

CONFIDENTIAL

# QUALITY CERTIFICATE

**주식회사 휴스틸**  
**(HUSTEEL CO.,LTD.)**

계약서번호 : 12691  
P/O No. : 12691  
U/C No. : M927857  
발급일자 : 2012. 10. 04.  
ISSUED DATE : 2012. 10. 04.  
제품명 : E.R.W. STEEL PIPES  
COMMODITY : E.R.W. STEEL PIPES  
재종규격 : API 5L-B / ASTM A53B  
SPECIFICATION : API 5L-B / ASTM A53B

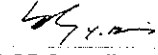
HEAD OFFICE : Shinan B/D 15F, 943-19, Daechi-dong  
Kangnam-ku, SEOUL 135-845, KOREA  
DANGJIN PLANT: 569-1,BUGOK-RI,SONGAK-MYEON, DANGJIN-GUN,  
CHUNGCHEONGNAM-DO,KOREA  
DAEBUL PLANT: 150,DAEBULSANDAN3-RO, YOUNGAM-GUN  
JOLLANAM-DO, KOREA

증명서번호 : 20121004-323  
CERTIFICATE No. : 20121004-323  
제조번호 : 2012-06-204  
MANUFACTURED No. : 2012-06-204  
공급자 : HUSTEEL CO.,LTD  
SUPPLIER : HUSTEEL CO.,LTD  
수요자 : PLESA ANAHUAC Y  
CUSTOMER : PLESA ANAHUAC Y  
CIAS., S.A. DE C.V.

ITEM NO.	HEAT NO. (LOT)	관종 TYPE	수량 QUANTITY (PIECES)	호칭경 NOMINAL SIZE (inch)	주문치수 ORDER SIZE			중량 WEIGHT (lb/ft)	인장시험 TENSILE TEST				화학성분 CHEMICAL COMPOSITION(%)														
					바깥지름 O.D (mm)	두께 W.T. (in)	길이 LENGTH (ft)		인장강도 TS (psi)	항복강도 YS (psi)	연신율 EL (%)	항복비 YR (YS/TS)	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Nb	Ti	B	PCM	CEQ
													-2	-3	-2	-3			-4				-3				
1	M51960	BPEB	16	10 3/4	273.1	0.225	20'	25.29	70775	61638	30		6	20	75	10	4	16	21	5	2	8	167	5	1		
2	M49071	BPEB	24	12 3/4	323.9	0.312	20'	41.48	66860	53952	41		4	9	78	12	4	7	23	1	1	10	196	7	1		
3	28746	BPEB	38	24	610.0	0.250	20'	63.47	70340	45250	39		16	13	86	16	3	6	14	4	16	11	21	4	1		
4	579605	BPEB	6	24	610.0	0.250	20'	63.47	72226	48586	41		14	8	81	10	2	4	9	3	4	8	16	3	1		
5	663086	BPEB	28	24	610.0	0.250	20'	63.47	73241	51486	35		17	18	84	16	2	11	10	6	31	8	16	9	1		
6	664324	BPEB	15	24	610.0	0.250	20'	63.47	72516	48731	33		16	12	85	15	3	7	13	4	15	10	17	4	1		
7	M33287	BPEB	1	24	610.0	0.250	20'	63.47	66424	58013	36		7	13	75	12	5	14	23	4	3	6	183	4	1		
8	M36086	BPEB	4	24	610.0	0.250	20'	63.47	66714	58738	37		7	18	76	11	3	15	22	3	5	7	194	5	1		
9	M37641	BPEB	2	24	610.0	0.250	20'	63.47	66569	55402	39		6	10	79	15	5	19	22	7	19	7	180	7	1		
10	M40255	BPEB	1	24	610.0	0.250	20'	63.47	65409	53807	40		6	16	79	13	7	19	20	6	7	8	164	7	1		

ITEM NO.	수압시험 HYDROSTATIC TEST		열처리온도 HEAT TREATMENT (°C)	비파괴 시험 NDT (U.T)	경도시험 HARDNESS TEST (HV)	외주장 CIRCUMFERENCE		용접부인장강도 TENSILE STRENGTH OF WELDS (psi)	아연도금시험 ZINC COATING TEST		VISUAL & DIMENSION	FLATTENING (BEND) TEST	W D T	R G T	M G T	S.T (%)	충격시험 IMPACT TEST		Res. Mag.	비고 REMARKS	
	TP (psi)	RE-SULT				P	ENERGY(J) SIZE: ①														
	⑤	⑥							⑩	( ) °C											
1	900	GOOD	930	ACCEPT		END	BODY	74836			ACCEPT	GOOD						GOOD	0.1	16	
2	1050	GOOD	930	ACCEPT				70921			ACCEPT	GOOD						GOOD	0.1	16	
3	450	GOOD	930	ACCEPT				74401			ACCEPT	GOOD						GOOD	0.1	17	
4	450	GOOD	930	ACCEPT				76287			ACCEPT	GOOD						GOOD	0.1	16	
5	450	GOOD	930	ACCEPT				77302			ACCEPT	GOOD						GOOD	0.1	16	
6	450	GOOD	930	ACCEPT				76577			ACCEPT	GOOD						GOOD	0.1	16	
7	450	GOOD	930	ACCEPT				70485			ACCEPT	GOOD						GOOD	0.1	17	
8	450	GOOD	930	ACCEPT				70775			ACCEPT	GOOD						GOOD	0.1	16	
9	450	GOOD	930	ACCEPT				70630			ACCEPT	GOOD						GOOD	0.1	16	
10	450	GOOD	930	ACCEPT				69470			ACCEPT	GOOD						GOOD	0.1	17	

N ①TYPE BPE BLACK PLAIN ENDS BPEB BPE BEVELLED BTE BLACK THREADED ENDS BTC BLACK THREADED & COUPLED GPE GALVANIZED PLAIN ENDS GTE GALVANIZED THREADED ENDS GTC GALVANIZED THREAD & COUPLED  
O ②O.D. OUTSIDE DIAMETER ③W.T. WALL THICKNESS ④CHEMICAL COMPOSITION CHECK-ANALYSIS/UNIT -2:1/×100 -3:1/×1000 -4:1/×10000 TR TRACE ⑤TP TESTING PRESSURE ⑥NDT NON-DESTRUCTIVE TEST  
T E.T EDDY CURRENT TEST U.T ULTRASONIC TEST ⑦WZC WEIGHT OF ZINC COATING CST COPPER SULPHATE TEST ⑧WDT WELD DUCTILITY TEST ⑨RGT RING GAGE TEST MGT METALLOGRAPHIC TEST ⑩S.T STRAIGHTNESS  
E ⑩P=Position B:Base Metal, CL:Center Line ⑪SPECIMEN SIZE, A:10x10mm, B:10x7.5mm, C:10x6.7mm, D:10x5.0mm, ⑫RES. MAG. : RESIDUAL MAGNETISM

SIGNATURE : \_\_\_\_\_  
본 제품은 관련 규격이 정한 시험 및 검사에 합격하였음을 증명합니다.  
WE HEREBY CERTIFY THAT THE PRODUCTS HEREIN HAVE BEEN MADE AND TESTED IN ACCORDANCE WITH THE ABOVE SPECIFICATION AND ALSO WITH THE REQUIREMENTS CALLED FOR THE ORDER.  
SIGNATURE :   
MANAGER OF QUALITY ASSURANCE TEAM

ORIGINAL

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					바깥지름 O.D (mm)	두께 W.T. (in)	길이 LENGTH (ft)		인장강도 TS (psi)	항복강도 YS (psi)	연신율 EL (%)	항복비 YR (YS/TS)	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Nb	Ti	B	PCM	CEQ		
													-2	-3	-2	-3			-4				-3						
11	M41261	BPEB	2	24	610.0	0.250	20'	63.47	63814	55402	40		7	11	72	11	6	17	21	5	9	9	187	6	1				
12	M48848	BPEB	1	24	610.0	0.250	20'	63.47	70775	46845	39		15	13	87	16	4	8	15	6	17	10	28	5	1				
13	M51332	BPEB	51	24	610.0	0.250	20'	63.47	64394	53662	40		7	11	78	14	5	16	20	8	10	7	173	5	1				

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	TP (psi)	RE-SULT				END	BODY		WZC (g/m²)	CST (TIMES)							P	ENERGY(J) SIZE: ⑬		
	⑮	⑯																		
11	450	GOOD	930	ACCEPT				67875			ACCEPT	GOOD			GOOD	0.1		16		
12	450	GOOD	930	ACCEPT				74836			ACCEPT	GOOD			GOOD	0.1		16		
13	450	GOOD	930	ACCEPT				68455			ACCEPT	GOOD			GOOD	0.1		17		

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