MILL'S QUALITY CERTIFICATES

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.: E200910-0033-001218(5004627)
제 품 명 COMMODITY : E.R.W STEEL PIPE
제 품 규 격 SPECIFICATION : API 5LB PSL1/ASTM A53B(2007)

발 급 일 자 DATE OF ISSUE : 2009.09.30
계 약 서 번 호 L/C No. (P/O No.) : 1103073882
수 요 가 CUSTOMER : PLESA
주 문 자 SHIPPER : DUFERCO SA

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
21	SQ78805 (SIJ9171120)	BBE	20 " X 0.500 " X 6.120 M	13	79.560 M	12.341	CONFIRM TO NACE NORM MR0175(LAST EDITION)
22	SB43769 (SIJ9171220)	BBE	20 " X 0.375 " X 6.120 M	1	6.120 M	0.715	*ERW: CHEMICAL COMPOSITION, HEAT TREATMENT AND HARDNESS ONLY
23	SB44133 (SIJ9171230)	BBE	20 " X 0.375 " X 6.120 M	34	208.080 M	24.300	*DSAW:CHEMICAL COMPOSITION AND HARDNESS ONLY
24	SB45657 (SIJ9171240)	BBE	20 " X 0.375 " X 6.120 M	2	12.240 M	1.429	

NO.	HEAT NO (BATCH NO.)	HYDROSTATIC TEST 5 Sec. psi	N·D·T RESULT	N·D·T U *2	VISUAL & DIMENSION N	FLATTENING NG	SHOCK	COMPRESSION ON	RESIDUAL MAGNETISM GAUSS	BENDING *3	DRIFT	CRUSH	FLARING	FLANGE	REVERSE FLATTENING NG	ZINC COATING TEST WEIGHT OF ZINC COAT-ING	균일성 C.S *4	알칼리 ALK *5	CHEMICAL COMPOSITION(%) DESIG *6	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	NB	TI		CEQ *8	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 HRC	HEAT TREAT MENT SN *11
																				2			3																	
기준 SPEC									30										MAX	26		120	30	30	40	100	40	15	80											22	
																			MIN																60200	35500					
21	SQ78805	1070	G	G	G	G			G										H	18	1	78	12	4																
	(SIJ9171120)																		P	17	1	77	10	5	1	2	1	TR	TR	TR	1		T	74690	52210	34			10	G
																			P	18	2	79	11	2	1	2	1	TR	TR	1	1		W	81070						
22	SB43769	800	G	G	G	G			G										H	17	1	78	12	6																
	(SIJ9171220)																		P	16	1	77	11	4	TR	1	2	TR	2	1	1		T	69900	49160	36			10	G
																			P	18	2	77	11	7	TR	1	2	TR	2	1	1		W	81800						
23	SB44133	800	G	G	G	G			G										H	18	1	75	15	6																
	(SIJ9171230)																		P	17	1	75	14	7	1	1	2	TR	2	1	1		T	70630	51630	36			9	G
																			P	18	1	74	14	4	1	1	2	TR	2	1	2		W	79620						
24	SB45657	800	G	G	G	G			G										H	19	1	84	13	6																
	(SIJ9171240)																		P	18	1	83	13	5	TR	2	TR	TR	2	1	1		T	73670	53220	34			9	G
																			P	20	1	83	11	7	TR	2	TR	TR	2	1	1		W	81360						

NOTE *1 ~ *11: Refer To Others

OTHERS
*1-BBE:Black Beveled End(30°)
*2-U:Ultrasonic Test
*6-H:Heat(Ladle) Analysis, P:Product Analysis *7-2:X100, 3:X1000
*9-T:Base Metal Transverse, W:Weld Part Transverse *10-E.L:Elongation *11-S.N:Seam Normalizing *G:GOOD *Tr:Trace

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.
N. J. Baek