

Oct 15, 2004  
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No. 200477356

M A T E R I A L C E R T I F I C A T E

Sandvik Materials Technology, Tubular Products Area  
P.O. Box 1220, Scranton, PA USA 18501, Ph: 570-585-7500

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

Sold To: 632580

SANDVIK DE MEXICO

TLALNEPANTLA, EDO MEXICO

Customer Order No: \50565

Sandvik Order No: 42108/8

Work Order/Lot: 514046

Ship To:

GAISA FORWARDING INC

LAREDO TX

Certification Date: 20040913

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ASTM A312-03, ASME SA-312, ASME Section II, 2001 Edition; 2003 Addenda  
NACE MR0175-2000 (Austenitic)

Hot Finished PROCESS ANNEALED AND PICKLED Seamless Pipe

Type TP316/TP316L (UNS S31600/S31603)

Size: 1" SCH 40

Heat: 502917

ANALYSIS %

	C	Si	Mn	P	S	Cr	Ni
Heat	.018	.41	1.69	.028	.009	16.87	11.26
Prod	.017	.40	1.70	.027	.007	16.90	11.35
	Fe	Mo	Al	Pb			
Heat	2.04	.003					
Prod	2.04	.003					

Mechanical Tests:

Yield Strength		Tensile Strength		Elongation in %				Reduction Of Area %		
0.2%	1.0%	psi	MPa	psi	MPa	E2"	E10"	E4d	E5d	%
psi	MPa	psi	MPa	psi	MPa	E2"	E10"	E4d	E5d	%
56900	392.4	N/A		93500	644.8	46	N/A	N/A	N/A	N/A
56700	391.0			89100	614.5	44				

Hardness Test Results: 85HRB, 86HRB

Hydrostatic Test (psi): 2500

Flattening Test per ASTM A530: Acceptable

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

Corrosion Test per ASTM A262 Pr.E, MIL-P-24691/3 and

MIL-P-1144D. No. samples: 1 Result: Acceptable

Country Of Origin: United States

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.

No welding has been performed on this material.

Material has been manufactured/supplied in accordance with Sandvik Materials Technology Quality Manual-Standard Products Revision 6 dated October 9, 2003. Quality system has been approved to ISO 9001:2000.

Certificate produced in accordance with EN 10204 (DIN 50049) 3.1.B.

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.

Kurt Revak, Quality Specialist  
30 (STKA312 R15) (32) (DDT)

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Authorized Representative