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증명서번호  
CERTIFICATE NO. : E200910-0033-001218(5004627)

제품명  
COMMODITY : E.R.W STEEL PIPE

제품규격  
SPECIFICATION : API 5L PSL1/ASTM A53B(2007)

MILL'S QUALITY  
CERTIFICATES

**SeAH SeAH Steel Corp.**  
(주)세아제강

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

발급일자  
DATE OF ISSUE : 2009.09.30

계약서번호  
L/C No. (P/O No.) : 1103073882

수요자  
CUSTOMER : PLESA

주문자  
SHIPPER : DUFERCO SA

NO.	HEAT NO. (BATCH NO.)	판단 TYPE *1	주문치수 ORDER SIZE				수량 QUANTITY			비고 REMARK
			관경	두께	길이	중량(M/T)	본수 PCS	총길이 TOTAL LENGTH	중량(M/T) WEIGHT	
13	SQ79293 (SHJ9281020)	BBE	14 "	X 0.500 "	X 6.120 M	25	153.000 M	16.431	CONFIRM TO NACE NORM MRO175(LAST EDITION) *ERW: CHEMICAL COMPOSITION, HEAT TREATMENT AND HARDNESS ONLY *DSAW:CHEMICAL COMPOSITION AND HARDNESS ONLY	
14	SQ76014 (SIJ9072020)	BBE	24 "	X 0.375 "	X 6.120 M	15	91.800 M	12.914		
15	SQ78065 (SIJ9072040)	BBE	24 "	X 0.375 "	X 6.120 M	3	18.360 M	2.583		
16	SQ78689 (SIJ9072180)	BBE	24 "	X 0.500 "	X 6.120 M	10	61.200 M	11.448		

NO.	HEAT NO. (BATCH NO.)	HYDROSTATIC TEST 5 Sec. psi	N D T	V I S U E & I N S P E C T I O N	F L A T T E N I N G	S H O C K	C O M P R E S S I O N	R E A G I N G T E S T I N G	B E N D I N G	D R I F T	C R U S H	F L A R I N G	F L A N G E	R E L A T I V E T E N I N G	ZINC COATING TEST WEIGHT OF ZINC COAT -ING	CHEMICAL COMPOSITION(%)														TENSILE TEST (Gage Length : 50mm)			IMPACT TEST (°C)		HARD- NESS TEST HRC	HEAT TREAT MENT SN
																C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti	CEQ	D I R	TENSILE STRENGTH	YIELD STRENGTH	E.L %	ENE- RGY	SHEAR AREA		
																*2	*3	*4	*5	*6	*7							*8	*9	psi	psi	*10	Joule	%		
기준 SPEC								30								MAX MIN	26		120	30	30	40	100	40	15	80			60200	35500			22			
13	SQ79293 (SHJ9281020)	1530	G	G	G	G		G								H	19	2	78	11	2							T	78170	52500	32		10	G		
14	SQ76014 (SIJ9072020)	670	G	G	G	G		G								P	18	1	79	9	3	TR	1	TR	TR	1	1	1	W	83540				12	G	
15	SQ78065 (SIJ9072040)	670	G	G	G	G		G								P	17	2	79	13	2	2	TR	TR	TR	2	1	1	W	76430	51190	35			10	G
16	SQ78689 (SIJ9072180)	890	G	G	G	G		G								H	18	1	78	13	5						T	73820	48870	34			8	G		
																P	17	1	76	14	1	1	1	2	TR	2	1	1	W	78460						
																P	18	2	77	12	5	1	1	2	TR	2	1	2	W	78610						

NOTE: \*1~\*11: Refer To 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*

