

INSPECTION CERTIFICATE

(A02) EN 10204: 2004 TYPE 3.1

(A03) No. **4-22-00884-rev.01** Pag. 1 / 7

(A06) Purchaser
Salzgitter Mannesmann Stainless Tubes USA Inc.
12050 W. LITTLE YORK
77041 HOUSTON
Texas
USA

(A07) Customer Order No	HOUSTON STOCK REPLENISHMENT
(A08) SMST-Tubes Order No	0000287554
SMST-Item	(A09) Part No
0000287554-000004	SS-T6-S-035-20D

(B01) (B02) (B04) Product Description

Seamless Stainless Steel Cold Finished Tubes Solution Annealed In Bright Condition Plain Ends Square Cut Deburred

Specifications ASME SA 213 19;ASTM A 213 21 a;ASTM A 269 15 >US units;SWAGELOK SCS-00062 REV. C
Grade TP 316;TP 316L;DMV 316L
Tolerances A 213 / A 1016 AW;ASTM A 269

(B03) Supplementary Requirements

None

(B06 - D01) Marking of the Product

Technical marking MANNESMANN MST-I - ASME SA 213 / ASTM A 213 / ASTM A 269 - DMV 316L - TP 316 / TP 316L - 3/8 " X 0.035 " - 9.53 MM X 0.89 MM - AW - SML - CF - NDE - HEAT \$HEAT_NBR\$ - \$QUAL_LOT_NBR\$ - ITALY - BUNDLE \$BUNDLE_NBR\$

Country of Origin of the tubes

Italy

			Quantity			Dimensions			
(B07) Heat	Quality Lot	SMST-Item	(B08) Pieces	(B13) Weight	(B16) Length	(B09) OD	(B10) WT	(B11) Ordered Length	
								min	max
177362	QL40073646	000004	170	197.31 kg	1036.320 m	9.53 mm	0.89 mm	6096 mm	6099 mm
				434.99 lbs	3400.00 ft	0.375 "	0.035 "	20.00 ft	20.01 ft
	QL40073647	000004	40	46.42 kg	243.840 m	9.53 mm	0.89 mm	6096 mm	6099 mm
				102.34 lbs	800.00 ft	0.375 "	0.035 "	20.00 ft	20.01 ft
177691	QL40072889	000004	1050	1218.67 kg	6400.800 m	9.53 mm	0.89 mm	6096 mm	6099 mm
				2686.71 lbs	21000.00 ft	0.375 "	0.035 "	20.00 ft	20.01 ft
	QL40073088	000004	975	1130.47 kg	5943.600 m	9.53 mm	0.89 mm	6096 mm	6099 mm
				2492.26 lbs	19500.00 ft	0.375 "	0.035 "	20.00 ft	20.01 ft
352140	QL40073651	000004	83	96.33 kg	505.968 m	9.53 mm	0.89 mm	6096 mm	6099 mm
				212.37 lbs	1660.00 ft	0.375 "	0.035 "	20.00 ft	20.01 ft
358850	QL40073650	000004	55	63.83 kg	335.280 m	9.53 mm	0.89 mm	6096 mm	6099 mm
				140.72 lbs	1100.00 ft	0.375 "	0.035 "	20.00 ft	20.01 ft
			2373	2753.03 kg	14465.808 m				
			2373	6069.39 lbs	47460.00 ft				

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Heat Analysis

		Request	C	Si	Mn	P	S	Cr	Ni	Mo
		Min	0.00	0.00	0.00	0.00	0.0050	16.0	10.0	2.0
		Max	0.035	1.0	2.0	0.045	0.0150	18.0	14.0	3.0
(B07) Heat	Heat Origin	(C70) Melting Process	%	%	%	%	%	%	%	%
177362	Italy	EAF + AOD	0.021	0.36	1.28	0.021	0.0080	16.8	11.2	2.0
177691	Italy	EAF + AOD	0.023	0.35	1.27	0.020	0.0070	16.6	11.1	2.1
352140	Germany	EAF + VOD	0.015	0.44	1.53	0.023	0.0080	17.0	11.3	2.2
358850	Germany	EAF + VOD	0.017	0.41	1.47	0.024	0.0100	16.7	11.3	2.1

Product Analysis

ASTM A 213;ASME SA 213;ASTM A 269;ASTM A 480

	Request	C	Si	Mn	P	S	Cr	Ni	Mo
	Min	0.00	0.00	0.00	0.00	0.0050	16.0	10.0	2.0
	Max	0.035	1.0	2.0	0.045	0.0150	18.0	14.0	3.0
Quality Lot	(C00) Sample	%	%	%	%	%	%	%	%
QL40072889	49149446	0.027	0.36	1.30	0.022	0.0090	16.6	11.0	2.0
QL40073088	49151182	0.027	0.36	1.30	0.022	0.0090	16.6	11.0	2.0
QL40073646	49156444	0.020	0.41	1.30	0.023	0.0090	16.8	11.1	2.0
QL40073647	49156450	0.020	0.41	1.30	0.023	0.0090	16.8	11.1	2.0
QL40073650	49156468	0.017	0.41	1.50	0.021	0.0090	16.7	11.3	2.1
QL40073651	49156473	0.013	0.45	1.55	0.020	0.0080	17.0	11.2	2.1

Sampling done on tubes in manufacturing length

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Tensile Test at Room Temperature

ASTM A 370

(C02) Direction: LONGITUDINAL

(C10) Description: FULL SIZE TEST SPECIMEN

		(C11)	(C12)	(C13)
		YS 0.2%	U.T.S.	EL
		Rp 0,2%	Rm	2"
Request	Min	30	75	35.0
	Max			
Quality Lot	(C00) Sample	ksi	ksi	%
QL40072889	49149446	48	87	51.2
	49149447	54	88	49.2
QL40073088	49151182	51	88	47.2
	49151183	48	86	48.2
QL40073646	49156762	48	87	46.9
	49156763	49	87	47.2
QL40073647	49156758	50	87	49.2
QL40073650	49156774	49	86	46.3
QL40073651	49156766	45	86	51.6

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(C30) Hardness HRB

ASTM E 18

Quality Lot	(C00) Sample	Request	(C30) HRB		
		Result	(C31) Min	(C31) Max	90.0 max (C32) Avg
QL40072889	49149446		83	84	83.5
	49149447		86	87	86.5
QL40073088	49151182		84	85	84.5
	49151183		83	84	83.5
QL40073646	49156762		84	85	84.5
	49156763		84	85	84.5
QL40073647	49156758		84	85	84.5
	49156759		83	84	83.5
QL40073650	49156774		82	83	82.5
	49156775		83	84	83.5
QL40073651	49156766		83	84	83.5
	49156767		80	81	80.5

Sampling done on tubes in manufacturing length

(C51) Flaring Test

ASTM A 1016

Quality Lot	(C00) Sample	(C00) Sample	(C00) Sample	(C00) Sample	(C00) Sample	(C00) Sample	Result
QL40072889	49149440	49149441	49149442	49149552	49149553		OK
QL40073088	49151176	49151177	49151178	49151185	49151186	49151715	OK
	49151716	49151724	49151725	49151726			OK
QL40073646	49156760						OK
QL40073647	49156756						OK
QL40073650	49156772						OK
QL40073651	49156764						OK

Sampling done on tubes in manufacturing length

Test done at both ends of tubes

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(C50) Flattening Test

ASTM A 1016

Quality Lot	(C00) Sample	(C00) Sample	(C00) Sample	(C00) Sample	(C00) Sample	(C00) Sample	Result
QL40072889	49149443	49149444	49149445	49149554	49149555		OK
QL40073088	49151179	49151180	49151181	49151187	49151188	49151717	OK
	49151718	49151727	49151728	49151729			OK
QL40073646	49156761						OK
QL40073647	49156757						OK
QL40073650	49156773						OK
QL40073651	49156765						OK

Sampling done on tubes in manufacturing length

Test done at both ends of tubes

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Other Tests and Declarations

QL40072889; QL40073088; QL40073646; QL40073647; QL40073650; QL40073651

Heat Treatment Solution Annealed 1100 °C/2012 °F Holding Time 1 Min / mm WT rapid gas cooling

(D01)	Visual and dimensional inspection (VT) on 100% of tubes according to the order	Satisfactory
(D51)	Antimixing Check (PMI) on 100% of tubes	Satisfactory
(D02)	Eddy Current Testing (ET) on 100% of tubes ASTM A 1016	Satisfactory

"Tubing are capable of passing corrosion test in accordance with EN ISO 3651-2 method A and ASTM A 262 Practice E"

SMST USA is an authorized distributor of SMST Italy products

No Weld Repair

(Z01) SMST declares that the product was manufactured, sampled, tested, inspected and packed in accordance with the specifications and any other requirements designated in the purchase order within the extent listed in SMST order acknowledgment, and has been found to meet such requirements

Tubes are free from mercury contamination and from radioactive contamination

The material is conforming to directive 2000/53/EC and 2011/65/EU

Confirmation with reference to Pressure Equipment Directive 2014/68/EU:

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 (TUV-Cert. No: 70/2002/MUC)

Materials are in compliance with ANSI/NACE MR 0175/ISO 15156-3 Ed. 2015

(Z02) Mill's Inspector **Ruggero Clementi (QC)** Date of Edition **20/04/2022**

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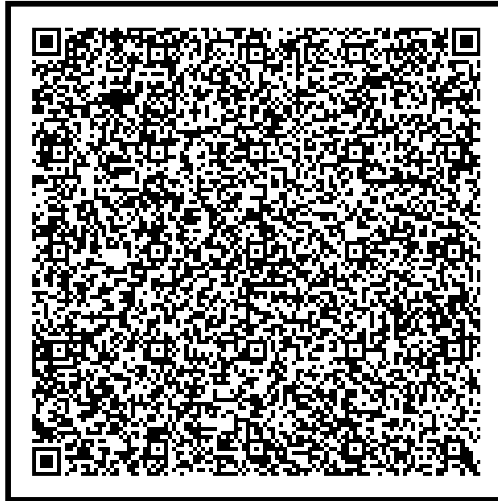
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Certificate anti counterfeiting check



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