

INSPECTION CERTIFICATE & MILL TEST REPORT - EN 10204 3.1

Customer :	ISO 9001:2008-TUV NORD REG.No-44100011170-E3	INVOICE NUMBER / MTR NO.	1003884/5
8900-A, BALKWOOD DRIVE SUITE B HOUSTON, TX 77078	EXPIRY DATE : 21.01.2016	DATE	05.04.2016
	AD 2000 MERCH.ATT WO-072031423 WP 1022/14 Q	MATERIAL SPECIFICATION	ASTM A182/A182M-15 / ASME SA182/SA182M-15
	AS PER WZ/W9 EXPIRY DATE FEBRUARY 2017	PURCHASE ORDER NO.	212371
	PED 9723/EC QMS REG.NO.072021423 WZ 1022/14 Q	DESCRIPTION	STAINLESS STEEL FORGED FLANGES
	EXPIRY DATE FEBRUARY 2017		

CHEMICAL ANALYSIS

Str.No	Item Description	Dimension Specification	Heat No	Qty	%C	%Mn	%Si	%S	%P	%Cr	%Ni	%Mo	%Ti	%N
20	E316/316L 3" SORE 150#	B16.5	101510	110.000	0.0230	1.660	0.350	0.0210	0.0360	16.750	10.020	2.000	0.0020	0.08000
21	E316/316L 1-1/2" BLRF 150#	B16.5	101501	325.000	0.0270	1.700	0.360	0.0230	0.0350	16.700	10.090	2.050	0.0060	0.07100
22	E316/316L 1" WNRF 150# STDS	B16.5	101501	55.000	0.0270	1.700	0.360	0.0230	0.0350	16.700	10.090	2.050	0.0060	0.07100
23	E316/316L 1-1/2" SORE 150#	B16.5	101500	55.000	0.0180	1.690	0.410	0.0220	0.0350	16.750	10.070	2.020	0.0120	0.07400
24	E316/316L 5" SORE 150#	B16.5	101480	16.000	0.0190	1.600	0.390	0.0230	0.0390	16.780	10.100	2.050	0.0020	0.07200
25	E316/316L 10" BLRF 150#	B16.5	40234	21.000	0.0260	1.670	0.390	0.0090	0.0370	16.760	10.040	2.010	0.0010	0.08000

MECHANICAL PROPERTIES

Str.No	Heat No.	Tensile Strength (MPa)	Proof Stress Rp-0.2 % (MPa)	Proof Stress Rp-1.0% (MPa)	% Elongation LO=4D	% Reduction of Area	Hardness BHN	IMPACT TEST-CHARPY-VANOTCH AT +20 DEG. C (Joules)			AVG
								1	2	3	
20	101510	552.550	273.180	308.830	59.80	69.90	155.0	215.0	200.0	210.0	208.0
21	101501	541.480	262.830	309.180	57.80	68.66	151.0	185.0	189.0	200.0	191.0
22	101501	541.480	262.830	309.180	57.80	68.66	151.0	185.0	189.0	200.0	191.0
23	101500	537.110	235.120	271.400	57.20	68.58	158.0	177.0	189.0	175.0	180.0
24	101480	542.920	269.780	317.090	56.60	72.14	155.0	200.0	202.0	190.0	197.0
25	40234	580.640	293.520	346.180	60.40	69.45	157.0	190.0	192.0	190.0	191.0

NACE CERT
 MELTING PROCESS : MATERIAL CONFORMS TO NACE MR 0175 / ISO 15156 - 2009 & NACE MR 0103 - 2012
 HEAT TREATMENT : INDUCTION / AOD (IRS) / CONCAST
 DIMENSIONS : SOLUTION ANNEALED AT 1080°C AND WATER QUENCHED
 SURFACE QUALITY : CONFORM WITH THE SPECIFICATION (100% INSPECTED)
 PMI : SATISFACTORY
 INTER GRANULAR CORROSION TEST : NO OBJECTION/100% TESTED WITH MOBILE SPECTRO
 MICRO OBSERVATION : PASSED IGC TEST IN ACCORDANCE WITH ASTM A262 PRACTICE B
 RADIOACTIVITY TEST : NO CARBIDE PRECIPITATION OBSERVED ON GRAIN BOUNDARIES
 REMARKS : ALL THE ABOVE MATERIAL IS TESTED FOR RADIOACTIVITY AND FOUND WITH IN THE LIMIT OF BACKGROUND RADIATION
 : NO WELD REPAIR WAS PERFORMED & ALL THE ITEMS ARE FREE OF WELD REPAIR
 : FREE FROM MERCURY CONTAMINATION

WE CERTIFY THAT THE MATERIAL DESCRIBED ABOVE HAS BEEN TESTED AND COMPLIES WITH THE ORDER/CONTRACT AND IS OF INDIAN ORIGIN

MANUFACTURER'S SYMBOL



WORKS INSPECTOR

FOR TECHNICAL SUPPORT OR INFORMATION, PLEASE CONTACT: TECHNICAL SUPPORT DEPARTMENT, PROFILES LTD., 8900-A, BALKWOOD DRIVE, SUITE B, HOUSTON, TX 77078, USA. TEL: +1 281 440 1111. FAX: +1 281 440 1112. WWW.PROFILES.COM