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
17	SQ78805 (SIJ9152110)	BBE	18 " X 0.500 " X 6.120 M	1	6.120 M	0.852	CONFIRM TO NACE NORM MR0175(LAST EDITION)
18	SQ78587 (SIJ9152130)	BBE	18 " X 0.500 " X 6.120 M	17	104.040 M	14.477	*ERW: CHEMICAL COMPOSITION, HEAT TREATMENT AND HARDNESS ONLY
19	SQ78893 (SIJ9171090)	BBE	20 " X 0.500 " X 6.120 M	13	79.560 M	12.342	*DSAW:CHEMICAL COMPOSITION AND HARDNESS ONLY
20	SQ78890 (SIJ9171110)	BBE	20 " X 0.500 " X 6.120 M	25	153.000 M	23.733	

NO.	HEAT NO (BATCH NO.)	HYDROSTATIC TEST 5 Sec. psi	RESULT	N·D·T U *2	VISUAL & DIMENSION	FLATTENING	SHOCK	COMPRESSION	RESIDUAL MAGNETISM GAUSS *3	BENDING	DRIFT	CRUSH	FLARING	FLANGE	REVERSE FLATTENING	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	NB	TI		CEQ *8	DIR *9	TENSILE TEST (Gage Length : 50mm) TENSILE STRENGTH psi	YIELD STRENGTH psi	E.L % *10	IMPACT TEST (℃) ENERGY Joule	SHEAR AREA %	HARDNESS TEST HRC	HEAT TREATMENT SN *11
																				2			3																	
																				*7																				
기준 SPEC									30										MAX	26		120	30	30	40	100	40	15	80										22	
																			MIN																60200	35500					
17	SQ78805	1190	G	G	G	G			G										H	18	1	78	12	4																	
	(SIJ9152110)																		P	17	1	79	14	5	TR	1	2	TR	2	2	2			T	74690	50610	34			10	G
																			P	19	TR	79	13	2	TR	1	2	TR	2	2	3			W	81360						
18	SQ78587	1190	G	G	G	G			G										H	17	2	78	13	3																	
	(SIJ9152130)																		P	17	2	78	15	2	1	1	1	TR	2	1	3			T	72370	47860	38			9	G
																			P	17	2	79	14	1	1	1	1	TR	2	1	2			W	79190						
19	SQ78893	1070	G	G	G	G			G										H	18	2	78	12	5																	
	(SIJ9171090)																		P	17	1	77	11	5	2	1	TR	TR	TR	TR	1			T	73670	49160	36			12	G
																			P	17	2	78	11	6	2	1	TR	TR	TR	TR	1			W	81220						
20	SQ78890	1070	G	G	G	G			G										H	18	2	78	12	4																	
	(SIJ9171110)																		P	17	1	79	13	5	TR	2	2	TR	TR	TR	1			T	72080	51050	35			11	G
																			P	18	2	77	10	3	TR	2	2	TR	TR	TR	1			W	80200						

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