

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  
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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°C ~ 980°C												
STD	제품번호 STAMP NO.	화 학 성 분 CHEMICAL COMPOSITION (%)												인 장 시 험 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 90D ELBOW XH			0.21	0.22	0.48	0.024	0.012	0.06	0.01	0.021	0.02	0.01			280	465	29									0.31
2"	85	2202																								
LR 90D ELBOW XH			0.24	0.23	0.48	0.023	0.011	0.01	0.01	0.03	0.02	0.01			270	480	29									0.33
2 1/2"	25	2777																								
LR 90D ELBOW XH			0.21	0.23	0.48	0.023	0.01	0.012	0.01	0.03	0.02	0.01			275	480	31									0.30
3"	60	3334																								
LR 90D ELBOW XH			0.20	0.24	0.47	0.021	0.009	0.02	0.01	0.02	0.01	0.01			285	485	27									0.29
4"	100	6117																								
LR 90D ELBOW XH			0.20	0.25	0.46	0.021	0.008	0.020	0.01	0.020	0.01	0.01			285	490	28									0.29
5"	25	9231																								

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**

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

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

양식번호 : QMS-8102-11

PUSAN COUPLING CO.,LTD

품질보증부  
 QUALITY ASSURANCE DEP'T  
 (株) 釜山 카프링  
 김성욱  
 B.J. KIM/Q.A -GENERAL MANAGER