

INSPECTION CERTIFICATE

(A02) EN 10204: 2004 TYPE 3.1

(A03) No. **4-23-01047-rev.01** Pag. 1 / 6

(A06) Purchaser
GRANDE PRAIRIE FLUID SYSTEM TECHNOLOGIES INC
118 COMMERCE DRIVE
R3P 0Z6 WINNIPEG
Manitoba
Canada

(A07) Customer Order No	8007212
(A08) SMST-Tubes Order No	0000290227
SMST-Item	(A09) Part No
0000290227-000002	SS-T4-S-049-20

(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 - 1/4 " X 0,049 " - 6,35 MM X 1,24 MM - AW - SML - CF - NDE - HEAT \$HEAT_NBR\$ - \$QUAL_LOT_NBR\$ - ITALY - BUNDLE \$BUNDLE_NBR\$ - NR \$INDIV_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
278156	QL40078463	000002	365	346.59 kg	2225.040 m	6.35 mm	1.24 mm	6096 mm	6099 mm
				764.10 lbs	7300.00 ft	0.250 "	0.049 "	20.00 ft	20.01 ft
	QL40078732	000002	155	148.24 kg	944.880 m	6.35 mm	1.24 mm	6096 mm	6099 mm
				326.81 lbs	3100.00 ft	0.250 "	0.049 "	20.00 ft	20.01 ft
411830	QL40079233	000002	158	151.11 kg	963.168 m	6.35 mm	1.24 mm	6096 mm	6099 mm
				333.14 lbs	3160.00 ft	0.250 "	0.049 "	20.00 ft	20.01 ft
			678	645.94 kg	4133.088 m				
			678	1424.05 lbs	13560.00 ft				

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	%	%	%	%	%	%	%	%
278156	Italy	EAF + AOD	0.024	0.38	1.29	0.026	0.0061	16.8	11.3	2.1
411830	Germany	EAF + VOD	0.015	0.41	1.56	0.024	0.0070	16.7	11.2	2.1

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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	%	%	%	%	%	%	%	%
QL40078463	49212541	0.024	0.34	1.27	0.030	0.0070	16.8	11.4	2.0
QL40078732	49214800	0.024	0.35	1.28	0.030	0.0070	16.9	11.4	2.0
QL40079233	49220449	0.012	0.44	1.61	0.016	0.0090	16.7	11.1	2.1

Sampling done on tubes in manufacturing length

Tensile Test at Room Temperature

ASTM A 370;ASTM A 632

(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	%
QL40078463	49212541	45	93	48.4
	49212542	46	93	49.6
QL40078732	49214800	44	92	47.4
	49214801	44	913	47.4
QL40079233	49220449	44	91	48.2
	49220450	44	91	46.5

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(C30) Hardness HRB

ASTM E 18

Quality Lot	(C00) Sample	Request	(C30) HRB		
			Result	(C31) Min	(C31) Max
QL40078463	49212541		82	83	82.5
	49212542		82	83	82.5
QL40078732	49214800		80	81	80.5
	49214801		80	81	80.5
QL40079233	49220449		74	76	75.0
	49220450		74	76	75.0

Sampling done on tubes in manufacturing length

(C51) Flaring Test

ASTM A 1016

Quality Lot	(C00) Sample	Result
QL40078463	49212537	OK
	49212538	OK
	49213657	OK
QL40078732	49214796	OK
	49214797	OK
QL40079233	49220447	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	Result
QL40078463	49212539	OK
	49212540	OK
	49213658	OK
QL40078732	49214798	OK
	49214799	OK
QL40079233	49220448	OK

Sampling done on tubes in manufacturing length

Test done at both ends of tubes

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Other Tests and Declarations

QL40078463; QL40078732; QL40079233

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

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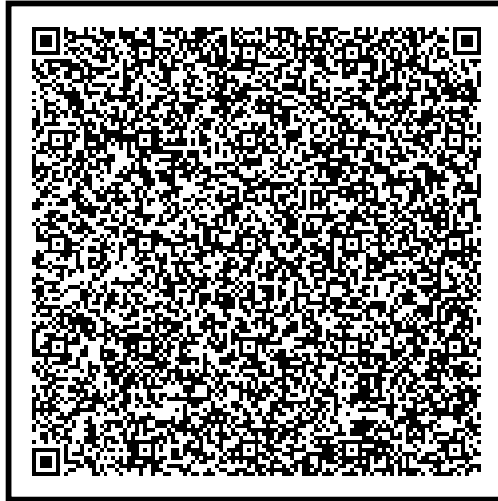
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Certificate anti counterfeiting check



**A set of information from the Inspection Certificate cover page are included in encrypted form in the above QR code.
By scanning it with your mobile device you can check if the Inspection Certificate is genuine.**