



Purchaser	GRANDE PRAIRIE FLUID SYSTEM TECHNOLOGIES INC
Address	118 COMMERCE DRIVE, R3P 0Z6, WINNIPEG, Manitoba, Canada
Customer Order	8005275
DMV Ref. Order	288202-21
Part No.	SS-T6-S-065-20

Product
Seamless Stainless Steel Cold Finished Tubes Annealed In Bright Condition Plain Ends Square Cut Deburred

Specification	ASME SA 213 17;ASTM A 213 18 B;ASTM A 269 15;SWAGELOK SCS-00062 REV.C;NACE MR0175/ISO15156
Grade	TP 316; TP 316L; DMV 316L
Tolerances	A 213 / A 1016 AW; ASTM A 269
Marking	MANNESMANN MST-U A/SA-213 A-269 TP316/TP316L .375 X .065AW SML CF ET HT RK468 PHU(XXXX) QL(XXXX) USA

Heat	Pieces	Weight		Total Length	O.D	W.Th.	Length
RK468	761	3,287.54	LBS	15,220.00 FT	0.375"	0.065"	20.00'-20.01' FL

Product Analysis ASTM A 213 // ASME SA 213 // ASTM A 269

Chemical Analysis (%)	Heat No.	RK468	Melt Process	E+VOD	Country of melt			FRANCE
	<u>C</u>	<u>Si</u>	<u>Mn</u>	<u>P</u>	<u>S</u>	<u>Cr</u>	<u>Ni</u>	<u>Mo</u>
Min	0.0000	0.0000	0.0000	0.0000	0.0050	16.0000	10.0000	2.0000
Max	0.0350	1.0000	2.0000	0.0450	0.0150	18.0000	14.0000	3.0000
HEAT	0.0230	0.3200	1.7200	0.0210	0.0070	16.7000	11.2000	2.1000
Product	0.0250	0.3300	1.7400	0.0230	0.0076	16.7000	11.3000	2.1000





Mechanical and Metallurgical Properties

TENSILE TEST AT ROOM TEMPERATURE
ASTM A 370
Direction: LONGITUDINAL
Description: FULL SIZE TEST SPECIMEN

QUALITY LOT	SAMPLE		Y.S. 0.2%	U.T.S	Elongation 2" Gage
	MIN	MAX	KSI 30	KSI 75	% 35
QL50019052	59033603		50.0	93.0	51.3
QL50019405	59033609		46.0	95.0	54.5
	59033615		46.0	95.0	54.5
QL50019246	59033616		48.0	93.0	50.4
QL50018981	59033622		47.0	93.0	50.5
	59033628		47.0	93.0	50.5
QL50019042	59033629		47.0	95.0	49.0
	59033635		46.0	95.0	49.0
QL50018956	59033636		42.0	93.0	50.2
	59033642		42.0	93.0	50.2

HARDNESS TEST (HRB 90 MAX)
ASTM A 370

QUALITY LOT	SAMPLE	Result	Min	Max	Avg
QL50019052	59033604		77.00	84.00	80.50
	59033605		77.00	84.00	80.50
QL50019405	59033610		77.00	84.00	80.50
	59033611		74.00	75.00	74.50
QL50019246	59033617		77.00	83.00	80.00
	59033618		79.00	83.00	81.00
QL50018981	59033623		77.00	81.00	79.00
	59033624		77.00	81.00	79.00
QL50019042	59033630		75.00	84.00	79.50
	59033631		75.00	84.00	79.50
QL50018956	59033637		75.00	83.00	79.00
	59033638		75.00	83.00	79.00

Flaring Test

ASTM A 1016	SAMPLE	Result
QL50019052	59033603	OK
QL50019405	59033609	OK
QL50019246	59033616	OK
QL50018981	59033622	OK
QL50019042	59033629	OK

QL50018956	59033636	OK
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Flattening Test

ASTM A 1016	SAMPLE	Result
QL50019052	59033603	OK
QL50019405	59033609	OK
QL50019246	59033616	OK
QL50018981	59033622	OK
QL50019042	59033629	OK
QL50018956	59033636	OK

Mannesmann Stainless Tubes USA - ISO Cert - ABS 30788



 <p>MANNESMANN STAINLESS TUBES A Member of the Salzgitter Group</p>	<p>Mannesmann Stainless Tubes USA, Inc. 12050 West Little York Houston Texas USA 77041 www.smst-tubes.com INSPECTION CERTIFICATE 3.1 - EN 10204 : 2004</p>	<p>No 288202-21 Rev. 01 Page 3/3</p>
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Other tests and declarations

Heat Treatment	1950 ⁰ F	Bright Annealed	Rapid Gas Cooling
Antimixing Check (PMI) on 100% of tubes			OK
Visual and dimensional inspection (VT) on 100% of tubes			OK
Eddy Current tested 100% in accordance with ASTM E-426/ 12-1/2% Notch			OK
Tubes are free from mercury contamination and from radioactive contamination			
No weld repair			
SMST-Tubes declares that the product is in compliance with the order			

Validation by manufacturer's representative

Quality Compliance Specialist Noel Villatoro

Date July 26, 2022

Confirmation with reference to Pressure Equipment Directive 97/23/EC:

The works operates a quality management system that has undergone a specific assessment for the materials for the pressure equipment and is certified by a competent body ABS Certificate 42608

This certificate is issued by a computerized system and is valid without a signature. In case the owner of the original certificate would release a copy of it, he must attest its conformity to the original one, taking upon himself the responsibility for any unlawful or not allowed use. Any alteration and/or falsification will be subjected to the law.

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