]	Technological tests	Heat treatment
C3657T	279	321	569	58		1050°C/water
C3658T	271	306	566	57		

Eddy current test acc. to ASTM A 312 (Starting pipe) :

Accepted

Dimensional inspection ANSI B 16.9 :

Accepted

Visual inspection :

Accepted

Material identification test :

Accepted

Fittings corrosion resistant acc. to ASTM A 262 Pr. E

These components are manufactured according to
 PED 97/23/EC Annex 1, chapter 3.1, 4.3 and 7.2

ISO 9001:2008 Quality Management System, certified by TÜV.
 Certified acc. to PED 97/23/EC Annex 1, chapter 3.1, 4.3 and 7.2,
 by TÜV Notified Body reg. no. 0045.

ADM 2000 W0 by TÜV, Pipes: cert.No. 07-202-1326-WP-0562/08,
 Elbows: cert.No. 07-202-1326-WP-0575/08

The requirements are fulfilled as stipulated.

Outokumpu Stainless Tubular Products Oy Ab
 P.O.Box 15, FIN-68601 JAKOBSTAD, Finland

QUALITY DEPARTMENT

Inspector Kjell Hagvik
 This test certificate is made by controlled ADP-system
 and is valid without signature.

Tel. +358 6 7865111, Fax. +358 6 7865222

Domicile: Jakobstad, Finland. Business ID: 1731312-7

Customer: DESMET BALLESTRA S.p.A.

Order : 121467 - 28.06.2012 Project: C2F11A

Descr. : CURVE 90° LR 6" SCH.5/S W (P03.002.60)

Heat n° or Pcs. marking : TP5583 Qtà/Qty:1 Posiz./Item n.: 026

Protocollo : CTCERC201200008675 * CERTIFIED TRUE COPY * Issued 19/09/12

Stab. / Plant: Via Don Spagnoli 5 - 29010 Sarmato (PC) - ITALIA
tel. (+39) 0523.887391 - fax. (+39) 0523.887887

Sede Operativa / Commercial Office:
RACCONTUBI S.p.A. - Viale De Gasperi, 194
20010 - Marcallo con Casone (MI) - ITALIA
tel. (+39) 02.978300.1 - fax. (+39) 02.90378337 - info@raccortubi.it



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

(*) Marcatura e cert. N. 100342
Material Marking e Cert. N.
Marquage du matériel

Cliente RACCONTUBI S.p.A. Customer/Client	Ordine N. OS000250 S DEL 19/10/2011 P.O.N./Commande N.	Q.tà Q.ty/Q.té Item/Poste	38
--	---	------------------------------	----

Specifiche/Specification	Colata N. Heat N. Coulée N.	N. prova Specimen N. Echanil. N.	Svizzamento Yield strength Limite d'elasticité N/mm²	Rottura Tensile strength Résistance à la traction N/mm²	Allungam. % Elongation Allongement	Durezza Hardness as per NACE MRO1-75	Durezza Hardness Duréte	Resilienza Impact energy Résilience Joules	Caratteristiche meccaniche Mechanical Properties/Caractéristiques Mécaniques																							
									— Esame visivo e dimensionale: Buono Visual and dimensional test: Satisfactory Examen visuel et dimensionnel: Satisfaisant	— Identificazione materiale: Buono Positive Material identification: Satisfactory Analyse de contrôle du produit: Satisfaisant																						
Materiale base/Raw material/Matière du départ Fabbricante/Manufacturer/Fabricant: TUBACEX Cert. No.: 5322/68																																
Analisi chimica %/Chemical composition/Composition chimique																																
<table border="1"> <thead> <tr> <th>Colata N. Heat N. Coulée N.</th> <th>C</th> <th>Si</th> <th>Mn</th> <th>P</th> <th>S</th> <th>Cr</th> <th>Ni</th> <th>Mo</th> <th>N</th> <th></th> </tr> </thead> <tbody> <tr> <td>44651</td> <td>0,018</td> <td>0,290</td> <td>1,55</td> <td>0,033</td> <td>0,0010</td> <td>18,15</td> <td>10,15</td> <td>0</td> <td>0,0690</td> <td></td> </tr> </tbody> </table>											Colata N. Heat N. Coulée N.	C	Si	Mn	P	S	Cr	Ni	Mo	N		44651	0,018	0,290	1,55	0,033	0,0010	18,15	10,15	0	0,0690	
Colata N. Heat N. Coulée N.	C	Si	Mn	P	S	Cr	Ni	Mo	N																							
44651	0,018	0,290	1,55	0,033	0,0010	18,15	10,15	0	0,0690																							
Prove/Test/Tests																																
Prova di corrosione A262 Prat. E: Conforme Corrosion Test A262 Prat. E: In conformity Essais de corrosion A262 Prat. E: En Conformité																																
I dati dall'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 caractéristiques mécaniques sont en conformité au certificat émis par le producteur du matériel de base et/ou par le laboratoire qui a effectué les tests.																																
Responsabile Controllo Qualità Quality Control Manager																																

Customer: DESMET BALLESTRA S.p.A.
Order : 121467 - 28.06.2012 Project: C2F11A
Descr. : RID. CONC. 8"x4" SCH.5/S (P03.011.42)
Heat n° or Pcs. marking : 100342 Qtà/Qty:1 Posiz./Item n.: 029
Protocollo : CTCERC201200008675 * CERTIFIED TRUE COPY * Issued 19/09/12

(*) Marcatura e cert. N. 100342
Material Marking e Cert. N.
Marquage du matériel

Descrizione Description
Description
Description

Specifiche Specification
Spécification
Spécification

Costruzione/Manufacture/Méthode de fabrication
Formato a freddo Cold formed Formes à froid

Ispezione/Inspection/Inspection
Senza saldatura Seamless Sans soudure

Trattamento termico Heat treatment/Traitement Thermique
Solubilizzazione a 1045°C Solution Annealing at 1045°C Hypertermép à 1045°C

Guaranteed characteristics (A.M. du 24.03.78)
Caractéristiques garanties pour Z2CN18-10 et Z2CN17-13
C 0,25% Rm 760 N/mm²
S 0,05% Rm(A-2) 10500 N/mm²
P 0,05% A% sur 5,65 So 16

Il materiale è stato fornito in conformità ai requisiti dell'ordine.
The material has been furnished in accordance with purchase order requirements.
Le matière a été trouvée conforme aux exigences.

Marchio di fabbrica Trade Mark

Ispettore/Inspector/Inspecteur

(*) Material marked with certificate number as per relevant code.

156236

Système de Management de la Qualité
 ISO 9001 certifié par LRQA
 System of Quality Management
 ISO 9001 LRQA Certified

Reg N° 9917426

ACCEPTANCE CERTIFICATE EN 10204/3.1
CERTIFICAT DE RECEPTION EN 10204/3.1

DISPATCH NOTE #	171556	Certificat N° : 171556001
AVIS EXPEDITION N°		OUR ORDER/NOTRE CDE: 199512
YOUR ORDER: 5580		
CUSTOMER / CLIENT: RACCORDUBI S.P.A		

PRODUCT / PRODUIT

ITEM POSTE	QTY QTE	DESCRIPTION & SIZE DESIGNATION & DIMENSION	REQUIREMENTS SPECIFICATIONS	GRADE HUANCE
1	2	SHORT STUB-END A 1/2" SCH 40S WP304/304L-S	WP304L A403 02/SA403 E02.B16-9.B16-25.MSS-SP43 ASTM A403-07 / ASME SEC.II PART A SA403-07	304/304L

BASE MATERIAL / MATIERE DE BASE

HEAT NUMBER COULEE	IDENTIFICATION IDENTIFICATION	MATERIAL SUPPLIER FOURNISSEUR	REQUIREMENTS SPECIFICATIONS	PQR QMOS-AQUAP
QJ408	09C747	SALZGITTER MANNE	TUBE 1/2" Sch 80S 304 L-S/1.4307	

CHEMICAL COMPOSITION / COMPOSITION CHIMIQUE

HEAT COULEE	%C	%Si	%Mn	%P	%S	%Cr	%Ni	%N	%Co							
QJ408	0.014	0.350	1.890	0.025	0.009	18.300	10.270	0.066	0.090							

MECHANICAL CHARACTERISTICS - TESTINGS / CARACTERISTIQUES MECANIQUES - ESSAIS

HEAT COULEE	YIELD STRENGTH LIMITE ELASTIQUE		TENSILE STRENGTH RESISTANCE RUPUR		ELONGATION ALLONGEMENT		HARDNESS DURETE		HEAT TREATEMENT HYPERTREMPE		IC TEST CORROSION INTE.		PMI TEST TEST SPECTRO		WELDING FACTOR FACTEUR SOUDAGE	
	0.2% Re Mpa		Rm Mpa		A%		HRC		1040 °C		A262 PRACT.E		Z			
	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT
QJ408	354		633		43		NACE MR01.75	OK	YES	yes	Able to pass	yes	NO			

ADD ON TESTING(S) / TEST(S) COMPLEMENTAIRE(S)

TESTINGS ESSAIS	REQUIREMENTS SPECIFICATIONS	ORDER REFERENCE REFERENCE COMMANDE	TEST REPORT # PV N°
			

REMARKS / REMARQUES

DIMENSIONAL & ASPECT / DIMENSION ET ASPECT: GOOD	STATE OF DELIVERY / ETAT DE LIVRAISON: PICKLED AND PASSIVATED	
BRAND'S MANUFACTOR SIGLE FABRICANT: 	We Certify that delivered products comply requirements's customer.Nous certifions les produits conformes aux spécifications de la commande et de A.M du 24/03/78. Rm <= 760 MPa. A% (Lo=5.65 \So)>16.Rm (A-2) >= 10500.	
Manufacturing according to PED 97/23/EC Annex 1 - 4.3	Chemical composition and mechanical characteristics are according to the original's Certificate. This certificate, made from data processing treatment, is applicable without signing. L'analyse chimique et les caractéristiques mécaniques sont conformes au certificat original. Ce certificat réalisé par traitement informatique est applicable sans signature.	
Fabrication conforme PED 97/23/CE Annexe 1 - 4.3	DATE 26/06/2012	FACTORY INSPECTOR EXPERT USINE : S.FRANIER-BIRIN

Customer: DESMET BALLESTRA S.p.A.

Order : 121467 - 28.06.2012 Project: C2F11A

Descr. : 1/2" SCH.40/S (P03.007.74)

Heat n° or Pcs. marking : QJ408 Qtà/Qty:2 Posiz./Item n.: 032

Protocollo : CTCERC201200008675 *CERTIFIED TRUE COPY * Issued 19/09/12

Groupe Genier

RTI industries
18110 VASSELAY-France
① 02 48 69 74 20
② 02 48 69 74 29

156237

Système de Management de la Qualité
ISO 9001 certifié par LRQA
System of Quality Management
ISO 9001 LRQA Certified

Reg N° 9917426

ACCEPTANCE CERTIFICATE EN 10204/3.1 CERTIFICAT DE RECEPTION EN 10204/3.1

DISPATCH NOTE # 171556

Certificat N° : 171556002

AVIS EXPEDITION N°

OUR ORDER/NOTRE CDE: 199512

YOUR ORDER: 5580

CUSTOMER / CLIENT: RACCORDUBI S.P.A

PRODUCT / PRODUIT

ITEM POSTE	QTY QTE	DESCRIPTION & SIZE DESIGNATION & DIMENSION	REQUIREMENTS SPECIFICATIONS	GRADE NUANCE
2	3	SHORT STUB-END A 1" SCH 40\$ WP304/304L-S	WP304L A403 02/SA403 E02.B16-9.B16-25.MSS-SP43 ASTM A403-07 / ASME SEC.II PART A SA403-07	304/304L

BASE MATERIAL / MATIERE DE BASE

HEAT NUMBER COULEE	IDENTIFICATION IDENTIFICATION	MATERIAL SUPPLIER FOURNISSEUR	REQUIREMENTS SPECIFICATIONS	POR QMOS-AQUAP
43427	11C373	TTI TUBACEX	TUBE 1" Sch 80S 304 L-S/1.4301/1.4306	

CHEMICAL COMPOSITION / COMPOSITION CHIMIQUE

HEAT COULEE	%C	%Si	%Mn	%P	%S	%Cr	%Ni	%N	%Co							
43427	0.019	0.310	1.600	0.029	0.001	18.200	10.300	0.070	0.080							

MECHANICAL CHARACTERISTICS - TESTINGS / CARACTERISTIQUES MECANIQUES - ESSAIS

HEAT COULEE	YIELD STRENGTH LIMITE ELASTIQUE		TENSILE STRENGTH RESISTANCE RUPTUR		ELONGATION ALLONGEMENT		HARDNESS DURETE		HEAT TREATEMENT HYPERTREMPE		IC TEST CORROSION INTE.		PMI TEST TEST SPECTRO		WELDING FACTOR FACTEUR SOUDAGE	
	0.2% Re Mpa		Rm Mpa		A%		HRC		1040 °C		A262 PRACT.E				Z	
	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT
43427	308		591		63			NACE MR01.75		OK		YES	yes	Able to pass	yes	NO

ADD ON TESTING(S) / TEST(S) COMPLEMENTAIRE(S)

TESTINGS ESSAIS	REQUIREMENTS SPECIFICATIONS	ORDER REFERENCE REFERENCE COMMANDE	TEST REPORT # PV N°



REVIEWED
REMARKS / REMARQUES

DIMENSIONAL & ASPECT / DIMENSION ET ASPECT: GOOD		STATE OF DELIVERY / ETAT DE LIVRAISON: PICKLED AND PASSIVATED	
BRAND'S MANUFACTOR SIGLE FABRICANT:		We Certify that delivered products comply requirements's customer. Nous certifions les produits conformes aux spécifications de la commande et de A.M du 24/03/78. Rm <= 760 MPA. A% (Lo=5.65 \So) >16.Rm (A-2) >= 10500.	
Manufacturing according to PED 97/23/EC Annex 1 - 4.3		Chemical composition and mechanical characteristics are according to the original's Certificate. This certificate, made from data processing treatment, is applicable without signing. L'analyse chimique et les caractéristiques mécaniques sont conformes au certificat original. Ce certificat réalisé par traitement informatique est applicable sans signature.	
Fabrication conforme PED 97/23/CE Annexe 1 - 4.3		DATE 26/06/2012	FACTORY INSPECTOR EXPERT USINE : S.FRANIER-BIRIN

Customer: DESMET BALLESTRA S.p.A.

Order : 121467 - 28.06.2012 Project: C2F11A

Descr. : 1" SCH.40/S (P03.007.76)

Heat n° or Pcs. marking : 43427 Qtà/Qty:3 Posiz./Item n.: 033

Protocollo : CTCERC201200008675 * CERTIFIED TRUE COPY * Issued 19/09/12



156461

Système de Management de la Qualité
ISO 9001 certifié par LRQA
System of Quality Management
ISO 9001 LRQA Certified

Reg N° 9917426

**ACCEPTANCE CERTIFICATE EN 10204/3.1
CERTIFICAT DE RECEPTION EN 10204/3.1**

DISPATCH NOTE #	172032	Certificat N° : 172032001
AVIS EXPEDITION N°		OUR ORDER/NOTRE CDE: 200140
YOUR ORDER: 5664		
CUSTOMER / CLIENT: RACCORDUBI S.P.A		

PRODUCT / PRODUIT

ITEM POSTE	QTY QTE	DESCRIPTION & SIZE DESIGNATION & DIMENSION	REQUIREMENTS SPECIFICATIONS	GRADE NUANCE
2	9	SHORT STUB-END A 1/2" SCH 40\$ WP316/316L-S	WP316L A403 02/SA403 E02.B16-9.B16-25.MSS-SP43 ASTM A403-07 / ASME SEC.II PART A SA403-07	316/316L

BASE MATERIAL / MATERIE DE BASE

HEAT NUMBER COULEE	IDENTIFICATION IDENTIFICATION	MATERIAL SUPPLIER FOURNISSEUR	REQUIREMENTS SPECIFICATIONS	PQR QMOS-AQUAP
TEP	911G46	TUBACEX	TUBE S 1/2 SCH 80S	

CHEMICAL COMPOSITION / COMPOSITION CHIMIQUE

HEAT COULEE	%C	%Si	%Mn	%P	%S	%Cr	%Ni	%Mo							
TEP	0.017	0.510	1.500	0.032	0.001	16.800	11.300	2.130							

MECHANICAL CHARACTERISTICS - TESTINGS / CARACTERISTIQUES MECANIQUES - ESSAIS

HEAT COULEE	YIELD STRENGTH LIMITE ELASTIQUE		TENSILE STRENGTH RESISTANCE RUPTURE		ELONGATION ALLONGEMENT		HARDNESS DURETE		HEAT TREATMENT HYPERTREMPE		IC TEST CORROSION INTE.		PMI TEST TEST SPECTRO		WELDING FACTOR FACTEUR SOUDAGE	
	0.2% Re Mpa		Rm Mpa		A%		HRC		1040 °C		A262 PRACT.E				Z	
	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT
TEP	254		558		52			OK		YES	yes	Able to pass	yes	NO		

ADD ON TESTING(S) / TEST(S) COMPLEMENTAIRE(S)

TESTINGS ESSAIS	REQUIREMENTS SPECIFICATIONS	ORDER REFERENCE REFERENCE COMMANDE	TEST REPORT # PV N°

REMARKS / REMARQUES

DIMENSIONAL & ASPECT / DIMENSION ET ASPECT: GOOD	STATE OF DELIVERY / ETAT DE LIVRAISON: PICKLED AND PASSIVATED		
BRAND'S MANUFACTOR SIGLE FABRICANT:	We Certify that delivered products comply requirements's customer. Nous certifions les produits conformes aux spécifications de la commande et de A.M du 24/03/78. Rm <= 760 MPa. A% (Lo=5.65 \So)>16.Rm (A-2) >= 10500.		
Manufacturing according to PED 97/23/EC Annex 1 - 4.3	Chemical composition and mechanical characteristics are according to the original's Certificate. This certificate, made from data processing treatment, is applicable without signing. L'analyse chimique et les caractéristiques mécaniques sont conformes au certificat original. Ce certificat réalisé par traitement informatique est applicable sans signature.		
Fabrication conforme PED 97/23/CE Annexe 1 - 4.3	FACTORY INSPECTOR EXPERT USINE : S.FRANIER-BIRIN		
	DATE	05/07/2012	

Customer: DESMET BALLESTRA S.p.A.

Order : 121467 - 28.06.2012 Project: C2F11A

Descr. : 1/2" SCH.40/S (P03.007.80)

Heat n° or Pcs. marking : TEP Qtà/Qty:9 Posiz./Item n.: 034

Protocollo : CTCERC201200008675 * CERTIFIED TRUE COPY * Issued 19/09/12

156239

Système de Management de la Qualité
 ISO 9001 certifié par LRQA
 System of Quality Management
 ISO 9001 LRQA Certified

Reg N° 9917426

ACCEPTANCE CERTIFICATE EN 10204/3.1
CERTIFICAT DE RECEPTION EN 10204/3.1

DISPATCH NOTE #	171556	Certificat N° : 171556004 OUR ORDER/NOTRE CDE: 199512
AVIS EXPEDITION N° YOUR ORDER: 5580 CUSTOMER / CLIENT: RACCORDUBI S.P.A		

PRODUCT / PRODUIT

ITEM POSTE	QTY QTE	DESCRIPTION & SIZE DESIGNATION & DIMENSION	REQUIREMENTS SPECIFICATIONS	GRADE NUANCE
11	8	SHORT STUB-END A 3/4" SCH 40S WP316/316L-S	WP316L ASME B16.9-B16-25.MSS-SP43 ASTM A403-07 / ASME SEC.II PART A SA403-07	316/316L

BASE MATERIAL / MATERIE DE BASE

HEAT NUMBER COULEE	IDENTIFICATION IDENTIFICATION	MATERIAL SUPPLIER FOURNISSEUR	REQUIREMENTS SPECIFICATIONS	PQR QMOS-AQUAP
Z4T9	12A626	ROLDAN	ROND DIAM 45 - 316 L/1.4404	

CHEMICAL COMPOSITION / COMPOSITION CHIMIQUE

HEAT COULEE	%C	%Si	%Mn	%P	%S	%Cr	%Ni	%Mo	%Ti	%Cu	%N	%Co			
Z4T9	0.015	0.291	1.422	0.034	0.027	16.780	10.581	2.091	0.004	0.328	0.040	0.125			

MECHANICAL CHARACTERISTICS - TESTINGS / CARACTERISTIQUES MECANIQUES - ESSAIS

HEAT COULEE	YIELD STRENGTH LIMITE ELASTIQUE		TENSILE STRENGTH RESISTANCE RUPTUR		ELONGATION ALLONGEMENT		HARDNESS DURETE		HEAT TREATMENT HYPERTREMPE		IC TEST CORROSION INTÉ.		PMI TEST TEST SPECTRO		WELDING FACTOR FACTEUR SOUDAGE	
	0.2% Re Mpa	Rm Mpa	Base	Product	Base	Product	Base	Product	1040 °C	A262 PRACT.E	Base	Product	Base	Product	Base	Product
Z4T9	282	593	53				NACE MR01.75	OK		YES	yes	Able to pass	yes	NO		

ADD ON TESTING(S) / TEST(S) COMPLEMENTAIRE(S)

TESTINGS ESSAIS	REQUIREMENTS SPECIFICATIONS	ORDER REFERENCE REFERENCE COMMANDE	TEST REPORT # PV N°

REMARKS / REMARQUES

DIMENSIONAL & ASPECT / DIMENSION ET ASPECT: GOOD	STATE OF DELIVERY / ETAT DE LIVRAISON: PICKLED AND PASSIVATED
BRAND'S MANUFACTOR SIGLE FABRICANT:	We Certify that delivered products comply requirements's customer. Nous certifions les produits conformes aux spécifications de la commande et de A.M du 24/03/78. Rm <= 760 MPa. A% (Lo=5.65 \So)>16. Rm (A-2) >= 10500.
Manufacturing according to PED 97/23/EC Annex 1 - 4.3	Chemical composition and mechanical characteristics are according to the original's Certificate. This certificate, made from data processing treatment, is applicable without signing. L'analyse chimique et les caractéristiques mécaniques sont conformes au certificat original. Ce certificat réalisé par traitement informatique est applicable sans signature.
Fabrication conforme PED 97/23/CE Annexe 1 - 4.3	DATE 26/06/2012 FACTORY INSPECTOR EXPERT USINE : S.FRANIER-BIRIN



Customer: DESMET BALLESTRA S.p.A.
 Order : 121467 - 28.06.2012 Project: C2F11A
 Descr. : 3/4" SCH.40/S (P03.007.81)
 Heat n° or Pcs. marking : Z4T9 Qtà/Qty:8 Posiz./Item n.: 035
 Protocollo : CTCERC201200008675 * CERTIFIED TRUE COPY * Issued 19/09/12

156240

Système de Management de la Qualité
ISO 9001 certifié par LRQA
System of Quality Management
ISO 9001 LRQA Certified

Reg N° 9917426

**ACCEPTANCE CERTIFICATE EN 10204/3.1
CERTIFICAT DE RECEPTION EN 10204/3.1**

DISPATCH NOTE #	171556	Certificat N°: 171556005
AVIS EXPEDITION N°		OUR ORDER/NOTRE CDE: 199512
YOUR ORDER: 5580		
CUSTOMER / CLIENT: RACCORDUBI S.P.A		

PRODUCT / PRODUIT

ITEM POSTE	QTY QTE	DESCRIPTION & SIZE DESIGNATION & DIMENSION	REQUIREMENTS SPECIFICATIONS	GRADE NUANCE
12	17	SHORT STUB-END A 1" SCH 40S WP316/316L-S	WP316L A403 02/SA403 E02.B16-9.B16-25.MSS-SP43 ASTM A403-07 / ASME SEC.II PART A SA403-07	316/316L

BASE MATERIAL / MATIERE DE BASE

HEAT NUMBER COULEE	IDENTIFICATION IDENTIFICATION	MATERIAL SUPPLIER FOURNISSEUR	REQUIREMENTS SPECIFICATIONS	PQR QMOS-AQUAP
43202	11A950	TTI TUBACEX	TUBE 1" Sch 80S 316 L-S/1.4401/1.4404	

CHEMICAL COMPOSITION / COMPOSITION CHIMIQUE

HEAT COULEE	%C	%Si	%Mn	%P	%S	%Cr	%Ni	%Mo	%N	%Co					
43202	0.017	0.430	1.590	0.029	0.001	16.650	11.100	2.130	0.058	0.060					

MECHANICAL CHARACTERISTICS - TESTINGS / CARACTERISTIQUES MECANIQUES - ESSAIS

HEAT COULEE	YIELD STRENGTH LIMITE ELASTIQUE		TENSILE STRENGTH RESISTANCE RUPERTUR		ELONGATION ALLONGEMENT		HARDNESS DURETE		HEAT TREATEMENT HYPERTREMPE		IC TEST CORROSION INTE.		PMI TEST TEST SPECTRO		WELDING FACTOR FACTEUR SOUDAGE	
	0.2% Re Mpa		Rm Mpa		A%		HRC		1040 °C		A262 PRACT.E				Z	
	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT
43202	291		595		57			OK		YES	yes	Able to pass	yes	NO		

ADD ON TESTING(S) / TEST(S) COMPLEMENTAIRE(S)

TESTINGS ESSAIS	REQUIREMENTS SPECIFICATIONS	ORDER REFERENCE REFERENCE COMMANDE	TEST REPORT # PV N°



REMARKS / REMARQUES

DIMENSIONAL & ASPECT / DIMENSION ET ASPECT: GOOD		STATE OF DELIVERY / ETAT DE LIVRAISON: PICKLED AND PASSIVATED	
BRAND'S MANUFACTOR SIGLE FABRICANT:		We Certify that delivered products comply requirements's customer. Nous certifions les produits conformes aux spécifications de la commande et de A.M du 24/03/78. Rm <= 760 MPA. A% (Lo=5.65 \So)>16.Rm (A-2) >= 10500.	
<i>Manufacturing according to PED 97/23/EC Annex 1 - 4.3</i>		Chemical composition and mechanical characteristics are according to the original's Certificate. This certificate, made from data processing treatment, is applicable without signing. L'analyse chimique et les caractéristiques mécaniques sont conformes au certificat original. Ce certificat réalisé par traitement informatique est applicable sans signature.	
<i>Fabrication conforme PED 97/23/CE Annexe 1 - 4.3</i>		DATE 26/06/2012	FACTORY INSPECTOR EXPERT USINE : S.FRANIER-BIRIN

Customer: DESMET BALLESTRA S.p.A.
 Order : 121467 - 28.06.2012 Project: C2F11A
 Descr. : 1" SCH.40/S (P03.007.82)
 Heat n° or Pcs. marking : 43202 Qtà/Qty:17 Posiz./Item n.: 036
 Protocollo : CTCERC201200008675 * CERTIFIED TRUE COPY * Issued 19/09/12

156241

Système de Management de la Qualité
 ISO 9001 certifié par LRQA
 System of Quality Management
 ISO 9001 LRQA Certified

Reg N° 9917426

ACCEPTANCE CERTIFICATE EN 10204/3.1
CERTIFICAT DE RECEPTION EN 10204/3.1

DISPATCH NOTE #	171556	Certificat N° : 171556006
AVIS EXPEDITION N°		OUR ORDER/NOTRE CDE: 199512
YOUR ORDER: 5580		
CUSTOMER / CLIENT: RACCORDUBI S.P.A		

PRODUCT / PRODUIT

ITEM POSTE	QTY QTE	DESCRIPTION & SIZE DESIGNATION & DIMENSION	REQUIREMENTS SPECIFICATIONS	GRADE NUANCE
13	10	SHORT STUB-END A 2" SCH 40S WP316/316L-S	WP316L A403 02/SA403 E04.B16-9.B16-25.MSS-SP43 ASTM A403-07 / ASME SEC.II PART A SA403-07	316/316L

BASE MATERIAL / MATERIE DE BASE

HEAT NUMBER COULEE	IDENTIFICATION IDENTIFICATION	MATERIAL SUPPLIER FOURNISSEUR	REQUIREMENTS SPECIFICATIONS	PQR QMOS-AQUAP
43827	11C082	TTI TUBACEX	TUBE 2" Sch 80S 316 L-S/1.4404	

CHEMICAL COMPOSITION / COMPOSITION CHIMIQUE

HEAT COULEE	%C	%Si	%Mn	%P	%S	%Cr	%Ni	%Mo	%N	%Co					
43827	0.016	0.440	1.420	0.027	0.001	16.800	11.150	2.110	0.063	0.055					

MECHANICAL CHARACTERISTICS - TESTINGS / CARACTERISTIQUES MECANIQUES - ESSAIS

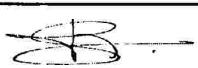
HEAT COULEE	YIELD STRENGTH LIMITE ELASTIQUE		TENSILE STRENGTH RESISTANCE RUPTURE		ELONGATION ALLONGEMENT		HARDNESS DURETE		HEAT TREATEMENT HYPERTREMPE		IC TEST CORROSION INTE.		PMI TEST TEST SPECTRO		WELDING FACTOR FACTEUR SOUDAGE	
	0.2% Re Mpa		Rm Mpa		A%		HRC		1040 °C		A262 PRACT.E		Z			
	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT
43827	303		563		76			OK		YES	yes	Able to pass	yes	NO		

ADD ON TESTING(S) / TEST(S) COMPLEMENTAIRE(S)

TESTINGS ESSAIS	REQUIREMENTS SPECIFICATIONS	ORDER REFERENCE REFERENCE COMMANDE	TEST REPORT # PV N°


REVIEWED

REMARKS / REMARQUES

DIMENSIONAL & ASPECT / DIMENSION ET ASPECT: GOOD	STATE OF DELIVERY / ETAT DE LIVRAISON: PICKLED AND PASSIVATED
BRAND'S MANUFACTOR SIGLE FABRICANT: 	We Certify that delivered products comply requirements's customer. Nous certifions les produits conformes aux spécifications de la commande et de A.M du 24/03/78. Rm <= 760 MPa. A% (Lo=5.65 √So)>16.Rm (A-2) >= 10500. Chemical composition and mechanical characteristics are according to the original's Certificate. This certificate, made from data processing treatment, is applicable without signing. L'analyse chimique et les caractéristiques mécaniques sont conformes au certificat original. Ce certificat réalisé par traitement informatique est applicable sans signature.
Manufacturing according to PED 97/23/EC Annex 1 - 4.3	
Fabrication conforme PED 97/23/CE Annexe 1 - 4.3	DATE 26/06/2012 FACTORY INSPECTOR EXPERT USINE : S.FRANIER-BIRIN 

Customer: DESMET BALLESTRA S.p.A.

Order : 121467 - 28.06.2012 Project: C2F11A

Descr. : 2" SCH.40/S (P03.007.85)

Heat n° or Pcs. marking : 43827 Qtà/Qty:10 Posiz./Item n.: 037

Protocollo : CTCERC201200008675 * CERTIFIED TRUE COPY * Issued 19/09/12



MATERIAL TEST CERTIFICATES FOR FITTINGS

INSPECTION CERTIFICATE

Cert. to

Order No.: 04SAM002
(注文番号)

P.O. No.: 3792



S. P. UNITED INDUSTRY SDN. BHD.

(COMPANY NO. 388524 W)

P.T. 741746, KAWASAN PERUSAHAAN NILAI,

71800 NILAI, NEGERI SEMBILAN DARUL KHUSUS, MALAYSIA.

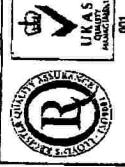
TEL: 606-7983677, 7983676, 7993677 FAX: 606-7994366

E-mail: sp.united@im.net.my

ISO 9001:2000 Cert. No. 403952

156560

Date : FEBRUARY 22, 2003

Certificate No.: 03-3-0106
(番号等)Page (頁)
3

ISO 9001:2000 Cert. No. 403952

Specification (規格)										Specification for Prematerial Pipe (預材規格)					
ASTM A 312 TP 304/304L										Dimension Inspection (寸法検査)					
*	Size (寸法)	Dimension in mm (寸法)		Lot No. (製造番号)	Quantity (數量)	Surface Inspection (表面検査)		S. P. I. Code No.							
*	Size (寸法)	Outside Diam (外径)	Thickness (厚さ)												
1	3" x 10"	38.9	3.05	K40488	40	GOOD	GOOD	12813000	056292						
2	3" x 10"	38.9	3.05	K40559	60	GOOD	GOOD	12813000	056291						
3	4" x 10"	114.3	3.05	K40617	80	GOOD	GOOD	12814000	056292						
4	6" x 10"	168.28	3.4	K5020	80	GOOD	GOOD	12816000	056293						

Pipe Manufacturer: 142. NIPPON STEEL CORPORATION.
(管製造者) 344 SANDVIK STEEL.
(化学成分) Chemical Composition % (Lattice analysis as supplied by the steelmaker)
(鋼の組成分析)

*	Heat No. (溶炉番号)	C	Si	Mn	P	S	Ni	Cr	Type of Test (試験片)	YS (Mpa) (引張強さ)	TS (Mpa) (引張強さ)	EL% (10°C) (引張伸び)	Standard (JIS G3050mm)	Flattening Test (水压試験) (~ 6.4kg/mm²)	HT MPa (硬度)	Hardness NACE (硬度) MR-01-75
1	E39213	1.9	43	103	30	5	906	1817	ITSR HQ KUALA LUMPUR	276	593	58		GOOD	GOOD	GOOD
2	E39562	1.9	46	103	30	3	909	1811		248	572	59		GOOD	GOOD	GOOD
3	501603	1.0	38	115	25	8	1009	1829		311	600	48		GOOD	GOOD	GOOD
4	449186	1.1	42	120	25	6	1009	1845		261	600	54		GOOD	GOOD	GOOD
		MAX	MAX	MAX	MAX	MAX	800	1800		MIN	MIN	MIN				
		3.0	100	200	45	30	1200	2000		170	485	35				

Remarks

HEAT TREATMENT 1050 DEGREE CELSIUS
-QUENCHED IN WATER

THE L/C NUMBER : CR050221IM543765

We herewith certify that the above products meet the requirements of the standard concerned and of the order.
(上記の製品は、当該規格及び、ご注文の要請事項に適合する事を証明します。)Manager of Quality Control Dept.
(品質管理課長)

Customer: DESMET BALLESTRA S.p.A.
Order : 121467 - 28.06.2012 Project: C2F11A
Descr. : 3" SCH.5/S (P03.007.87)
Heat n° or Pcs. marking : K40488 Qtà/Qty:1 Posiz./Item n.: 038
Protocollo : CTCERC201200008675 * CERTIFIED TRUE COPY * Issued 19/09/12



Cert No. KLMB102952

INSPECTION CERTIFICATE

Cert. In EN 10204/3.1



S.P. UNITED INDUSTRY SDN. BHD.

(COMPANY NO. 364524 W)

P.T. 741745, KAWASAN PERUSAHAAN NILAI,
71800 NILAI, NEGERI SEMBILAN DARUL KHUSUS, MALAYSIA.
TEL: 606-7993377, 7993676, 7993677 FAX: 606-7994366
E-mail: spunited@icemail.com / spuind@mymail.my

Order No. : 11SAN012
(注文番号)

P.O. No. : 24986

Product (#)	Product Specification (#)	Product Specification (#)						Specification for Pipe (Raw Material) (管材の仕様)							
		ASTM A403-07a / ASME SA-403-07 / ASME B16.9-07			MSS SP-43 WP-W 304/304L			ASTM A312 TP 304/304L			TS=Yield Strength (0.2%), ED=Engagement, HF=Hardness 'H'				
		Dimensions in mm (寸法)		Heat No. (炉番号)	Quantity (数量)	Surface Inspection (外観検査)		Dimension Inspection (寸法検査)		S.P.I. Code No.					
#	Size (#)	Outside Dia (外径)	Thickness (壁厚)	Heat No. (炉番号)	Quantity (数量)	Surface Inspection (外観検査)	Dimension Inspection (寸法検査)	Surface Inspection (外観検査)	Dimension Inspection (寸法検査)	S.P.I. Code No.					
1	FBSES-W304L-4-10S	114.30	3.05	K120026	200	GOOD	GOOD	GOOD	GOOD	11814000					
2	FBSES-W304L-4-10S	114.30	3.05	K120058	100	GOOD	GOOD	GOOD	GOOD	11814000					
3	FBSES-W304L-5-10S	141.10	3.40	K120027	20	GOOD	GOOD	GOOD	GOOD	11815000					
4	FBSES-W304L-6-10S	168.28	3.40	K120051	50	GOOD	GOOD	GOOD	GOOD	11816000					
Pipe Manufacturer : YEUN CHIYANG INDUSTRIAL CO.,LTD (管材生産者)															
Chemical Composition of Pipe (Raw Material) % (化学成分)															
#	Heat No. (炉番号)	C x 100	Si x 100	P x 1000	S x 1000	Ni x 100	Cr x 100	Mn x 100	Mo x 100	Type of Specimen (試験 H)	YS Mpa (引張強さ)	TS Mpa (引張強さ)	EL % (HF 5.0mm) (伸び率)	HT Mpa (HF 5.0mm) (屈曲強さ)	Hardness Test HRB
1	K120026	1.4	44	164	3t	1	810	1810		290	651	52	GOOD	GOOD	GOOD
2	K120058	1.7	38	129	39	2	809	1807		288	632	54	GOOD	GOOD	GOOD
3	K120027	1.9	44	132	38	3	800	1811		303	619	52	GOOD	GOOD	GOOD
4	K120051	2.1	41	146	33	11	801	1815		264	621	62	GOOD	GOOD	GOOD
Specification		MAX	MAX	MAX	MAX	MAX	800	1800	2000		MIN	MIN			
Specification		3.0	160	200	45	30	1200	2000		205	515	35			

Remarks

* Hardness acc. to NACE MR01-75

IC TEST ASTM A232/E, P/M CHECK GOOD, SG 900 / EN 10204-3.1 PED 97/23/EC ANNEX I PARAGRAPH 1.3

GASKET MITTEN SEPARATED FINISH, SMOOTH 125/250 RMS, HEAT TREATMENT 100 DEGREE CELCIUS QUENCHED IN WATER.

MATERIAL WAS MANUFACTURED, SAMPLED, TESTED AND INSPECTED IN ACCORDANCE WITH INDICATED SPECIFICATIONS AND WAS FOUND TO MEET THE REQUIREMENTS. NO WELD REPAIR WAS PERFORMED AND ALL ITEMS SUPPLIED ARE FREE OF WELD REPAIR.

MATERIAL IS FREE OF MERCURY CONTAMINATION AND RADIONACTIVITY.

We herewith certify that the above products meet the requirements of the relevant standard and of the customer order.

CEの認証は、当社の技術監査にて、(注文の要請に適合する)と確認された。

QUALITY ASSURANCE APPROVAL	- 9 Mai 2012	MUNISPARAN S/O QENGANG SANTRADE LTD UNDER Quality Control Dept.
----------------------------	--------------	--

Customer: DESMET BALLESTRA S.p.A.
Order : 121467 - 28.06.2012 Project: C2F11A
Descr. : 4" SCH.5/S W (P03.007.88)
Heat n° or Pcs. marking : K120026 Qtà/Qty:4 Posiz./Item n.: 039
Protocollo : CTCERC201200008675 * CERTIFIED TRUE COPY * Issued 19/09/12

156562

Système de Management de la Qualité
 ISO 9001 certifié par LRQA

System of Quality Management
 ISO 9001 LRQA Certified

Reg N° 9917426

ACCEPTANCE CERTIFICATE EN 10204/3.1
CERTIFICAT DE RECEPTION EN 10204/3.1

DISPATCH NOTE #

172256

Certificat N° : 172256003

OUR ORDER/NOTRE CDE: 199512

AVIS EXPÉDITION N°

YOUR ORDER: 5580

CUSTOMER / CLIENT: RACCORDUBI S.P.A

PRODUCT / PRODUIT

ITEM POSTE	QTY QTE	DESCRIPTION & SIZE DESIGNATION & DIMENSION	REQUIREMENTS SPECIFICATIONS	GRADE NUANCE
7	6	SHORT STUB-END A 6" SCH 5S WP304L-W	WP304L ASME B16.9-B16-25, MSS-SP43 ASTM A403-07 / ASME SEC.II PART A SA403-07	304L

BASE MATERIAL / MATIERE DE BASE

HEAT NUMBER COULEE	IDENTIFICATION IDENTIFICATION	MATERIAL SUPPLIER FOURNISSEUR	REQUIREMENTS SPECIFICATIONS	PQR QMOS-AQUAP
948433	11A268	BUTTING	TUBE SOUDE 6" Sch 40S 304 L-W	

CHEMICAL COMPOSITION / COMPOSITION CHIMIQUE

HEAT COULEE	%C	%Si	%Mn	%P	%S	%Cr	%Ni	%N								
948433	0.027	0.440	1.760	0.035	0.003	18.100	8.000	0.070								

MECHANICAL CHARACTERISTICS - TESTINGS / CARACTÉRISTIQUES MÉCANIQUES - ESSAIS

HEAT COULEE	YIELD STRENGTH LIMITÉ ELASTIQUE		TENSILE STRENGTH RESISTANCE RUPTURE		ELONGATION ALLONGEMENT		HARDNESS DURETÉ		HEAT TREATMENT HYPERTREMPE		IC TEST CORROSION INT.		PMI TEST TEST SPECTRO		WELDING FACTOR FACTEUR Soudage	
	0.2% Re Mpa		Rm Mpa		A%		HRC		1040 °C		A262 PRACT.E				Z	
	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT
948433	398		645		52			OK		YES	yes	Able to pass	yes	NO		

ADD ON TESTING(S) / TEST(S) COMPLEMENTAIRE(S)

TESTINGS ESSAIS	REQUIREMENTS SPECIFICATIONS	ORDER REFERENCE REFERENCE COMMANDE	TEST REPORT # PV N°

REMARKS / REMARQUES

DIMENSIONAL & ASPECT / DIMENSION ET ASPECT: GOOD	STATE OF DELIVERY / ETAT DE LIVRAISON: PICKLED AND PASSIVATED
BRAND'S MANUFACTOR SIGLE FABRICANT: Manufacturing according to PED 97/23/EC Annex 1 - 4.3 Fabrication conforme PED 97/23/CE Annexe 1 - 4.3	We Certify that delivered products comply requirements's customer. Nous certifions les produits conformes aux spécifications de la commande et de A.M du 24/03/78. $R_{m} \leq 760 \text{ MPa}$, $A\% (L_0=5.65 \times S_0) \geq 16$, $R_m (A-2) \geq 10500$. Chemical composition and mechanical characteristics are according to the original's Certificate. This certificate, made from data processing treatment, is applicable without signing. L'analyse chimique et les caractéristiques mécaniques sont conformes au certificat original. Ce certificat réalisé par traitement informatique est applicable sans signature.
	DATE 11/07/2012 FACTORY INSPECTOR EXPERT USINE : S.FRANIER-BIRIN
	

Customer: DESMET BALLESTRA S.p.A.

Order : 121467 - 28.06.2012 Project: C2F11A

Descr. : 6" SCH.5/S W (P03.007.90)

Heat n° or Pcs. marking : 948433 Qtà/Qty:6 Posiz./Item n.: 040

Protocollo : CTCERC201200008675 * CERTIFIED TRUE COPY * Issued 19/09/12



18110 VASSELAY-France

① 02 48 69 74 20

✉ 02 48 69 74 29

Système de Management de la Qualité
ISO 9001 certifié par LRQA

System of Quality Management
ISO 9001 LRQA Certified

Reg N° 9917426

156563

ACCEPTANCE CERTIFICATE EN 10204/3.1 CERTIFICAT DE RECEPTION EN 10204/3.1

DISPATCH NOTE # 172256

AVIS EXPEDITION N°

YOUR ORDER: 5580

Certificat N°: 172256004

OUR ORDER/NOTRE CDE: 199512

CUSTOMER / CLIENT: RACORTUBI S.P.A

PRODUCT / PRODUIT

ITEM POSTE	QTY QTE	DESCRIPTION & SIZE DESIGNATION & DIMENSION	REQUIREMENTS SPECIFICATIONS	GRADE NUANCE
9	4	SHORT STUB-END A 8" SCH 5S WP304/304L-S	WP304L A403 02/SA403 E04.B16-9.B16-25.MSS-SP43 ASTM A403-07 / ASME SEC.II PART A SA403-07	304/304L

BASE MATERIAL / MATIERE DE BASE

HEAT NUMBER COULEE	IDENTIFICATION IDENTIFICATION	MATERIAL SUPPLIER FOURNISSEUR	REQUIREMENTS SPECIFICATIONS	PQR QMOS-AQUAP
42752	10B870	TUBACEX	TUBE 8" Sch 40S 304 L-S	

CHEMICAL COMPOSITION / COMPOSITION CHIMIQUE

HEAT COULEE	%C	%Si	%Mn	%P	%S	%Cr	%Ni	%Ti	%N						
42752	0.015	0.320	1.630	0.028	0.003	18.100	10.200	0.003	0.070						

MECHANICAL CHARACTERISTICS / TESTINGS / CARACTERISTIQUES MECANIQUES - ESSAIS

HEAT COULEE	YIELD STRENGTH LIMITE ELASTIQUE		TENSILE STRENGTH RESISTANCE RUPTURE		ELONGATION ALLONGEMENT		HARDNESS DURETE		HEAT TREATMENT HYPERTREMPE		IC TEST CORROSION INT.		PMI TEST TEST SPECTRO		WELDING FACTOR FACTEUR SOUDAGE	
	0.2% Re Mpa		Rm Mpa		A%		HRC		1040 °C		AZ62 PRACT.E				Z	
	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT
42752	318		582		46			OK		YES	yes	Able to pass	yes	NO		

ADD ON TESTING(S) / TEST(S) COMPLEMENTAIRE(S)

TESTINGS ESSAIS	REQUIREMENTS SPECIFICATIONS	ORDER REFERENCE REFERENCE COMMANDE	TEST REPORT # PV N°

REMARKS / REMARQUES

DIMENSIONAL & ASPECT / DIMENSION ET ASPECT: GOOD	STATE OF DELIVERY / ETAT DE LIVRAISON: PICKLED AND PASSIVATED
BRAND'S MANUFACTOR SIGLE FABRICANT:	We Certify that delivered products comply requirements's customer. Nous certifions les produits conformes aux spécifications de la commande et de A.M du 24/03/78. Rm <= 760 MPA. A% (Lo=5.65 \So)>16. Rm (A-2) >= 10500.
Manufacturing according to PED 97/23/EC Annex 1 - 4.3	Chemical composition and mechanical characteristics are according to the original's Certificate. This certificate, made from data processing treatment, is applicable without signing. L'analyse chimique et les caractéristiques mécaniques sont conformes au certificat original. Ce certificat réalisé par traitement informatique est applicable sans signature.
Fabrication conforme PED 97/23/CE Annexe 1 - 4.3	DATE 11/07/2012 FACTORY INSPECTOR EXPERT USINE : S.FRANIER-BIRIN

Customer: DESMET BALLESTRA S.p.A.

Order : 121467 - 28.06.2012 Project: C2F11A

Descr. : 8" SCH.5/S (P03.007.91)

Heat n° or Pcs. marking : 42752 Qtà/Qty:4 Posiz./Item n.: 041

Protocollo : CTCERC201200008675 * CERTIFIED TRUE COPY * Issued 19/09/12

Cert. to RTI INDUSTRIES.

Order No.: 088TT001
(注番号)

P.O. No.: 6643

**CERTIFICATE OF CHEMICAL ANALYSIS AND CHEMICAL PROPERTIES.
S. P. UNITED INDUSTRY SDN. BHD.**

P.T.741745, KAWASAN PERUSAHAAN NILAI,
71800 NILAI, SELEBANG DARUL KHUSUS, MALAYSIA.
TEL: 606-7993577, 7993676, 7993677, FAX: 606-7994366
E-mail: spunitnd@streamyx.com / spunit@tnet.my



(COMPANY NO. 3665524 W)

P.T.741745, KAWASAN PERUSAHAAN NILAI,

71800 NILAI, SELEBANG DARUL KHUSUS, MALAYSIA.

TEL: 606-7993577, 7993676, 7993677, FAX: 606-7994366

E-mail: spunitnd@streamyx.com / spunit@tnet.my

Page
(頁)

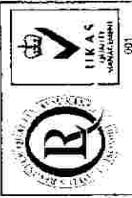
C 2

Date
(日付)

MAY 22, 2008

Certificate No.:
(審査番号)

08-05-0335



ISO 9001:2000 Cert. No. 403952

991

LAP JOINT STUB ENDS TYPE A										Specification (規格)										Specification for Prematerial Pipe (材料規格)									
*	Size (寸法)	Dimension in mm (寸法)		Heat No. (溶解番号)	Thickness (厚さ)	Quantity (數量)	Surface Inspection (外観検査)	Dimension Inspection (寸法検査)	S. P. I. Code No.	ASTM A312 TP 316/316L										ASTM A312 TP 316/316L									
		Outside Diam (外径)	Thickness (厚さ)							ASTM A312 TP 316/316L SCH 10/20/30/31.1B										ASTM A312 TP 316/316L									
1	3" x 10"	88.9	3.05	K80165	600	GOOD	GOOD	GOOD	11313090	08A261																			
2	4" x 10"	114.3	3.05	K80175	500	GOOD	GOOD	GOOD	11314090	08B262																			
3	5" x 10"	141.3	3.4	K70250	30	GOOD	GOOD	GOOD	11315090																				
4	6" x 10"	168.23	3.4	K30172	300	GOOD	GOOD	GOOD	11316090	08B263																			

Pipe Manufacturer:
(管製造者)

YEON CHYANG INDUSTRIAL CO., LTD.
(延川工業株式会社)
(高炉→カーネル溶鉄分析)

Chemical Composition % (Ladle analysis as supplied by the steelmaker)
(高炉→カーネル溶鉄分析)

*	Heat No. (溶解番号)	C x 100	Si x 100	P x 1000	Mn x 100	S x 1000	Ni x 100	Cr x 100	Mo x 100	x 100	Type of Specimen (試験片)	YS MPa (引張強さ)	TS MPa (引張強さ)	EL% (伸び率) Standard (GL-50mm) (規定値)	EL% (伸び率) Test (~4平底) (規定値)	Flattening Test (水压試験)	HT MPa (水压試験)	Hardness NACE (HV) MR-01-75
1	K80165	2.1	70	91	38	1	1007	1650	205			298	579	53	GOOD	GOOD		GOOD
2	K80175	1.9	58	92	39	5	1013	1644	205			284	573	55	GOOD	GOOD		GOOD
3	K70250	2.4	41	124	29	10	1135	1715	214			288	565	53	GOOD	GOOD		GOOD
4	K30172	1.6	58	89	32	2	1001	1638	201			312	582	57	GOOD	GOOD		GOOD
		MAX	MAX	MAX	MAX	30	1400	1800	300			MIN	MIN	MIN	MIN	MIN	205	515
		3.0	100	200	45							205	35					

Remarks

HEAT TREATMENT 1050 DEGREE CELSIUS
- QUENCHED IN WATER

- 131939 -

LIM TECK WING

Manager of Quality Control Dept.
(品質管理課長)

We herewith certify that the above products meet the requirements of the standard concerned and of the order.
上記の製品は、当該規格及び、注文の要求事項に適合する事を証明します。



Raci industries

 18110 VASSELAY-France

 ☎ 02 48 69 74 20

 ☎ 02 48 69 74 29

156564

Système de Management de la Qualité
ISO 9001 certifié par LRQA

System of Quality Management
ISO 9001 LRQA Certified

Reg N° 9917426

ACCEPTANCE CERTIFICATE EN 10204/3.1
CERTIFICAT DE RECEPTION EN 10204/3.1

DISPATCH NOTE #	172256	Certificat N° : 172256005
AVIS EXPÉDITION N°		OUR ORDER/NOTRE CDE: 199512
YOUR ORDER: 5580		
CUSTOMER / CLIENT: RACORTUBI S.P.A		

PRODUCT / PRODUIT

ITEM POSTE	QTY QTE	DESCRIPTION & SIZE DESIGNATION & DIMENSION	REQUIREMENTS SPECIFICATIONS	GRADE NUANCE
15	2	SHORT STUB-END A 4" SCH 5S WP316/316L-S	WP316L A403 98/SA403 E98.B16-9.B16-25.MSS-SP43 ASTM A403-07 / ASME SEC.II PART A SA403-07	316/316L

BASE MATERIAL / MATIERE DE BASE

HEAT NUMBER COULEE	IDENTIFICATION IDENTIFICATION	MATERIAL SUPPLIER FOURNISSEUR	REQUIREMENTS SPECIFICATIONS	PQR QMOS-AQUAP
43238	11B879	TTI TUBACEX	TUBE 4" Sch 40S 316 L-S/1.4404/1.4401	

CHEMICAL COMPOSITION / COMPOSITION CHIMIQUE

HEAT COULEE	%C	%Si	%Mn	%P	%S	%Cr	%Ni	%Mo	%N	%Co					
43238	0.015	0.410	1.400	0.030	0.002	16.700	11.150	2.150	0.055	0.070					

MECHANICAL CHARACTERISTICS - TESTINGS / CARACTÉRISTIQUES MÉCANIQUES - ESSAIS

HEAT COULEE	YIELD STRENGTH LIMITÉ ELASTIQUE		TENSILE STRENGTH RESISTANCE RUPTURE		ELONGATION ALLONGEMENT		HARDNESS DURETÉ		HEAT TREATMENT HYPERTREMPE		IC TEST CORROSION INT.		PNI TEST TEST SPECTRO		WELDING FACTOR FACTEUR SOUDAGE	
	0.2% Re Npa		Rm Mpa		A%		HRC		1040 °C		A262 PRACT.E				Z	
	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT	BASE	PRODUCT
43238	382		618		46			OK		YES	yes	Able to pass	yes	NO		

ADD ON TESTING(S) / TEST(S) COMPLEMENTAIRE(S)

TESTINGS ESSAIS	REQUIREMENTS SPECIFICATIONS	ORDER REFERENCE REFERENCE COMMANDE	TEST REPORT # PV N°

REMARKS / REMARQUES

DIMENSIONAL & ASPECT / DIMENSION ET ASPECT: GOOD	STATE OF DELIVERY / ETAT DE LIVRAISON: PICKLED AND PASSIVATED
BRAND'S MANUFACTOR SIGLE FABRICANT:	We Certify that delivered products comply requirements's customer. Nous certifions les produits conformes aux spécifications de la commande et de A.M du 24/03/78. Rm <= 760 MPa A% (Lo=5.65 \So)>16.Rm (A-2) >= 10500.
<i>Manufacturing according to PED 97/23/EC Annex 1 - 4.3</i>	Chemical composition and mechanical characteristics are according to the original's Certificate. This certificate, made from data processing treatment, is applicable without signing. L'analyse chimique et les caractéristiques mécaniques sont conformes au certificat original. Ce certificat réalisé par traitement informatique est applicable sans signature.
<i>Fabrication conforme PED 97/23/CE Annexe 1 - 4.3</i>	DATE 11/07/2012 FACTORY INSPECTOR EXPERT USINE : S.FRANIER-BIRIN 

Customer: DESMET BALLESTRA S.p.A.
 Order : 121467 - 28.06.2012 Project: C2F11A
 Descr. : 4" SCH.5/S (P03.008.01)
 Heat n° or Pcs. marking : 43238 Qtà/Qty:2 Posiz./Item n.: 043
 Protocollo : CTCERC201200008675 * CERTIFIED TRUE COPY * Issued 19/09/12

Cert. to EN 10204 /3.1

Order No. : 11SAN006, 11SAN010
(11支管)

P.O. No. : 24762, 24850

INSPECTION CERTIFICATE

15656565



S.P. UNITED INDUSTRY SDN. BHD.

PT. 741705, KAWASAN PERUSAHAAN NILAI,
71800 NILAI, NEGERI SEMBILAN DARUL KHUSUS, MALAYSIA.
TEL: 606-993577, 7993676, 7993677 FAX: 606-994366
E-mail: spunited@streamys.com / spunited@nni.net.my

Plugs
(W)

Date : NOVEMBER 09, 2011

(ET)

Certificate No. : 11-11-0761
(證書號)

Product
MSS

ASTM A403-07a / ASME SA403-07 / ASME B16.9-07

MSS SP-43 WP/W 316L/316L

Product Specification
(規格)

ASTM A312 TP 316GJ316L

Specification for Pipe (Raw Material)
(鋼管材)

ASTM A312 TP 316GJ316L

Specification for Pipe (Raw Material)

(鋼管材)

Yield Strength (0.2%), EL= Elongation, H=Hardness Test

TS=Tensile Strength, CL= Gauge Length, RT=Hydrostatic Test

Mechanical Properties of Pipe (Raw Material)

(鋼管材)

Chemical Composition of Pipe (Raw Material) %

(鋼管材)

Remarks

* Hardness acc. to NACE MR 01-75

IC TEST ASTM A926, P/N CHECK GOOD, ISO 9001 / EN 10204-3.1, PED 97/23/EC ANNEX I PARAGRAPH 4.3

GASKET FINISH SURFACE SEPARATED FINISH, SMOOTH 125-350 RMS, HEAT TREATMENT 100 DEGREE CELCIUS QUENCHED IN WATER.

MATERIAL WAS MANUFACTURED, SAMPLED, TESTED AND INSPECTED IN ACCORDANCE WITH INDICATED SPECIFICATIONS AND WAS FOUND TO MEET THE

REQUIREMENTS, NO WELD REPAIR WAS PERFORMED AND ALL ITEMS SUPPLIED ARE FREE OF WELD REPAIR.

MATERIAL IS FREE OF MERCURY CONTAMINATION AND RADON ACTIVITY.

We herewith certify that the above products meet the requirements of the relevant standard and of the customer order.

(ドリーベルト・エヌ・ピー、アーティクル、セイサンテイエフ、セイサンテイエフ、セイサンテイエフ)

TEH PETER

Head of Quality Control Dept.

品質管理部長