



<b>Purchaser</b>	GRANDE PRAIRIE FLUID SYSTEM TECHNOLOGIES INC
<b>Address</b>	118 COMMERCE DRIVE, R3P 0Z6, WINNIPEG, Manitoba, Canada
<b>Customer Order</b>	8007028
<b>DMV Ref. Order</b>	289990-1
<b>Part No.</b>	SS-T12-S-065-20

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

<b>Specification</b>	ASME SA 213 17;ASTM A 213 18 B;ASTM A 269 15;SWAGELOK SCS-00062 REV.C;NACE MR0175/ISO15156
<b>Grade</b>	TP 316; TP 316L; DMV 316L
<b>Tolerances</b>	A 213 / A 1016 AW; ASTM A 269
<b>Marking</b>	MANNESMANN MST-U A/SA-213 A-269 TP316/TP316L .750 X .065AW SML CF ET HT 358850 PHU50028588002 QL50018876 USA

Heat	Pieces	Weight		Total Length	O.D	W.Th.	Length
358850	149	1,424.00	LBS	2,980.00 FT	0.750"	0.065"	20.00'-20.01' FL

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

Chemical Analysis (%)	Heat No.	358850	Melt Process	EAF+VOD		Country of melt	GERMANY	
	<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
<b>HEAT</b>	0.0170	0.4100	1.4700	0.0240	0.0100	16.7000	11.3000	2.1000
<b>Product</b>	0.0170	0.4100	1.4700	0.0240	0.0100	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
			KSI 30	KSI 75	% 35
QL50018876	59033596	MIN MAX	33.0	83.0	50.8
	59033600		33.0	83.0	50.8

**HARDNESS TEST (HRB 90 MAX)**  
**ASTM A 370**

QUALITY LOT	SAMPLE	Result	Min	Max	Avg
QL50018876	59033597		67.00	72.00	69.50
	59033598		67.00	72.00	69.50

**Flaring Test**

ASTM A 1016	SAMPLE	Result
QL50018876	59033596	OK

**Flattening Test**

ASTM A 1016	SAMPLE	Result
QL50018876	59033596	OK





**Other tests and declarations**

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

**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.

