#### Salzgitter Mannesmann Stainless Tubes USA, Inc

(A05)

12050 West Little York - Houston, TX 77041 - USA

www.mannesmann-stainless-tubes.com



# **INSPECTION CERTIFICATE**

(A02)

EN 10204: 2004 TYPE 3.1

(A03) No. **5-22-00073-rev.01** Pag. 1/5

(A06) Purchaser

GRANDE PRAIRIE FLUID SYSTEM TECHNOLOGIES INC

118 COMMERCE DRIVE

R3P 0Z6 WINNIPEG

Manitoba

Canada

Cariaua

(A07) Customer Order No

8005276

(A08) SMST-Tubes Order No

0000288201

SMST-Item (A09) Part No

0000288201-000012 SS-T24-S-120-20

(B01) (B02) (B04) Product Description

Seamless Stainless Steel Cold Finished Tubes Solution Annealed Free From Scale Plain Ends Square Cut Deburred

Specifications ASME SA 213 19;ASTM A 213 19 a;ASTM A 269 15 >US units;SWAGELOK SCS-00062 REV. B

03.2020 Solution annealed

**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 TP 316 TP 316L 1.500 X .120AW SML CF ET HT 367860

QL50019230 PHU50029739000 288201-12 PN SS-T24-S-120-20 USA

**Country of Origin of the tubes** 

USA

|               | Quantity    |           |                 |                 |                 |             | Dime        | nsions                     |          |
|---------------|-------------|-----------|-----------------|-----------------|-----------------|-------------|-------------|----------------------------|----------|
| (B07)<br>Heat | Quality Lot | SMST-Item | (B08)<br>Pieces | (B13)<br>Weight | (B16)<br>Length | (B09)<br>OD | (B10)<br>WT | (B <sup>o</sup><br>Ordered | ,        |
|               |             |           |                 |                 |                 |             |             | min                        | max      |
| 367860        | QL50019230  | 000012    | 29              | 1028.00 lbs     | 580.00 ft       | 1.500 "     | 0.120 "     | 20.00 ft                   | 20.01 ft |

29 1028.00 lbs 580.00 ft

## **Heat Analysis**

|               |             | Request                     | С     | Si   | Mn   | Р     | S      | Cr   | Ni   | Мо  |
|---------------|-------------|-----------------------------|-------|------|------|-------|--------|------|------|-----|
|               | 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)<br>Heat | Heat Origin | (C70)<br>Melting<br>Process | %     | %    | %    | %     | %      | %    | %    | %   |
| 367860        | Germany     | EAF + VOD                   | 0.020 | 0.41 | 1.43 | 0.024 | 0.0070 | 16.8 | 11.3 | 2.1 |

## Salzgitter Mannesmann Stainless Tubes USA, Inc

(A05)

12050 West Little York - Houston, TX 77041 - USA

www.mannesmann-stainless-tubes.com



## **INSPECTION CERTIFICATE**

(A02) EN 10204: 2004 TYPE 3.1

(A03) No. **5-22-00073-rev.01** Pag. 2 / 5

# **Product Analysis**

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

|             | Request         | С     | Si   | Mn   | Р     | S      | Cr   | Ni   | Мо  |
|-------------|-----------------|-------|------|------|-------|--------|------|------|-----|
|             | 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)<br>Sample | %     | %    | %    | %     | %      | %    | %    | %   |
| QL50019230  | 59025528        | 0.018 | 0.41 | 1.44 | 0.029 | 0.0080 | 16.8 | 11.4 | 2.2 |

Sampling done on tubes in manufacturing length

# **Tensile Test at Room Temperature**

#### **ASTM A 370**

(C02) Direction: LONGITUDINAL

(C10) Description: STRIP 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)<br>Sample | ksi     | ksi    | %     |
| QL50019230  | 59025528        | 42      | 85     | 63.3  |

Sampling done on tubes in manufacturing length

# (C30) Hardness HRB

#### **ASTM E 18**

|             |                 |         | (C30)<br>HRB |              |              |  |  |
|-------------|-----------------|---------|--------------|--------------|--------------|--|--|
|             |                 | Request |              |              | 90.0 max     |  |  |
| Quality Lot | (C00)<br>Sample | Result  | (C31)<br>Min | (C31)<br>Max | (C32)<br>Avg |  |  |
| OI 50010330 | 59025529        |         | 72           | 74           | 73.0         |  |  |
| QL50019230  | 59025530        |         | 72           | 74           | 73.0         |  |  |

Sampling done on tubes in manufacturing length

## Salzgitter Mannesmann Stainless Tubes USA, Inc

(A05)

12050 West Little York - Houston, TX 77041 - USA

www.mannesmann-stainless-tubes.com



## **INSPECTION CERTIFICATE**

(A02) EN 10204: 2004 TYPE 3.1

(A03) No. **5-22-00073-rev.01** Pag. 3 / 5

# (C51) Flaring Test

# **ASTM A 1016**

| Quality Lot | (C00)<br>Sample | Result |  |
|-------------|-----------------|--------|--|
| QL50019230  | 59025528        | ОК     |  |

Sampling done on tubes in manufacturing length

Test done at both ends of tubes

# (C50) Flattening Test

## **ASTM A 1016**

| Quality Lot | (C00)<br>Sample | Result |  |
|-------------|-----------------|--------|--|
| QL50019230  | 59025528        | OK     |  |

Sampling done on tubes in manufacturing length

Test done at both ends of tubes

#### Salzgitter Mannesmann Stainless Tubes USA, Inc

(A05)

12050 West Little York - Houston, TX 77041 - USA

www.mannesmann-stainless-tubes.com



#### **INSPECTION CERTIFICATE**

(A02) EN 10204: 2004 TYPE 3.1

(A03) No. 5-22-00073-rev.01 Pag. 4 / 5

|          |   | (7100) 140.                  | 0 LL 00070 1CV.01                   | rag. +/0         |
|----------|---|------------------------------|-------------------------------------|------------------|
|          |   |                              |                                     |                  |
| ther Tes | ts and Declarations   |                              |                                     |                  |
|          | QL50019230  |                              |                                     |                  |
|          | Heat Treatment Open Annealed 1950 °F  |                              |                                     | Water Quenched   |
| (D01)    | Visual and dimensional inspection (VT) on 100% of tub   | es 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 1   | 1016                         |                                     | Satisfactory     |
|          | Tubes in compliance with customer specification nr SCS-00062 rev. B - SQS-00012 rev. Y - SQS-00020 rev. K - SGS- 00008 No Weld Repair                                 |                              |                                     |                  |
| (Z01)    | SMST declares that the product was manufactured, sar requirements designated in the purchase order within the requirements  |                              |                                     |                  |
|          | Tubes are free from mercury contamination and from ra   | adioactive contamination     |                                     |                  |
|          | The material is conforming to directive 2000/53/EC and  | I 2011/65/EU                 |                                     |                  |
|          | Confirmation with reference to Pressure Equipment Dir<br>The works operates a quality management system that<br>certified by a competent body (ABS QE Cert. No. 4260) | has undergone a specific ass | sessment for materials for pressure | equipment and is |
|          |   |                              |                                     |                  |

(Z02) Mill's Inspector Noel Villatoro Date of Edition 02/09/2022

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 authentification is needed, please contact info@mst.mannesmann.com

(A01) Salzgitter Mannesmann Stainless Tubes USA, Inc

12050 West Little York - Houston, TX 77041 - USA

www.mannesmann-stainless-tubes.com



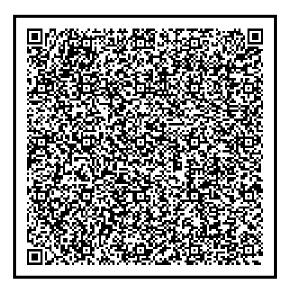
**INSPECTION CERTIFICATE** 

(A02) EN 10204: 2004 TYPE 3.1

(A05)

(A03) No. **5-22-00073-rev.01** Pag. 5 / 5

# 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.