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
21	4-7975 (SIJY302010)	BBE	14 " X 0.312 " X 6.120 M	21	128.520 M	8.706	CONFIRM TO NACE NORM MR0175(LAST EDITION)
22	SB64298 (SIK2102090)	BBE	18 " X 0.375 " X 6.120 M	17	104.040 M	10.908	*ERW: CHEMICAL COMPOSITION, HEAT TREATMENT AND HARDNESS ONLY
23	SB63611 (SIK2172050)	BBE	16 " X 0.250 " X 6.120 M	2	12.240 M	0.772	*DSAW:CHEMICAL COMPOSITION AND HARDNESS ONLY
24	C010175 (SIK2172080)	BBE	16 " X 0.250 " X 6.120 M	5	30.600 M	1.932	

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									
21	4-7975 (SIJY302010)	950	G	G	G	G			G									
22	SB64298 (SIK2102090)	890	G	G	G	G			G									
23	SB63611 (SIK2172050)	670	G	G	G	G			G									
24	C010175 (SIK2172080)	670	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 (℃) ENE-RGY Joule	SHEAR AREA %	HARD-NESS TEST HRC	HEAT TREAT MENT SN *11
			2			3		2	2	2	2	3	3	3										
			*7													*8	*9							
기준 SPEC		MAX	26		120	30	30	40	40	40	15	80											22	
		MIN																60200	35500					
21	4-7975 (SIJY302010)	H	16	19	65	15	4																	
		P	15	20	64	15	6	2	2	TR	TR	1	1	TR			T	69030	48730	37			7	G
		P	16	20	64	17	6	2	2	TR	TR	1	1	TR			W	76140						
22	SB64298 (SIK2102090)	H	19	1	84	14	9																	
		P	18	1	84	15	10	1	TR	1	TR	TR	TR	1			T	71500	47860	39			7	G
		P	20	2	83	12	9	1	TR	1	TR	TR	TR	1			W	77160						
23	SB63611 (SIK2172050)	H	15	1	67	14	5																	
		P	14	2	66	16	5	2	2	1	TR	TR	TR	1			T	69180	46550	32			7	G
		P	16	TR	66	15	4	2	2	1	TR	TR	TR	1			W	75270						
24	C010175 (SIK2172080)	H	13	19	75	11	3																	
		P	12	20	75	13	2	TR	TR	2	TR	1	1	TR			T	76720	58740	33			9	G
		P	13	20	76	13	4	TR	TR	2	TR	1	1	TR			W	80780						

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