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. : E200905-0021-000489(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
17	4-1029 (SHJ4132080)	BBE	14 " X 0.500 " X 6.120 M	30	183.600 M	19.717	CONFIRM TO NACE NORM MR0175(LAST EDITION)
18	4-1030 (SHJ4132090)	BBE	14 " X 0.500 " X 6.120 M	60	367.200 M	39.434	*ERW: CHEMICAL COMPOSITION, HEAT TREATMENT AND HARDNESS ONLY
19	SB34327 (SHJ4132100)	BBE	14 " X 0.500 " X 6.120 M	10	61.200 M	6.572	*DSAW:CHEMICAL COMPOSITION AND HARDNESS ONLY
20	4-1029 (SHJ4152070)	BBE	10 " X 0.500 " X 6.120 M	28	171.360 M	13.974	

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									
17	4-1029 (SHJ4132080)	1990	G	G	G	G			G									
18	4-1030 (SHJ4132090)	1990	G	G	G	G			G									
19	SB34327 (SHJ4132100)	1990	G	G	G	G			G									
20	4-1029 (SHJ4152070)	1990	G	G	G	G			G									

NO.	HEAT NO (BATCH NO.)	DESIG *6	C	Si	Mn	P	S	CU	NI	CR	MO	V	CEQ	DIR *9	TENSILE STRENGTH psi	YIELD STRENGTH psi	E.L % *10	ENERGY Joule	SHEAR AREA %	HARDNESS TEST HRC	HEAT TREATMENT SN *11	THICKNESS	P.H
			CHEMICAL COMPOSITION(%) 2			3		2	2	2	2	3	*8		TENSILE TEST (Gage Length : 50mm)			IMPACT TEST (℃)				PROTECTIVE COATING & LINING	
			*7																				
기준 SPEC		MAX	26		120	30	30	40	100	40	15	80								22			
		MIN													60200	35500							
17	4-1029 (SHJ4132080)	H	15	17	62	16	4																
		P	16	18	61	18	2	1	1	2	TR	1		T	69320	53080	41			8	G		
		P	15	18	61	18	6	1	1	2	1	1		W	82380								
18	4-1030 (SHJ4132090)	H	15	18	62	16	4																
		P	14	17	62	16	2	TR	1	1	TR	1		T	70340	53660	38			8	G		
		P	14	17	61	17	6	1	1	1	TR	1		W	78460								
19	SB34327 (SHJ4132100)	H	19	1	78	16	7																
		P	18	2	77	17	6	TR	TR	1	TR	1		T	72660	53800	39			10	G		
		P	19	2	79	16	9	1	1	TR	TR	1		W	79620								
20	4-1029 (SHJ4152070)	H	15	17	62	16	4																
		P	14	17	63	14	6	1	2	2	TR	1		T	70770	52790	37			8	G		
		P	16	18	63	16	3	1	1	1	1	1		W	76870								

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 포항공장품질경영팀장