DATE OF ISSUE : JULY. 24. 2010
CUSTOMER : BROWNSVILLE STEEL CITY LLC

INSPECTION CERTIFICATE

(EN 10204:2004 3.1)

ST&H CORPORATION
1270-4 Jwa3dong, Haeundaegu, Busan, Korea
Tel : 82.51.7444680 (5 line) Fax : 82.51.7444670

발주번호 P/O NO.	원 재 료 RAW MATERIAL	성적서 번호 CERTIFICATE NO.
BSC 2010 - 222 (PSJ5724)	MADE FROM SEAMLESS PIPE	QA100724 - 02

재료규격 Spec. for Material	검사규격 Spec. for inspection	외관 및 치수검사 Surface & Dimension	비파괴검사 N.D.E.	열 처 리 HEAT TREATMENT
ASTM A234-05/ASME SA234-05 WPB NACE MR-0175	ASME B16.9	GOOD	MT : GOOD	620℃ ~ 980℃

STD		제품번호 STAMP NO.	화학성분 CHEMICAL COMPOSITION (%)												인장시험 Tensile Test				굴곡시험 Bending Test ( )	편평시험 flattening Test	경도시험 Hardness Test(HB)	충격시험 Impact Test	수압시험 Hydrostatic Test	C.E
			C	Si	Mn	P	S	Cr	Mo	Ni	Cu	V	Nb	N	Y-S Mpa	T-S Mpa	EL %	RA %						
SPEC	수량 Q'TY	MIN		0.10	0.29										240	415	22							
		MAX	0.30		1.06	0.05	0.058	0.40	0.15	0.40	0.40	0.08				655					197			
LR 45D ELBOW STD			0.21	0.19	0.48	0.027	0.018	0.03	0.01	0.05	0.02	0.01			305	500	28				<197			0.30
2"	60	7722																						
LR 45D ELBOW STD			0.24	0.19	0.48	0.029	0.018	0.04	0.01	0.06	0.02	0.01			295	495	27				<197			0.34
2 1/2"	30	6112																						
LR 45D ELBOW STD			0.18	0.19	0.49	0.029	0.016	0.06	0.01	0.07	0.01	0.01			295	480	26				<197			0.28
3"	70	7016																						
LR 45D ELBOW STD			0.23	0.19	0.49	0.026	0.012	0.032	0.01	0.017	0.02	0.01			290	475	28				<197			0.32
4"	100	6398																						
LR 45D ELBOW STD			0.23	0.19	0.50	0.019	0.01	0.03	0.01	0.017	0.019	0.01			285	475	30				<197			0.33
5"	5	4256																						

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.

1MPa = 145.037 psi
1MPa = 0.145037 ksi
1psi = 0.00689 Mpa
1ksi = 6.89476 Mpa

QUALITY INSPECTED AND SUPPLY BY ST&H CORP
MANUFACTURED BY PUSAN COUPLING CO.LTD

C.E. = C+Mn/6+(Cr+Mo+V)/5+(Ni+Cu)/15

품 질 보 증 부
QUALITY ASSURANCE DEP'T
(株) 釜 山 카 프 링
B.J. KIM/Q.A -GENERAL MANAGER