

**INSPECTION CERTIFICATE**

(A02) EN 10204: 2004 TYPE 3.1

(A03) No. **5-22-00033-rev.01** Pag. 1 / 5

**(A06) Purchaser**  
 SMST  
 CTS  
 CTS CTS  
 CTS  
 CTS

**(A07) Customer Order No**  
 Houston Stock Replenishment  
**(A08) SMST-Tubes Order No**  
 0009101316  
**SMST-Item** **(A09) Part No**  
 0009101316-000001

**(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 19 a;ASTM A 269 15 >US units;SWAGELOK SMS-00333 REV. D

**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-U A/SA-213 A-269 TP316/TP316L .500 X .035AW SML CF ET HT 352140 PHU50029385000 QL50018757 USA

**Country of Origin of the tubes**

**USA**

Quantity						Dimensions			
(B07) Heat	Quality Lot	SMST-Item	(B08) Pieces	(B13) Weight	(B16) Length	(B09) OD	(B10) WT	(B11) Ordered Length	
								min	max
352140	QL50018757	000001	438	1533.00 lbs	8760.00 ft	0.500 "	0.035 "	20.00 ft	20.01 ft

**438 1533.00 lbs 8760.00 ft**

**Heat Analysis**

(B07) Heat	Request	C	Si	Mn	P	S	Cr	Ni	Mo								
										Min	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
(B07) Heat	Heat Origin	(C70) Melting Process	%	%	%	%	%	%	%								
352140	Germany	EAF + VOD	0.015	0.44	1.53	0.023	0.0080	17.0	11.3	2.2							

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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	%	%	%	%	%	%	%	%
QL50018757	59021828	0.015	0.44	1.53	0.023	0.0080	17.0	11.3	2.2

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	%
QL50018757	59021828	43	86	45.7
	59021829	43	86	45.7

Sampling done on tubes in manufacturing length

**(C30) Hardness HRB**

**ASTM E 18**

		(C30) HRB			
		Request			90.0 max
Quality Lot	(C00) Sample	Result	(C31) Min	(C31) Max	(C32) Avg
QL50018757	59021832		72	79	75.5
	59021833		77	83	80.0

Sampling done on tubes in manufacturing length

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**(C51) Flaring Test**

**ASTM A 1016**

Quality Lot	(C00) Sample	Result
QL50018757	59021828	OK
	59021829	OK
	59025486	OK
	59025487	OK

**ASTM A 1016**

Quality Lot	(C00) Sample	Result
QL50018757	59021828	OK
	59021829	OK
	59025486	OK
	59025487	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	Result
QL50018757	59021828	OK
	59021829	OK
	59025486	OK
	59025487	OK

**ASTM A 1016**

Quality Lot	(C00) Sample	Result
QL50018757	59021828	OK
	59021829	OK
	59025486	OK
	59025487	OK

Sampling done on tubes in manufacturing length

Test done at both ends of tubes

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**Other Tests and Declarations**

QL50018757

Heat Treatment Bright Annealed 1950 °F Rapid Cooling

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

Intergranular Corrosion Test per ASTM A-262 Pr.E

Satisfactory

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 (ABS QE Cert. No. 42608)

(Z02) Mill's Inspector

**Noel Villatoro**

Date of Edition

**01/25/2022**

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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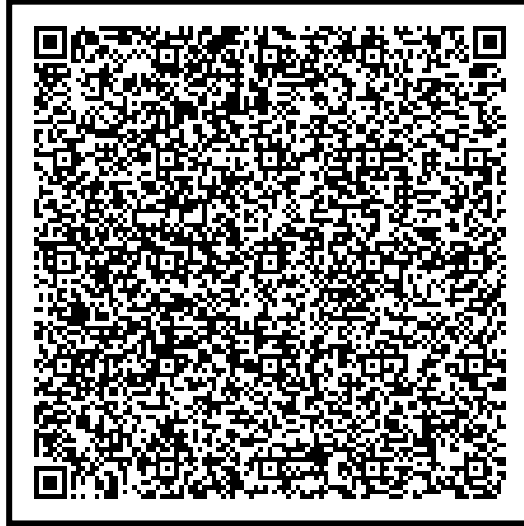
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**Certificate anti counterfeiting check**



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