

INSPECTION CERTIFICATE

(A02) EN 10204: 2004 TYPE 3.1

(A03) No. **5-21-00804-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
 0009101317
SMST-Item (A09) **Part No**
 0009101317-000002

(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 .049AW SML CF ET HT 350220 PHU50029538000 QL50018754 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 |
| 350220 | QL50018754 | 000002 | 410 | 1935.00 lbs | 8200.00 ft | 0.500 " | 0.049 " | 20.00 ft | 20.01 ft |

410 1935.00 lbs 8200.00 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 | % | % | % | % | % | % | % | % |
| 350220 | Germany | EAF + VOD | 0.020 | 0.44 | 1.48 | 0.025 | 0.0090 | 16.7 | 11.3 | 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 | % | % | % | % | % | % | % | % |
| QL50018754 | 59021811 | 0.020 | 0.44 | 1.48 | 0.025 | 0.0090 | 16.7 | 11.3 | 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 | % |
| QL50018754 | 59021811 | 35 | 85 | 55.0 |
| | 59021812 | 35 | 85 | 55.0 |

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 |
| QL50018754 | 59021813 | | 71 | 74 | 72.5 |
| | 59021814 | | 69 | 74 | 71.5 |

Sampling done on tubes in manufacturing length

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(C51) Flaring Test

ASTM A 1016

| Quality Lot | (C00) Sample | Result |
|-------------|--------------|--------|
| QL50018754 | 59021811 | OK |
| | 59021812 | OK |
| | 59024503 | OK |
| | 59024504 | OK |

ASTM A 1016

| Quality Lot | (C00) Sample | Result |
|-------------|--------------|--------|
| QL50018754 | 59021811 | OK |
| | 59021812 | OK |
| | 59024503 | OK |
| | 59024504 | 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 |
|-------------|--------------|--------|
| QL50018754 | 59021811 | OK |
| | 59021812 | OK |
| | 59024503 | OK |
| | 59024504 | OK |

ASTM A 1016

| Quality Lot | (C00) Sample | Result |
|-------------|--------------|--------|
| QL50018754 | 59021811 | OK |
| | 59021812 | OK |
| | 59024503 | OK |
| | 59024504 | OK |

Sampling done on tubes in manufacturing length

Test done at both ends of tubes

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Other Tests and Declarations

QL50018754

Heat Treatment Solution Annealed 1950 °F rapid gas 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 **12/15/2021**

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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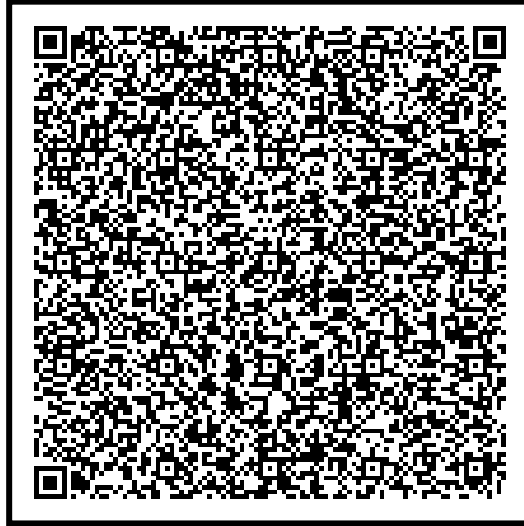
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Certificate anti counterfeiting check



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