MILL'S QUALITY CERTIFICATE

SeAH Steel Corp.
(주)세 아 제 강

HEAD OFFICE ; BONGNAE-DONG 1GA, JUNG-GU, SEOUL, KOREA
POHANG PLANT ; 14-1, JANGHEUNG-DONG, NAM-GU, POHANG

증명서번호 CERTIFICATE NO.: E200704-0086-001171(5001422)
제 품 명 COMMODITY : E.R.W STEEL PIPE
제 품 규 격 SPECIFICATION : API 5LB PSL1/ASTM A53B(2005)

발 급 일 자 DATE OF ISSUE : 2007.03.30
계 약 서 번 호 L/C No. (P/O No.) : 47LI-B82946-TLJY(1103049204)
수 요 가 CUSTOMER : DUFERCO SA
주 문 자 SHIPPER : SEAH STEEL CORPORATION

NO.	HEAT NO. (BATCH NO.)	관 단 TYPE *1	주 문 치 수 ORDER SIZE	수 량 QUANTITY 본 수 PCS	총 길 이 TOTAL LENGTH	중량(M/T) WEIGHT	비 고 REMARK
45	C710270 (SIH2211090)	BBE	18 " X 0.250 " X 6.120 M	62	379.440 M	26.986	* DESCRIPTIION OF GOODS : 1,408.552MT (+/- 10 PCT) CARBON STEEL PIPES WELDED / ASTM A53 B
46	C710270 (SIH2212010)	BBE	18 " X 0.250 " X 6.120 M	62	379.440 M	26.986	* STEEL GRADE : ASTM A53 B
47	C730251 (SIH2212020)	BBE	18 " X 0.250 " X 6.120 M	17	104.040 M	7.399	
48	SB66615 (SIH2231050)	BBE	16 " X 0.281 " X 6.120 M	111	679.320 M	47.491	

NO.	HEAT NO (BATCH NO.)	HYDROSTATIC TEST 10 Sec. psi	RESULT	N.D.T U *2	VISUAL & DIMENSION	FLATTENING	SHOCK	COMPRESSION	RESIDUAL MAGNETISM GAUSS	BENDING *3	DRIFT	CRUSH	FLARING	FLANGE	REVERSE FLATTENING
기준 SPEC									30						
45	C710270 (SIH2211090)	580	G	G	G	G			G						
46	C710270 (SIH2212010)	580	G	G	G	G			G						
47	C730251 (SIH2212020)	580	G	G	G	G			G						
48	SB66615 (SIH2231050)	740	G	G	G	G			G						

NO.	HEAT NO (BATCH NO.)	ZINC COATING TEST WEIGHT OF ZINC COAT -ING	균일성 C.S *4	알칼리 ALK *5	DESIG *6	C	Si	Mn	P	S	CU	NI	CR	MO	V	CEQ *8
						CHEMICAL COMPOSITION(%)	2		3		2	2	2	2	3	
기준 SPEC					MAX	26		120	30	30	40	40	40	15	80	
					MIN											
45	C710270 (SIH2211090)				H	16	1	80	15	6						
					P	17	2	80	16	8	1	1	1	1	2	
					P	16	1	81	14	6	1	1	1	1	1	
46	C710270 (SIH2212010)				H	16	1	80	15	6						
					P	15	TR	79	16	5	2	2	1	1	1	
					P	16	2	80	17	8	1	2	1	1	1	
47	C730251 (SIH2212020)				H	16	2	79	19	7						
					P	15	1	80	22	9	2	2	3	1	1	
					P	15	1	78	20	6	2	2	2	1	1	
48	SB66615 (SIH2231050)				H	14	1	68	17	8						
					P	14	1	67	15	9	TR	1	1	TR	1	
					P	15	1	69	15	6	1	1	1	1	1	

NO.	HEAT NO (BATCH NO.)	DIR *9	TENSILE TEST (Gage Length : 50mm) TENSILE STRENGTH psi	YIELD STRENGTH psi	E.L % *10	IMPACT TEST (℃) ENE-RGY Joule	SHEAR AREA %	HARD-NESS TEST	HEAT TREAT MENT SN *11	PROTECTIVE COATING & LINING THICK-NESS	P.H
기준 SPEC			60000	35000							
45	C710270 (SIH2211090)	T	73810	56320	43				G		
		W	72966								
46	C710270 (SIH2212010)	T	72390	57170	44				G		
		W	73392								
47	C730251 (SIH2212020)	T	73960	54900	42				G		
		W	72966								
48	SB66615 (SIH2231050)	T	70830	48640	35				G		
		W	71117								

NOTE *1 ~ *12 : Refer To The Attached Section Designation

OTHER

Surveyor :

- WE HEREBY CERTIFY THAT THE MATERIAL HEREIN HAS BEEN MADE AND TESTED IN ACCORDANCE WITH ABOVE SPECIFICATION AND THE RESULTS OF ALL TEST ARE ACCEPTABLE.
- THE USE OF THE MATERIAL OUTSIDE THE SPECIFICATIONS INDICATED ON THIS CERTIFICATE MAY CAUSE SAFETY AND/OR MONETARY PROBLEMS. FURTHERMORE, ANY ORGANIZATION OR PERSON(S) WHO DELIBERATELY MODIFIES THE CERTIFICATE WILL BE PROSECUTED FOR FORGING AN OFFICIAL DOCUMENT (ACCORDING TO THE PROVISIONS OF THE CRIMINAL CODE 231)

Manager of Q.M Dept.

J. E. KIM

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