

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

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: SANDVIK DE MEXICO
TLALNEPANTLA, EDO MEXICO
Customer Order No: 450494
Sandvik Order No: 11488/26
Work Order/Lot: 305103

Ship To: GAISA FORWARDING INC
LAREDO TX
Certification Date: 20030909

ASTM A213-01a, ASTM A269-02, ASTM A511-96, ASME SA-213
ASME Section II, 2001 Edition; 2003 Addenda
Cold Finished Bright Annealed Seamless Tube
Type MT 316/MT 316L/TP316/TP316L

Size: .500" X .065"
Heat: 458741

ANALYSIS %

	C	Si	Mn	P	S	Cr	Ni
Heat	.018	.46	1.70	.029	.008	17.27	13.10
Prod	.017	.45	1.69	.028	.006	17.29	13.07
	Fe	Mo	Al	Pb			
Heat	2.61		.003				
Prod	2.61		.003				

Mechanical Tests:

Yield Strength		Tensile Strength		Elongation in %				Reduction Of Area		
0.2%	1.0%	psi	MPa	psi	MPa	E2"	E10"	E4d	E5d	%
39000	269.0	N/A		82000	565.5	64	N/A	N/A	N/A	N/A

Hardness Test Results: 75HRB, 73HRB

Flare Test per ASTM A450,

No. samples: 2 Result: Acceptable

Flattening Test per ASTM A450: Acceptable

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

Country Of Origin: Canada

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

Material has been manufactured/supplied in accordance with Sandvik Materials Technology Quality Manual-Standard Products Revision 5 dated February 6, 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.

Vita W. Cato
Authorized Representative