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MILL'S QUALITY CERTIFICATES

SeAH Steel Corp.
(주)세아제강

HEAD OFFICE ; BONGNAE-DONG 1GA, JUNG-GU, SEOUL, KOREA
POHANG PLANT ; 14-1, JANGHEUNG-DONG, NAM-GU, POHANG

증명서번호
CERTIFICATE NO.: E201204-0146-000947(5007927)

제 품 명
COMMODITY : H.F.W STEEL PIPE

제 품 규 격
SPECIFICATION : API 5LB PSL1/ASTM A53B(2007)

발 급 일 자
DATE OF ISSUE : 2012.03.30

계 약 서 번 호
L/C No. (P/O No.) : 1103096734

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	M30016 (SIM2241050)	BBE	24 " X 0.250 " X 6.120 M	6	36.720 M	3.498	
2	SP87724 (SIM3092090)	BBE	24 " X 0.500 " X 6.120 M	16	97.920 M	18.317	

ORIGINAL

NO.	HEAT NO (BATCH NO.)	HYDROSTATIC TEST 10 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									
1	M30016 (SIM2241050)	450	G	G	G	G			G									
2	SP87724 (SIM3092090)	890	G	G	G	G			G									

NO.	DESIG *6	CHEMICAL COMPOSITION(%) 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 HRB	HEAT TREATMENT SN *11
		2			3		2	2	2	2	3	3	3									
기준 SPEC	MAX	26		120	30	30	40	40	40	15	80										99	
	MIN															60200	35500					
1	H	6	1	79	11	4																
	P	5	1	80	10	6	2	2	1	TR	1	16	1		T	66860	56850	35			85	G
	P	6	2	78	10	5	2	2	1	TR	3	17	1		W	73820						
2	H	13	13	80	12	3																
	P	12	13	79	14	4	1	2	2	TR	1	1	2		T	74830	60620	40			83	G
	P	12	13	81	11	5	1	2	2	TR	1	1	2		W	77880						

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

* THIS CERTIFICATE IS ISSUED ACCORDING TO EN 10204 3.1 (ISO 10474 3.1.B)

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