

Feb 11, 2004  
13:49:01

MF

MXVC

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

Page 1 of 1  
No. 200338529

Sandvik Materials Technology

P.O. Box 1220, Scranton, PA 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: 450510

Certification Date: 20031030

Sandvik Order No: 16189/1

Work Order/Lot: 510946

-----  
ASTM A312-01a, 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: 457623

ANALYSIS %

	C	Si	Mn	P	S	Cr	Ni
Heat	.010	.40	1.67	.029	.010	16.95	11.34
Prod	.010	.41	1.66	.029	.007	16.99	11.36
	Fe	Mo	Al	Pb			
Heat	2.10		.003				
Prod	2.10		.003				

Mechanical Tests:

Yield Strength		Tensile Strength		Elongation in %				Reduction Of Area %		
0.2%	1.0%	psi	MPa	psi	MPa	E2"	E10"	E4d	E5d	
49300	340.0	N/A		96800	667.6	60	N/A	N/A	N/A	N/A
42400	292.4			87900	606.2	56				

Hardness Test Results: 86HRB, 89HRB

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.

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 R14) (32) (CFN)

*Vita W. Cates*  
Authorized Representative