PAGE : 1 / 1

MILL'S QUALITY CERTIFICATES

SeAH Steel Corp.
(주)세 아 제 강

HEAD OFFICE; SEAH TOWER, 45 YANGHWA-RO, MAPO-GU, SEOUL, KOREA
POHANG PLANT; 14-1, JANGHEUNG-DONG, NAM-GU, POHANG

증명서번호 CERTIFICATE NO.: E201303-0144-000601(5009422)
제 품 명 COMMODITY : H.F.W STEEL PIPE
제 품 규 격 SPECIFICATION : API 5LB PSL1/ASTM A53B(2012)

발 급 일 자 DATE OF ISSUE : 2013.03.27
계 약 서 번 호 L/C No. (P/O No.) : 1103108267
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	SQ99713 (SIN3213050)	BBE	20 " X 0.250 " X 6.120 M	31	189.720 M	15.018	* NACE MR 0175
2	4-4155 (SIN3213060)	BBE	20 " X 0.250 " X 6.120 M	45	275.400 M	21.801	* AS PER ATTACHED RIDER
3	4-3450 (SIN3213070)	BBE	20 " X 0.250 " X 6.120 M	49	299.880 M	23.740	* HEAT TREATMENT TEMPERATURE OF WELD SEAM : MIN 900℃

COPY

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	DESIG *6	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti		CEQ C2 *8	DIR *9	TENSILE STRENGTH psi	YIELD STRENGTH psi	E.L % *10	IMPACT TEST (℃) ENE-RGY Joule	SHEAR AREA %	HARD-NESS TEST HRB	HEAT TREAT MENT SN *11
																				CHEMICAL COMPOSITION(%)														TENSILE TEST (Gage Length : 50mm)						
																				2			3		2	2	2	2	3	3	3										
																				*7													*8	*9							
기준 SPEC									30										MAX	26		120	30	30	40	40	40	15	80											99	
																			MIN																60200	35500					
1	SQ99713 (SIN3213050)	540	G	G	G	G			G										H	17	1	79	11	5									30								
																			P	17	2	78	11	5	2	1	1	TR	1	1	1		30	T	69030	49020	34			83	G
																			P	18	1	78	12	6	2	1	1	TR	1	1	1		31	W	75560						
2	4-4155 (SIN3213060)	540	G	G	G	G			G										H	17	18	46	17	6									25								
																			P	16	17	46	19	7	2	1	2	TR	2	1	2		24	T	71640	47710	37			83	G
																			P	16	17	46	18	7	2	1	2	TR	2	1	2		24	W	76140						
3	4-3450 (SIN3213070)	540	G	G	G	G			G										H	18	19	46	15	4									26								
																			P	17	18	45	15	6	1	2	2	TR	2	2	1		25	T	69610	46410	36			83	G
																			P	17	19	45	14	5	1	2	2	TR	2	2	1		25	W	76870						

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 *8-C2:C+Mn/6+(Cr+Mo+V)/5+(Ni+Cu)/15
*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