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Sandvik Materials Technology

Product Area Tube P.O. Box 1220 Scranton PA USA 18501 570-585-7500

200922208

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Sold To: 632580

SANDVIK DE MEXICO

TLALNEPANTLA, EDO MEXICO

Customer Order No: 450882

Sandvik Order No: 79786/33

Work Order/Lot: 524990

Ship To:

GAISA FORWARDING INC

LAREDO TX

Certification Date: 20090715

ASTM A312-08a, ASME SA-312, ASTM A376-06, ASME SA-376, ASME Section II 2007 Edition, 2008 Addenda, NACE MR0175 / ISO 15156 First edition 2003-12-15, (Austenitic)

Hot Finished PROCESS ANNEALED AND PICKLED Seamless Pipe

Type TP316/TP316L (UNS S31600/S31603) Size: 1 1/2" SCH 40

Heat: 521334

Material Manufacturer: Pennsylvania Extruded Tube Co. USA

ANALYSIS %

	C	Si	Mn	P	S	Cr	Ni
Heat	.012	.40	1.68	.027	.010	16.80	11.28
${\tt Prod}$.010	.40	1.67	.029	.008	16.81	11.35
	Fe	Mo	Al	Pb			

Heat 2.05 .003 Prod 2.06 .003

Mechanical Tests:

Yield Strength			Tensile		Elongation			Reduction		
0.2%		1.0%		Strength		in %			Of Area	
psi	MPa	psi	MPa	psi	MPa	E2"	E10"	E4d	E5d	%
40400	278.6	N/A		83600	576.6	49	N/A	N/A	N/A	N/A

Hardness Test Results: 87HRB, 88HRB

Hydrostatic Test (psi): 2400

Flattening Test per ASTM A999: Acceptable

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

This Material complies with DFARS 252.225-7014 & Alternate 1

Corrosion Test per ASTM A262 Pr.E: Acceptable Country Of Origin: United States

This Material complies with FAR BAA (FAR 52.225-1)

This Material complies with DFARS BAA (DFARS 252.225-7001)

and FAR TAA(FAR $5\overline{2}.225-5$)

All material subjected to a final solution annealing heat treatment with material at a temperature of 1900 deg. F minimum followed by rapid quenching.

The material has not come in contact with Mercury or Mercury

containing compounds.

Material has been manufactured/supplied in accordance with Sandvik Materials Technology Overline with Sandvik Materials Technology Quality Manual-Standardy CIAS. Some Products Revision 10 dated May 29, 2007. Quality System has been approved to ISO 9001:2000.

Certificate produced in accordance with EN 10204 301 COLDE CALIDARY (formerly EN 10204 3 1 B)

(formerly EN 10204 3.1.B)

meit Method: Electric Arc Furnace-AOD Refining 26 For 2010
This is to certify that the contents of this certificate(000145)

TALLY E VOL

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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 Audrey Kakareka, Quality Engr. 10 (STKA312/376 R28) (32) (US36543)