

# CERTIFICATE OF INSPECTION & TEST



**ORIGINAL**



**ST&H CORPORATION**  
 411-3 Shinwol-ri, Jinryemyun, Gimhae-si Gyungnam, Korea  
 Tel:82.51.744-4680(5 line) Fax:82.51.744-4670  
 E-mail : stcorpn@kornet.net

(EN 10204 3.1)

Certified to ISO9001:2008, PED97/23/EC by LRQA  
 Report No : MYM6262 Date: APR.13.2011

Customer : BROWNSVILLE STEEL CITY, LLC										Contract No. : BSC2011-230			Heat Treatment	
Spec. For Material : ASTM/ASME A/SA105-05(NACE MR-0175)														
Chemical Composition (%)		C	Si	Mn	P	S	Ni	Cr	Mo	Cu	V	Nb	AS FORGED	
Heat No.	MAX	0.350	0.350	1.050	0.035	0.040	0.400	0.300	0.120	0.400	0.080			
	MIN		0.100	0.600										
1810Y		0.200	0.200	0.830	0.022	0.006	0.012	0.015	0.004	0.004	0.001			
Tension Test						Charpy Impact Test (10x10 mm Specimen Size)				Hardness Test (HB)	Bending Test 90:120(180°)	Dimensional Inspection  ANSI B16.5-2003  GOOD		
Size of Specimen(mm)		Yield Strength MPa	Tensile Strength MPa	Elongation %	Red of Area %	Individual	Average	Notch Type						
Dia	Gage Length					min	min							
12.5	50	MAX				Test Result				187				
		MIN	250.000	485.000	22.000	30.000	①	②	③	Average		137		
12.5	50		284.000	512.750	32.500	59.000					138-145			
ITEM / SIZE		Q'TY	ITEM / SIZE		Q'TY	ITEM / SIZE		Q'TY	ITEM / SIZE		Q'TY	Ultrasonic Examination N/A Magnaflux Examination N/A Remarks : **CE = 0.34 (LONG FORMULAR)		
150LBS SORF 4"		1,000	BLANK			BLANK								
150LBS SORF 8"		350												
150LBS SORF 14"		3												
300LBS SORF 8"		10												
BLANK														

NOTE :  
 1MPa = 145.037 psi  
 1MPa = 0.145037 ksi  
 1psi = 0.006895 MPa  
 1ksi = 6.89476 MPa

W.C:Water Cool O.C.Oil Cool  
 A.C:Air Cool N.A:Non Action  
 N:Normalized A:Annealed  
 Q.T:Quenched and Tempered  
 N.T:Normalized and Tempered

We hereby certify that the material herein has been made and tested in accordance with the above specification and also with the requirements called for by the above order.

Witnessed by/ K. S. KIM        
 Manager of Q.A Dept/ Y. M. CHOI