

SS-T12-S-083-20



www.materials.sandvik/en/

Sandvik Materials Technology

Product Area Tube

982 Griffin Pond Rd, Clarks Summit, PA US 18411, Ph: 570-585-7500

MATERIAL CERTIFICATE

Cert#: 180037282

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Plant Location: 982 Griffin Pond Road, Clarks Summit, PA 18411

Sold To: 8442	Ship To:
SWAGELOK MANUFACTURING COMPANY	EDMONTON VALVE & FITTING INC
INDEPENDENCE OH	EDMONTON AB
Customer Order No: Z00799	Certification Date: 20181211
Sandvik Order No: 357291/1	

Work Order/Lot: 275454

SWAGELOK SMS-00333 Rev. D, SWAGELOK SQS-00012 Rev. Z, ASTM A269-15a
 ASTM A213-17, ASME SA-213, ASME Section II, 2017 Edition
 NACE MR0175/ISO 15156, 3rd Edition 2015-11-23, (Austenitic)

Cold Finished BRIGHT ANNEALED Seamless Tube
 Type MT 316/MT 316L/TP316/TP316L

Size: .750" X .083" AW
 Heat: 549164

Material Manufacturer: Sandvik Materials Technology, USA

ANALYSIS %

	C	Si	Mn	P	S	Cr	Ni
Heat	.022	.43	1.71	.031	.010	16.75	12.43
Prod	.022	.40	1.70	.031	.008	16.76	12.38
	Fe	Mo	Cu	Al	Pb		
Heat		2.03	.29	.003	.00005		
Prod		2.01	.30	.005	.00005		

Mechanical Tests:

Yield Strength		Tensile Strength		Elongation				Reduction
0.2%	1.0%			in %				Of Area
psi	MPa	psi	MPa	E2"	E10"	E4d	E5d	%
54700	377.2	N/A	104000	717.2	54	N/A	N/A	N/A
55900	385.5		104000	717.2	54			

Hardness Test Results: 74HRBW, 76HRBW

Flare Test per ASTM A450/A1016 and ASME SA450/SA1016,

No. samples: 2 Result: Acceptable

Flattening Test per ASTM A450/A1016 and ASME SA450/SA1016:
Acceptable

Tensile Test sample width (1=Full-Size 2=1/2" Strip): 2

This material complies with DFARS 252.225-7001 (2016)

This material does not comply with DFARS 252.225-7008 (2013)

This material complies with DFARS 252.225-7009 (2014)

This material does not comply with FAR 52.225-1 (2009)

This material complies with FAR 52.225-5 (1999)

Country Of Origin: United States

100% Positive Material Identification performed

All material subjected to a final solution annealing heat treatment with material at a temperature of 1900 deg. F

minimum followed by rapid quenching to below 800 deg. F in less than three (3) minutes.

The material has not come in contact with Mercury or Mercury containing compounds.

Material is capable of passing the ASTM A262 Practice "E".

No welding has been performed on this material.

Material has been eddy current tested in accordance with ASTM A450, ASTM A1016 and is acceptable.

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Inspection certificate produced in accordance with EN 10204 3.1 (formerly EN 10204 3.1.B).

No unauthorized alterations. The contents of this Inspection Certificate may not be modified or revised in any way without the prior written approval of Sandvik Materials Technology. Unauthorized alterations to the Inspection Certificate, including introduction of false, fictitious or fraudulent statements or entries, may be punishable by fines, imprisonment, or both. This Inspection Certificate may be copied only in the manner and for the purposes specified in EN 10204:2004, Section 6. Contravention of this notice will be prosecuted to the fullest extent of the applicable law(s).

Material has been manufactured/supplied in accordance with Sandvik Materials Technology Quality Manual-Commercial Products Revision 0 dated Dec. 7, 2017. Quality system has been approved to ISO 9001:2015 (Cert# 10047907, 02JAN18) No unauthorized alterations. The content of this inspection certificate may not be modified or revised in any way without the prior written approval of Sandvik Materials Technology. Unauthorized alterations to the inspection certificate, including introduction of false, fictitious or fraudulent statements or entries, may be punishable by fines, imprisonment, or both.

Contravention of this notice will be prosecuted to the fullest extent of the applicable laws.

Melt Source: SMT SANDVIKEN, SWEDEN

Melt Method: Electric Arc Furnace-AOD Refining

This is to certify that the contents of this certificate are correct and accurate as contained in Sandvik's records, and that all above test results and operations performed are in compliance with the requirements of the purchase order and the specification(s) listed above.

Electronically Generated Certificate-Valid without signature
John Scherer, Quality Mgr-Tube
10 (SWINST316 R34) (15) CF (HV5647)