

MATERIAL TEST CERTIFICATE

CUSTOMER:
CONTRACT NO.: FL-080422AGV

Cert No: 8
Invoice No.: AM08-006
Date: 2003-6-11

Heat No.	Grade	Description	Q'TY	Specification
YT080738 ↑	A182/SA182 F316/316L ↑	150# SORF 1/2"	100	ANSI B16.5-06
		150# SORF 1"	150	
		150# SORF 1-1/2"	200	
		150# SORF 2"	200	
		150# SORF 2-1/2"	50	
		150# SORF 3"	150	
		150# WNRFD STD 2"	100	

Dimensional Inspection	Visual Inspection
OK.	OK.

Chemical Composition (%)										
Heat No.	C	Mn	P	S	Si	Ni	Cr	Mo	N	SPECIFICATION
A182/SA182 F316	≤0.08	≤2.00	≤0.045	≤0.03	≤1.00	10.0-14.0	16.00-18.00	2.00-3.00	≤0.10	ASME SA182
A182/SA182 F316L	≤0.03	≤2.00	≤0.045	≤0.03	≤1.00	10.0-14.0	16.00-18.00	2.00-3.00	≤0.10	ASME SA182-04A
YT080738	0.019	1.09	0.040	0.002	0.47	10.10	16.60	2.06	0.0541	

Mechanical Properties								
Heat No.	T.S (N/mm ²)	Y.S. (N/mm ²)	E.L.(%)	R.A.(%)	Hardness (HB)	Heat-Treat	DIMENSION	P.M.I
A182/SA182 F316	≥515	≥205	≥30	≥50	≤187	1040°C-1120°C		
A182/SA182 F316L	≥485	≥170	≥20	≥50	≤187	X 1-2h	OK	OK
YT080738	565	260	56	63	155	1060°C		

MATERIAL RESISTANT TO INTERCRYSTALLINE CORROSION ACCORDING TO
ASTM A262 PRACTICE E. FREE FORM MERCURY CONTAMINATION.
MATERIAL IN ACCORDANCE WITH NACE MR0175-2003 & MR0103-2003
ISO 9001:2000, PED 97/23/EC CERTIFIED.
EN10204 3.1B

MATERIAL RECEIVED SOLUTION TREAT & WATER QUENCHED AT
1060 DEGREE C. MATERIAL WAS MANUFACTURED, SAMPLED,
TEST AND INSPECTED IN ACCORDANCE WITH INDICATED
SPECIFICATIONS AND WAS FOUND TO MEET REQUIREMENTS.

ASTM A -182-04A / ASME -SA182 / ANSI B16.5

Remarks:


 Authorized Signature

Inspector of Q.A. Section