

INSPECTION CERTIFICATE

(A02) EN 10204: 2004 TYPE 3.1

(A03) No. **4-23-01048-rev.01** Pag. 1 / 5

| |
|--|
| (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 |
| 0000290227-000003 | SS-T4-S-065-20 |

(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 0,065 " - 6,35 MM X 1,65 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 | QL40079103 | 000003 | 82 | 95.98 kg | 499.872 m | 6.35 mm | 1.65 mm | 6096 mm | 6099 mm |
| | | | | 211.60 lbs | 1640.00 ft | 0.250 " | 0.065 " | 20.00 ft | 20.01 ft |
| | | | 82 | 95.98 kg | 499.872 m | | | | |
| | | | 82 | 211.60 lbs | 1640.00 ft | | | | |

Heat Analysis

| (B07) Heat | Request | C | Si | Mn | P | S | Cr | Ni | Mo | |
|------------|-------------|-----------------------|-------|------|-------|--------|--------|------|------|-----|
| | | | | | | | | | | Min |
| | | | | | | | | | | Max |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.0050 | 16.0 | 10.0 | 2.0 | |
| | | 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 |

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Product Analysis

ASME SA 213;ASTM A 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 | % | % | % | % | % | % | % | % |
| QL40079103 | 49219115 | 0.024 | 0.35 | 1.30 | 0.030 | 0.0070 | 16.8 | 11.4 | 2.0 |

Tensile Test at Room Temperature

ASTM A 632;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 | % |
| QL40079103 | 49219115 | 44 | 92 | 49.6 |
| | 49219116 | 43 | 91 | 50.2 |

(C30) Hardness HRB

ASTM E 18

| | | (C30) HRB | | | |
|-------------|--------------|-----------|-----------|-----------|-----------|
| | | Request | | | 90.0 max |
| Quality Lot | (C00) Sample | Result | (C31) Min | (C31) Max | (C32) Avg |
| QL40079103 | 49219115 | | 80 | 81 | 80.5 |
| | 49219116 | | 79 | 80 | 79.5 |

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(C51) Flaring Test

ASTM A 1016

| Quality Lot | (C00) Sample | Result |
|-------------|-----------------|--------|
| QL40079103 | 49219113 | OK |

Test done at both ends of tubes

(C50) Flattening Test

ASTM A 1016

| Quality Lot | (C00) Sample | Result |
|-------------|-----------------|--------|
| QL40079103 | 49219114 | OK |

Test done at both ends of tubes

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Other Tests and Declarations

QL40079103

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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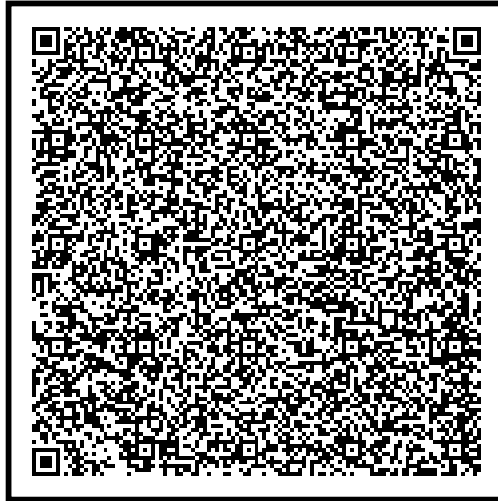
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Certificate anti counterfeiting check



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