

# CERTIFICATE OF INSPECTION & TEST

(EN 10204 3.1)

**ORIGINAL**



**ST&H CORPORATION**  
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Certified by PED97/23/EC by LRQA  
 Report No : MKS5214  
 Date: OCT.28.2009

Customer : TUBERIA Y VALVULAS DEL NORTE,S.A.DE C.V.										Contract No. : 2252			Heat Treatment													
Spec. For Material : • ASTM A105-05/ASME SA105(NACE MR-0175)																										
Chemical Composition (%)		C	Si	Mn	P	S	Ni	Cr	Mo	Cu	V	N	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					Dimensional Inspection										
	MIN		0.100	0.600															ANSI B16.5 - 2003							
08027		0.217	0.267	0.870	0.014	0.017	0.017	0.008	0.004	0.009	0.001											GOOD				
Tension Test					Charpy Impact Test (10x10 mm Specimen Size)					Hardness Test (HB)	Bending Test 90:120(180°)	GOOD														
Size of Specimen(mm)		Yield Strength MPa	Tensile Strength MPa	Elongation %	Red of Area %	Individual		Average							Notch Type		Ultrasonic Examination									
Dia	Gage Length					min		min												N/A						
		MAX					Test Result			Remarks : **CE = 0.37 (LONG FORMULAR)																
12.5	50	MIN	250.000	485.000	22.000	30.000	①	②	③				Average	Temp	187	Magnaflux Examination										
12.5	50		337.250	552.540	33.300	68.245						137	N/A													
												143-146				ST&H CORP										
ITEM / SIZE		Q'TY		ITEM / SIZE		Q'TY		ITEM / SIZE		Q'TY		ST&H CORPORATION														
150LBS SORF 1"		50		150LBS SORF 4"		400		150LBS WNRF STD 3"		300					Witnessed by _____ Manager of Q.A Dept.  ST&H CORPORATION											
150LBS SORF 1 1/2"		30		150LBS SORF 5"		10		150LBS WNRF STD 4"		500								WITNESSED BY _____ MANAGER OF Q.A DEPT.  ST&H CORPORATION								
150LBS SORF 2"		200		150LBS SORF 6"		200		150LBS WNRF STD 6"		250											WITNESSED BY _____ MANAGER OF Q.A DEPT.  ST&H CORPORATION					
150LBS SORF 2 1/2"		30		150LBS SORF 8"		100		150LBS WNRF STD 8"		75														WITNESSED BY _____ MANAGER OF Q.A DEPT.  ST&H CORPORATION		
150LBS SORF 3"		100		150LBS WNRF STD 2"		400		150LBS THRF 2 1/2"		10																

NOTE :  
 1MPa = 145.037 psi  
 1MPa = 0.145037 ksi  
 1psi = 6894.76 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.