



VIRAJ

INSPECTION CERTIFICATE & MILL TEST REPORT - EN 10204 3.1

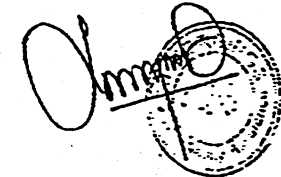
CUSTOMER :	MANUFACTURER'S SYMBOL	MTR NO.	905166 / 8
		DATE	10.10.2009
		MATERIAL SPECIFICATION	ASTM A182/A182M - 09
	GRADE	F316/316L	ASME SA182/SA182M - 09
	DIMENSIONAL SPECIFICATION	ASME B16.5 - 2009	
	MATERIAL CONFORMS TO NACE MR 0175 - 2003 & NACE MR 0103 - 2000		
ORDER NO. : - L26805/GURNEE		STAINLESS STEEL FORGED FLANGES	

CHEMICAL ANALYSIS														
S. NO	ITEM DESCRIPTION	HEAT NO	QTY	%C	%Mn	%Si	%S	%P	%Cr	%Ni	%Mo	N2 PPM		
1	1-1/2" BLRF	150# 81275	50	0.018	1.85	0.45	0.012	0.040	16.75	10.04	2.02	825		
2	2" BLRF	150# 80267	50	0.021	1.75	0.40	0.007	0.040	16.78	10.08	2.04	830		
3	1" LAP JOINT	150# 81023	15	0.020	1.76	0.43	0.013	0.039	16.63	10.08	2.03	745		
4	3/4" SORF	150# 81280	25	0.018	1.84	0.49	0.006	0.042	16.70	10.08	2.03	800		
5	1" SORF	150# 81023	150	0.020	1.76	0.43	0.013	0.039	16.63	10.08	2.03	745		
6	1-1/4" SORF	150# 78492	15	0.026	1.77	0.48	0.010	0.038	16.58	10.10	2.04	550		
7	1-1/2" SORF	150# 81023	20	0.020	1.76	0.43	0.013	0.039	16.63	10.08	2.03	745		
8	2" SORF	150# 80213	200	0.020	1.73	0.41	0.011	0.039	16.70	10.08	2.02	765		

MECHANICAL PROPERTIES										IMPACT TEST				
HEAT NO	ITEM DESCRIPTION	TENSILE STRENGTH (Mpa)	YIELD STRENGTH (Mpa)	ELONGATION % (Ld=4D)	REDUCTION OF AREA %	CHARPY V-NOTCH AT RT (Joules)				HARDNESS (BHN)				
						1	2	3	AVG					
81275	1-1/2" BLRF 150#	580.88	293.44	62.20	73.77	-	-	-	-	159				
80267	2" BLRF 150#	553.33	243.61	62.00	73.60	-	-	-	-	150				
81023	1" LAP JOINT 150#	524.43	237.28	58.40	72.51	-	-	-	-	150				
81280	3/4" SORF 150#	556.01	266.31	56.40	70.88	-	-	-	-	153				
81023	1" SORF 150#	524.43	237.28	58.40	72.51	-	-	-	-	150				
78492	1-1/4" SORF 150#	614.75	298.12	57.80	72.98	-	-	-	-	167				
81023	1-1/2" SORF 150#	524.43	237.28	58.40	72.51	-	-	-	-	150				
80213	2" SORF 150#	545.24	278.45	57.00	69.56	-	-	-	-	151				

MELTING PROCESS : INDUCTION / AOD (RS) / CONCAST
 HEAT TREATMENT : SOLUTION ANNEALED AT 1050°C AND WATER QUENCHED
 DIMENSIONAL INSPECTION : CONFORM WITH THE SPECIFICATION (100% INSPECTED)
 SURFACE INSPECTION : SATISFACTORY
 INTER GRANULAR CORROSION TEST : PASSED IGC TEST IN ACCORDANCE WITH ASTM A262 PRACTICE E
 PMI : NO OBJECTION (10% TESTED WITH MOBILE SPECTRO)
 MICRO OBSERVATION : NO CARBIDE PRECIPITATION OBSERVED ON GRAIN BOUNDARIES
 RADIOACTIVITY TEST : ALL THE ABOVE MATERIAL IS TESTED FOR RADIOACTIVITY AND FOUND WITHIN THE LIMIT OF BACKGROUND RADIATION

PLEASE ANAHUAC Y CIAS. S.A. DE C.V.
 CONTROL DE CALIDAD



WORKS INSPECTOR

FECHA 26 Feb 2010
cccc01ao
Jaques Roiz