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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. : E200905-0022-000490(5004055)
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 : 2009.04.30
계 약 서 번 호 / L/C No. (P/O No.) : 47LI-C94065-TLRR(1103070196)
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	4-1028 (SHJ4092110)	BBE	12 "	X 0.225 "	X 6.120 M	64	391.680 M	17.520	CONFIRM TO NACE NORM MR0175(LAST EDITION)
2	4-1028 (SHJ4101010)	BBE	12 "	X 0.225 "	X 6.120 M	267	1,634.040 M	73.091	*ERW: CHEMICAL COMPOSITION, HEAT TREATMENT AND HARDNESS ONLY *DSAW:CHEMICAL COMPOSITION AND HARDNESS ONLY

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	4-1028 (SHJ4092110)	750	G	G	G	G			G						
2	4-1028 (SHJ4101010)	750	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	CEQ *8
						2			3		2	2	2	2	3	
						*7										
기준 SPEC					MAX	26		120	30	30	40	100	40	15	80	
					MIN											
1	4-1028 (SHJ4092110)				H	16	17	60	18	4						
					P	15	16	60	19	5	1	1	1	TR	1	
					P	16	18	60	18	5	1	1	1	TR	TR	
2	4-1028 (SHJ4101010)				H	16	17	60	18	4						
					P	15	18	59	16	4	1	1	1	TR	1	
					P	17	18	59	20	4	1	1	2	TR	1	

NO.	HEAT NO (BATCH NO.)	TENSILE TEST (Gage Length : 50mm) DIR *9	TENSILE STRENGTH psi	YIELD STRENGTH psi	E.L % *10	IMPACT TEST (℃) ENERGY Joule	SHEAR AREA %	HARDNESS TEST HRC	HEAT TREATMENT SN *11	PROTECTIVE COATING & LINING THICKNESS	P.H
기준 SPEC			60200	35500				22			
1	4-1028 (SHJ4092110)	T	69900	49020	38			10	G		
		W	79330								
2	4-1028 (SHJ4101010)	T	72370	51050	37			10	G		
		W	78170								

NOTE: *1 ~ *12 : Refer To The Attached Section Designation

OTHER

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

주식회사세아제강 SeAH 포항공장품질경영팀장인