

**INSPECTION CERTIFICATE**

(A02) EN 10204: 2004 TYPE 3.1

(A03) No. **4-23-01052-rev.01** Pag. 1 / 5

<p>(A06) <b>Purchaser</b>          GRANDE PRAIRIE FLUID SYSTEM TECHNOLOGIES INC          118 COMMERCE DRIVE          R3P 0Z6 WINNIPEG          Manitoba          Canada</p>	<p>(A07) <b>Customer Order No</b>          8007212</p> <p>(A08) <b>SMST-Tubes Order No</b>          0000290227</p> <p><b>SMST-Item</b> (A09) <b>Part No</b>          0000290227-000007 SS-T8-S-035-20</p>
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**(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 21;ASTM A 213 21 a;ASTM A 269 15a (2019) >US units;SWAGELOK SCS-00062 06.2021 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 - 1/2 " x 0,035 " - 12,70 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
278155	QL40078392	000007	1242	1970.42 kg	7571.232 m	12.70 mm	0.89 mm	6096 mm	6099 mm
				4344.04 lbs	24840.00 ft	0.500 "	0.035 "	20.00 ft	20.01 ft
403650	QL40078863	000007	145	230.04 kg	883.920 m	12.70 mm	0.89 mm	6096 mm	6099 mm
				507.15 lbs	2900.00 ft	0.500 "	0.035 "	20.00 ft	20.01 ft
RM343	QL40078468	000007	441	699.64 kg	2688.336 m	12.70 mm	0.89 mm	6096 mm	6099 mm
				1542.44 lbs	8820.00 ft	0.500 "	0.035 "	20.00 ft	20.01 ft
			<b>1828</b>	<b>2900.10 kg</b>	<b>11143.488 m</b>				
			<b>1828</b>	<b>6393.63 lbs</b>	<b>36560.00 ft</b>				

**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	%	%	%	%	%	%	%	%	
278155	Italy	EAF + AOD	0.020	0.37	1.30	0.025	0.0080	16.7	11.3	2.1	
403650	Germany	EAF + VOD	0.021	0.50	1.44	0.025	0.0060	17.2	11.3	2.1	
RM343	France	E + VOD	0.016	0.39	1.88	0.017	0.0080	16.8	11.0	2.1	

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**Product Analysis**

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

	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	%	%	%	%	%	%	%	%
QL40078392	49211623	0.023	0.39	1.32	0.030	0.0110	16.8	11.3	2.1
QL40078468	49212605	0.018	0.41	1.91	0.020	0.0090	16.9	11.0	2.0
QL40078863	49216357	0.024	0.51	1.52	0.028	0.0080	17.2	11.4	2.1

Sampling done on tubes in manufacturing length

**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	%
QL40078392	49211623	53	89	47.4
	49211624	54	90	46.1
QL40078468	49212605	46	89	52.0
	49212606	51	90	49.0
QL40078863	49216357	45	86	48.6

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**(C30) Hardness HRB**

**ASTM E 18**

Quality Lot	(C00) Sample	Request	(C30) HRB		90.0 max
		Result	(C31) Min	(C31) Max	(C32) Avg
QL40078392	49211623		86	87	86.5
	49211624		86	87	86.5
QL40078468	49212605		82	83	82.5
	49212606		85	86	85.5
QL40078863	49216357		81	82	81.5
	49216358		81	82	81.5

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
QL40078392	49211619	49211620	49212081	49212087	49212088	49212608	OK
	49212609						OK
QL40078468	49212601	49212602					OK
QL40078863	49216355						OK

Sampling done on tubes in manufacturing length

Test done at both ends of tubes

**(C50) Flattening Test**

**ASTM A 1016**

Quality Lot	(C00) Sample	(C00) Sample	(C00) Sample	(C00) Sample	(C00) Sample	(C00) Sample	Result
QL40078392	49211621	49211622	49212082	49212089	49212090	49212610	OK
	49212611						OK
QL40078468	49212603	49212604					OK
QL40078863	49216356						OK

Sampling done on tubes in manufacturing length

Test done at both ends of tubes

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**Other Tests and Declarations**

QL40078392; QL40078468; QL40078863

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"

Tubes are compliant with NACE MR 0103 and MR 0175

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)

(Z02) Mill's Inspector **Ruggero Clementi (QC)** Date of Edition **02/05/2023**

This certificate is issued by SALZGITTER MANNESMANN STAINLESS TUBES via a computerized system bearing a traceable unique number. It is valid without signature. An intermediary may only pass on the original certificate without any alterations. Providing a copy of the original is only permitted subject to strict compliance with the prerequisites set out in § 6 of EN 10204:2004 i.e. traceability and availability of the original upon request. Any modification or alteration of the certificate or any copies are strictly prohibited. Any contravention of this notice or § 6 of EN 10204:2004 is illegal and will be prosecuted. Any falsification of a certificate e.g. by introducing false or fraudulent data for the purpose of promoting the sales of goods is a criminal offence under German law (and many other jurisdictions) punishable with fines and imprisonment. If an authentication is needed, please contact [info@mst.mannesmann.com](mailto:info@mst.mannesmann.com)

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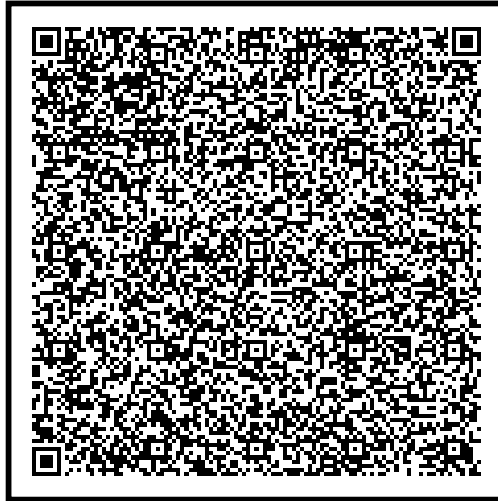
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**Certificate anti counterfeiting check**



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