

Aug 9, 2004
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M A T E R I A L C E R T I F I C A T E

No. 200303005

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

Ship To:

SANDVIK DE MEXICO

GAISA FORWARDING INC

TLALNEPANTLA, EDO MEXICO

LAREDO TX

Customer Order No: 450460

Certification Date: 20030127

Sandvik Order No: 83466/1

Work Order/Lot: 510547

ASTM A312-01a, ASME SA-312, ASME Section II

2001 Edition, 2002 Addenda, NACE MR0175-2000 (Austenitic)

Hot Finished Process Annealed Seamless Pipe

Type TP316/TP316L (UNS S31600/S31603)

Size: 2" SCH 40

Heat: 455390

ANALYSIS %

	C	Si	Mn	P	S	Cr	Ni
Heat	.014	.39	1.68	.030	.011	16.89	11.15
Prod	.016	.39	1.67	.031	.010	17	11.18
	Fe	Mo	Al	Pb			
Heat		2.07	.003				
Prod		2.07	.003				

Mechanical Tests:

Yield Strength		Tensile Strength		Elongation				Reduction		
0.2%	1.0%	psi	MPa	psi	MPa	E2"	E10"	E4d	E5d	Of Area
psi	MPa	psi	MPa	psi	MPa	E2"	E10"	E4d	E5d	%
41500	286.2	N/A		87400	602.8	47	N/A	N/A	N/A	N/A

Hardness Test Results: 82HRB, 84HRB

Hydrostatic Test (psi): 2070

Flattening Test per ASTM A530: Acceptable

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

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.

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 Steel Company Quality Manual-Standard

Products Revision 4 dated June 16, 2002. Quality system has been approved to ISO-9002/ANSI/ASQC Q9002-1994.

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.

Brett Crosby, Quality Manager
30 (STKA312 R13) (32) (CFN)


Authorized Representative