

**SCHOELLER-BLECKMANN Edeltahlrohr GmbH**  
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AUSTRIA

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**PO 8008025**  
**SS-T8-S-035-20**

**CUSTOMER DESCRIPTION**

<b>CLIENT SOLD TO</b> TSS TUBACEX SERVICE SOLUTIONS, S.A.U POLIGONO INDUSTRIAL SARATXO 01470 AMURRIO ESPAÑA	<b>SOLD TO:TUBACEX AMERICA, INC.</b> <b>SOLD P.O. REF.:621642</b> <b>SOLD ORDER REF.:379371</b> <b>COPY NUMBER: 003</b>
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**CLIENT ORDER: I009784**

**SALES ORDER:**

MATERIAL: SEAML. STAINL. STEEL TUBES/PIPES/TUBOS INOXIDABLES SIN SOLDADURA/TUBES INOX SANS SOUDURE/NAHTLOSE EDELSTAHLROHRE  
BRIGHT ANNEALED / RECOCIDO BRILLANTE / RECUIT BRILLANT / BLANKGEGLÜHT, PASSIVATED AS PER ASTM A380 / PASIVADO SEGUN ASTM A380 / PASSIVÉ (ASTM A380) / PASSIVIERT (ASTM A380)  
GRADE / ACERO / GRADE / WERKSTOFF: S31600,S31603,TP316,TP316L,1.4401,1.4404,  
STANDARD / NORMA / STANDARD / LIEFERUNG NACH: AD 2000 W2/01.2020 EINBAUROHRE  
ASME SECT.II PART.A SA213/SA213M-2021 ED.  
ASTM A213/A213M-19A  
ASTM A269/A269M-15a  
EN 10297-2:2005  
EN 10216-5:2021 TC1  
AD 2000 W10/05.2016  
CORROSION TESTED ACC. TO ASTM A262 PRACTICE E  
CORROSION TESTED ACC. TO EN ISO 3651-2 PRACTICE A  
HYDROSTATIC TEST AT 350 BAR  
HARDNESS MAX. 80 HRB  
NORSOK M630 REV.6 MDS S01 REV.5  
ANSI/NACE MR0103/ISO 17945:2015  
ANSI/NACE MR0175/ISO15156-3:2015  
TRB 100 FEBRUAR 1995  
TRD 100 MAI 1991  
EDDY CURRENT TESTED ACC. TO ISO 10893-1  
TOLERANCES / TOLERANCIAS / TOLERANCES / TOLERANZEN NACH: ASTM A269/A269M-15a  
EN ISO 1127/03.97 D4/T3  
FIXED LENGTHS / LARGOS FIJOS / LONGUEUR FIXE / GENAULÄNGE 6.096 MM  
PLAIN ENDS / LISOS / EXTRÉMITÉ D'EQUERRE / GLATTE ENDEN,  
DIMENSIONS/DIMENSIONES/DIMENSIONS/DIMENSIONS: 12,70 X 0,91/0,89 MM/1/2 "ODX20 SWG/BWG/1/2 "OD X 0,036 "/0,035  
"  
COLD FINISHED/LAMINADOS EN FRIO/KALTGEFORMT/LAMINES A FROID

Sales Item	Client Item	Delivery No	Lot No.	Heat No	Pieces	Weight	Tot Lgth	Un Lgth
70		8170096707	291326	58661	403	1.446,234 LB	8.060,007 FT	20,000-0,000 FT



Certified Management System acc. to ISO 9001, ISO 14001 and ISO 45001 by LRQA

**SCHOELLER-BLECKMANN  
EDELSTAHLROHR GMBH**

*M. Borzacchini*  
HR. M. BORZACCHINI

(WORKS INSPECTOR)

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

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

**RAW MATERIAL**

Heat Nr:	Supplier	Method
58661	ACERALAVA (SPAIN)	Electric furnace+AOD
59006	ACERALAVA (SPAIN)	Electric furnace+AOD

**CHEMICAL COMPOSITION (%)**

\*L: Ladle C:Products

*	Heat	Seq	C	Mn	Si	P	S	Ni	Cr	Mo	N
L	58661	1	0,009	1,49	0,330	0,028	0,0070	11,20	16,70	2,11	0,0630
L	59006	1	0,015	1,48	0,370	0,025	0,0090	11,17	16,75	2,15	0,0610
C	58661	1	0,010	1,54	0,360	0,027	0,0070	11,09	16,62	2,13	0,0650
C	59006	1	0,014	1,53	0,410	0,025	0,0100	11,20	16,77	2,18	0,0630

**HEAT TREATMENT**

HIPERTEMLADOS A 1100 °C , 10 min , J  
SOLUTION ANNEALED AT 1100 °C , 10 min , JET  
HYPERTREMPES 1100 °C , 10 min , J  
LOESUNGSGEGLUEHT 1100 °C , 10 min , Jet

**TENSILE TEST**

Lot No	Sample	T	Rp0.2	Rp1.0	Rm	A2"	A5
		°C	KSI	KSI	KSI	%	%
<b>Min</b>		20	30	35	75	35	40
<b>Max</b>		20			100		
291326	1	20	46	51	93	38	45
	2	20	42	47	87	44	53
294623	1	20	61	65	94	35	41
	2	20	58	63	93	36	43

**HARDNESS TEST**

Lot No	Sample	HRB	HV
<b>Min</b>			
<b>Max</b>		80	150
291326	1	75	141
	2	77	145
294623	1	78	149
	2	78	147

**METALURGICAL TESTS/ENSAYOS METALÚRGICOS/METALLURGISCHE PRÜFUNGEN/ESSAIS  
METALLURGIQUES**

INTERGRANULAR CORROSION TEST ACC. TO ASTM A262 PRACT."E": SATISFACTORY  
ENSAYO DE CORROSION INTERGRANULAR DE ACUERDO A ASTM A262 PRACT.E:  
SATISFACTORIO  
BESTÄNDIGKEIT GEGEN INTERKRISTALLINE KORROSION ENTSPRECHEND ASTM A262  
PRACT.E: IN ORDNUNG  
ESSAI DE CORR. INTERGR. SELON ASTM A262 PRACT.E:SATISFAISANT  
  
INTERGRANULAR CORROSION TEST ACC. TO DIN 50914/DIN EN ISO 3651-2 MET.A:



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System acc. to  
ISO 9001, ISO 14001 and  
ISO 45001 by LRQA

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SATISFACTORY

ENSAYO DE CORROSION INTERGRANULAR DE ACUERDO A DIN 50914/ DIN EN ISO

3651-2 MET.A: SATISFACTORIO

BESTÄNDIGKEIT GEGEN INTERKRISTALLINE KORROSION ENTSPRECHEND DIN 50914/

DIN EN ISO 3651-2 VERF.A: IN ORDNUNG

ESSAI DE CORR. INTERGR. SELON ASTM DIN 50914/DIN EN ISO 3651-2 MET.A:

SATISFAISANT

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

POSITIVE MATERIAL IDENTIFICATION TEST ON EACH TUBE/PIPE BY

"X-RAY-FLUORESCENCE-ANALYZER": SATISFACTORY

VERIFICACION DEL GRADO DE ACERO EN CADA TUBO MEDIANTE "ANALIZADOR DE

FLUORESCENCIA DE RAYOS X": SATISFACTORIO

VERWECHSLUNGSPRUEFUNG AN JEDEM ROHR MIT

"RÖNTGEN-FLUORESZENZ-ANALYSATOR": IN ORDNUNG

VERIFICATION DE LA NUANCE SUR CHAQUE TUBE PAR

"X-RAY-FLUORESCENCE-ANALYZER": SATISFAISANT

HYDROSTATIC PRESSURE TESTED AT 350 bar, 5100 PSI DURING 5 SEC ON EACH

TUBE/PIPE: SATISFACTORY

ENSAYO HIDROSTÁTICO A 350 bar, 5100 PSI DURANTE 5 SEC EN CADA TUBO:

SATISFACTORIO

WASSERDRUCKPRÜFUNG BEI 350 bar, 5100 PSI HALTEZEIT 5 SEC JE ROHR: IN

ORDNUNG

ESSAI DE PRESSION HYDROSTATIQUE À 350 bar, 5100 PSI PENDANT 5 SEC SUR

CHAQUE TUBE: SATISFAISANT

100% EDDY CURRENT TEST AT ISO 10893-1: SATISFACTORY

100% ENSAYO DE CORRIENTES INDUCIDAS DE ACUERDO A ISO 10893-1:

SATISFACTORIO

100% WIRBELSTROM PRUEFUNG NACH ISO 10893-1: O.B.

100% CONTROLE COURANTS FOUCAULT D'APRES ISO 10893-1: BIEN

**TECHNOLOGICAL TESTS/ENSAYOS TECNOLÓGICOS/TECNOLOGISCHE  
PRÜFUNGEN/TECHNOLOGICAL TESTS**

FLARING TEST: SATISFACTORY

ABOCARDADO S.NORMA: SATISFACTORIO

AUFWEITVERSUCH: IN ORDNUNG

ESSAI D'EVASEMENT: SATISFAISANT

FLATTENING TEST: SATISFACTORY

APLASTADO S.NORMA: SATISFACTORIO

RINGFALTVERSUCH: IN ORDNUNG



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ESSAI D'APLATISSEMENT: SATISFAISANT

BESICHTIGUNG UND NACHMESSUNG: IN ORDNUNG

INSPECTION AND CHECKING OF DIMENSIONS: SATISFACTORY

INSPECTION ET CONTROL DES DIMENSIONS: SATISFAISANT

DIE WERKSTOFFWERTE ENSPRECHEN PUNKT 7.5 DER DRUCKGERÄTERICHTLINIE  
2014/68/EU, ANHANG 1, MIT EINER BRUCHDEHNUNG VON MINDESTENS 14 % IM  
ZUGVERSUCH UND EINER KERBSCHLAGARBEIT VON MINDESTENS 27 J AN EINER  
ISO-V-KERBSCHLAGPROBE BEI 20° C.

MATERIAL CHARACTERISTICS COMPLY WITH POINT 7.5 OF ANNEX I TO PRESSURE  
EQUIPMENT DIRECTIVE 2014/68/EU BY HAVING AN ELONGATION AFTER RUPTURE AT  
TENSILE TEST NO LESS THAN 14 % AND A BENDING RUPTURE ENERGY AT IMPACT  
TEST NO LESS THAN 27 J AT 20°C.

**MARKING**

SCHOELLER BLECKMANN / TUBACEX GROUP - SBS 12,70 X 0,91/0,89 MM/1/2 "ODX20 SWG/BWG/1/2 "OD X 0,036 "/0,035 "  
ASME SA213 ASTM A213 ASTM A269 EN 10216-5 TC1 EN 10297-2 S31600 S31603TP316 TP316L 1.4401 1.4404 CFA CD AW  
SMLS HEAT/ PMI-AV LOT NO/ MADE IN AUSTRIA T/A ZFP

**REMARKS**

MECHANICAL TESTS WERE PERFORMED IN LONGITUDINAL DIRECTION IF NOT  
OTHERWISE STATED.

NO WELD REPAIR HAS BEEN PERFORMED ON THE MATERIAL.

MATERIAL MANUFACTURER APPROVED WITH CERTIFICATE NR. 245/2004/MUC BY TÜV SÜDDEUTSCHLAND (NOTIFIED BODY 0036) TO  
ISSUE CERTIFICATES OF SPECIFIC PRODUCT CONTROL IN ACCORDING TO PRESSURE EQUIPMENT DIRECTIVE 2014/68/EU.

MATERIAL IS FREE OF RADIOACTIVE CONTAMINATION



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