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.: E201004-0134-000862(5005298)
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 : 2010.03.31
계 약 서 번 호 / L/C No. (P/O No.) : 1103077721
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	SB66923 (SHK3241120)	BBE	14 "	X SCH40	X 6.120 M	20	122.400 M	11.542	CONFIRM TO NACE NORM MR0175(LAST EDITION)
18	SB58947 (SHK3242070)	BBE	14 "	X 0.312 "	X 6.120 M	148	905.760 M	61.356	*ERW: CHEMICAL COMPOSITION, HEAT TREATMENT AND HARDNESS ONLY *DSAW:CHEMICAL COMPOSITION AND HARDNESS ONLY
19	SB66919 (SHK3242080)	BBE	14 "	X 0.312 "	X 6.120 M	280	1,713.600 M	116.079	
20	SQ98005 (SHK3261040)	BBE	10 "	X 0.250 "	X 6.120 M	290	1,774.800 M	74.701	

NO.	HEAT NO (BATCH NO.)	HYDROSTATIC TEST 5 Sec. psi	RESULT	N·D·T U *2	VISUAL & DIMENSION	FLATTENING	SHOCK	COMPRESSION	RESIDUAL MAGNETISM GAUSS	BENDING *3	DRIFT	CRUSH	FLARING	FLANGE	REVERSE FLATTENING	ZINC COATING TEST WEIGHT OF ZINC COAT-ING	균일성 C.S *4	알칼리 ALK *5
기준 SPEC									30									
17	SB66923 (SHK3241120)	1340	G	G	G	G			G									
18	SB58947 (SHK3242070)	950	G	G	G	G			G									
19	SB66919 (SHK3242080)	950	G	G	G	G			G									
20	SQ98005 (SHK3261040)	1000	G	G	G	G			G									

NO.	HEAT NO (BATCH NO.)	DESIG *6	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti		CEQ *8	DIR *9	TENSILE STRENGTH psi	YIELD STRENGTH psi	E.L % *10	IMPACT TEST (℃) ENERGY Joule	SHEAR AREA %	HARDNESS TEST HRC	HEAT TREATMENT SN *11
			2			3		2	2	2	2	3	3	3										
			*7																					
기준 SPEC		MAX	26		120	30	30	40	40	40	15	80											22	
		MIN																60200	35500					
17	SB66923 (SHK3241120)	H	18	1	82	15	7																	
		P	17	TR	82	17	8	1	2	TR	TR	1	TR	1			T	69030	47280	39			8	G
		P	18	2	82	16	8	1	2	TR	TR	1	TR	1			W	74980						
18	SB58947 (SHK3242070)	H	17	2	76	11	6																	
		P	16	2	77	13	6	2	2	1	TR	1	2	TR			T	73090	47860	33			7	G
		P	18	2	77	10	8	2	2	1	TR	1	2	TR			W	79910						
19	SB66919 (SHK3242080)	H	17	1	81	16	7																	
		P	16	2	80	18	8	1	1	TR	TR	TR	1	2			T	70770	48150	32			8	G
		P	17	TR	81	14	5	1	1	TR	TR	TR	1	2			W	75560						
20	SQ98005 (SHK3261040)	H	14	1	68	14	7																	
		P	13	1	67	15	9	2	2	2	TR	1	2	1			T	70050	49160	34			8	G
		P	14	2	68	16	8	2	2	2	TR	1	2	1			W	77010						

NOTE: *1 ~ *11: Refer To Others

OTHERS:
*1-BBE:Black Beveled End(30°)
*2-U:Weld Seam 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