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
25	SB47376 (SIJ9171250)	BBE	20 " X 0.375 " X 6.120 M	7	42.840 M	5.003	CONFIRM TO NACE NORM MR0175(LAST EDITION) *ERW: CHEMICAL COMPOSITION, HEAT TREATMENT AND HARDNESS ONLY *DSAW:CHEMICAL COMPOSITION AND HARDNESS ONLY
26	SQ80514 (SIJ9222170)	BBE	20 " X 0.250 " X 6.120 M	40	244.800 M	19.378	
27	SB46101 (SIJ9242020)	BBE	20 " X 0.250 " X 6.120 M	20	122.400 M	9.689	
28	SB48276 (SIJ9242030)	BBE	20 " X 0.250 " X 6.120 M	92	563.040 M	44.570	

NO.	HEAT NO (BATCH NO.)	HYDROSTATIC TEST 5 Sec. psi	HYDROSTATIC TEST 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									
25	SB47376	800	G	G	G	G			G									
	(SIJ9171250)																	
26	SQ80514	540	G	G	G	G			G									
	(SIJ9222170)																	
27	SB46101	540	G	G	G	G			G									
	(SIJ9242020)																	
28	SB48276	540	G	G	G	G			G									
	(SIJ9242030)																	

NO.	HEAT NO (BATCH NO.)	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 (℃) 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	100	40	15	80											22	
		MIN																60200	35500					
25	SB47376	H	17	1	76	13	8																	
	(SIJ9171250)	P	16	2	77	13	8	TR	1	2	TR	TR	1	1			T	69760	50030	36			10	G
		P	18	TR	75	15	10	TR	1	2	TR	TR	TR	1			W	76430						
26	SQ80514	H	14	1	67	11	3																	
	(SIJ9222170)	P	13	TR	68	10	3	1	2	2	TR	TR	TR	2			T	68020	46700	35			9	G
		P	14	2	67	12	1	1	2	2	TR	TR	TR	1			W	72950						
27	SB46101	H	15	1	66	17	8																	
	(SIJ9242020)	P	14	TR	66	18	7	TR	TR	1	TR	TR	1	1			T	68310	50900	35			9	G
		P	15	2	66	15	6	TR	TR	1	TR	TR	TR	2			W	76000						
28	SB48276	H	16	1	67	17	7																	
	(SIJ9242030)	P	15	TR	67	16	6	1	2	TR	TR	2	1	2			T	70920	52210	34			10	G
		P	16	1	67	19	9	1	2	TR	TR	2	1	2			W	77880						

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