

Purchaser GRANDE PRAIRIE FLUID SYSTEM TECHNOLOGIES INC
Address 118 COMMERCE DRIVE
Customer Order 8002413
DMV Ref. Order 284943-7
Part No. SS-T16-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 17;ASTM A 269 15 >US units;SWAGelok SCS-00062 REV. B
Grade TP 316;TP 316L;DMV 316L
Tolerances A 213 / A 1016 AW;ASTM A 269 // ASTM A 480
Marking MANNESMANN MST-U A/SA-213 A-269 TP316/TP316L 1.00 X .065AW SML CF ET HT 346460
284943-7 PHU50027375000 QL50017450 USA

Heat	Pieces	Weight		Total Length		O.D	W.Th.	Length
346460	100	1304.00	LBS	2000.00	FT	1.00"	.065"	20.00'-20.01' FL

Product Analysis ASTM A 213 // ASME SA 213 // ASTM A 269 // ASTM A 480

Chemical Analysis (%)	Heat No.	346460	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	
HEAT	0.0140	0.3900	1.5200	0.0230	0.0100	16.7000	11.3000	2.1000	
Product	0.0140	0.3900	1.5200	0.0230	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
	MIN MAX	KSI 30	KSI 75	% 35
QL50017450	59008850	46.0	92.0	49

HARDNESS TEST

ASTM A 370;NACE MR0103;NACE MR0175/ISO 15156-3 (HR 15-T)

QUALITY LOT	SAMPLE	Result	Min	Max	Avg
QL50017450	59008850		84.00	86.00	85.00
	59008851		84.00	86.00	85.00

Flaring Test

ASTM A 1016	SAMPLE	Result
QL50017450	59008850	OK

Flattening Test

ASTM A 1016	SAMPLE	Result
QL50017450	59008850	OK

Other tests and declarations

Heat Treatment	1950 ^o 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 Manager

Noel Villatoro 

Date

April 9, 2021

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.

Salzgitter Mannesmann Stainless Tubes USA - ISO Cert - ABS 30788