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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)

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

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
1	SB50150 (SHJ9151060)	BBE	10 "	X SCH40	X 6.120 M	191	1,168.920 M	70.719	CONFIRM TO NACE NORM MR0175(LAST EDITION)
2	SB50146 (SHJ9151070)	BBE	10 "	X SCH40	X 6.120 M	240	1,468.800 M	88.863	*ERW: CHEMICAL COMPOSITION, HEAT TREATMENT AND HARDNESS ONLY
3	SB43359 (SHJ9161030)	BBE	10 "	X 0.500 "	X 6.120 M	35	214.200 M	17.468	*DSAW:CHEMICAL COMPOSITION AND HARDNESS ONLY
4	SB51245 (SHJ9161040)	BBE	10 "	X 0.500 "	X 6.120 M	38	232.560 M	18.965	

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
기준 SPEC									30						
1	SB50150 (SHJ9151060)	1450	G	G	G	G			G						
2	SB50146 (SHJ9151070)	1450	G	G	G	G			G						
3	SB43359 (SHJ9161030)	1990	G	G	G	G			G						
4	SB51245 (SHJ9161040)	1990	G	G	G	G			G						

NO.	HEAT NO (BATCH NO.)	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 (℃) ENERGY Joule	SHEAR AREA %	HARDNESS TEST HRC	HEAT TREATMENT SN *11
						2			3																		
기준 SPEC					MAX	26		120	30	30	40	100	40	15	80											22	
					MIN																60200	35500					
1	SB50150				H	16	1	80	13	6																	
	(SHJ9151060)				P	15	2	81	14	7	2	1	TR	TR	1	1	1			T	69320	53510	36			9	G
					P	16	2	79	12	5	2	1	TR	TR	1	1	2			W	76720						
2	SB50146				H	17	2	78	12	6																	
	(SHJ9151070)				P	16	3	77	13	5	TR	1	1	TR	TR	1	1			T	68740	47130	35			9	G
					P	17	1	79	12	8	TR	1	1	TR	TR	1	1			W	76290						
3	SB43359				H	18	1	75	10	5																	
	(SHJ9161030)				P	17	TR	76	8	6	TR	1	1	TR	1	TR	1			T	64830	45390	39			8	G
					P	19	1	74	9	4	TR	1	1	TR	1	TR	1			W	72800						
4	SB51245				H	18	2	85	9	3																	
	(SHJ9161040)				P	17	1	84	9	5	1	2	1	TR	TR	TR	TR			T	71790	51050	37			8	G
					P	18	3	86	8	2	1	2	1	TR	TR	TR	2			W	78170						

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