MILL'S QUALITY CERTIFICATE

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.: E201101-0142-000142(5006262)

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 : 2011.01.24

계 약 서 번 호
L/C No. (P/O No.) : P01103083800

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	SB87466 (SHKY171050)	BBE	12 " X 0.500 " X 6.120 M	3	18.360 M	1.790	CONFIRM TO NACE NORM MR0175(LAST EDITION)
2	SB87466 (SHKY171060)	BBE	12 " X 0.500 " X 6.120 M	28	171.360 M	16.701	*ERW: CHEMICAL COMPOSITION, HEAT TREATMENT AND HARDNESS ONLY
3	SQ23235 (SHKY301010)	BBE	12 " X 0.375 " X 6.120 M	51	312.120 M	22.989	*DSAW:CHEMICAL COMPOSITION AND HARDNESS ONLY
4	SQ23235 (SHKY302020)	BBE	12 " X 0.375 " X 6.120 M	2	12.240 M	0.901	

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	CHEMICAL COMPOSITION(%) DESIG *6	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 (℃) ENE-RGY Joule	SHEAR AREA %	HARD-NESS TEST	HEAT TREAT MENT SN *11
																				*7																				
기준 SPEC									30										MAX	26		120	30	30	40	40	40	15	80											
																			MIN																60200	35500					
1	SB87466	1680	G	G	G	G			G										H	17	2	75	15	8																	
	(SHKY171050)																		P	16	2	75	15	9	2	2	TR	TR	TR	1	1			T	69030	49740	39				G
																			P	18	3	75	13	9	2	2	TR	TR	TR	1	1			W	73960					
2	SB87466	1680	G	G	G	G			G										H	17	2	75	15	8																	
	(SHKY171060)																		P	16	3	75	16	7	1	TR	2	TR	TR	2	2			T	69180	50320	39				G
																			P	17	2	75	17	7	1	TR	2	TR	TR	2	2			W	75130					
3	SQ23235	1260	G	G	G	G			G										H	18	2	80	10	3																	
	(SHKY301010)																		P	17	1	79	12	1	TR	1	TR	TR	TR	2	TR			T	74400	46700	36				G
																			P	18	3	81	9	1	TR	1	TR	TR	TR	2	TR			W	77880					
4	SQ23235	1260	G	G	G	G			G										H	18	2	80	10	3																	
	(SHKY302020)																		P	17	1	79	10	4	1	TR	2	TR	TR	TR	TR			T	72950	48870	34				G
																			P	19	2	80	8	4	1	TR	2	TR	TR	TR	TR			W	75560					

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

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

MILL'S QUALITY CERTIFICATE

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.: E201101-0142-000142(5006262)
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 : 2011.01.24
계 약 서 번 호 / L/C No. (P/O No.) : P01103083800
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
5	SQ23235 (SHKY302030)	BBE	12 " X 0.375 " X 6.120 M	3	18.360 M	1.352	CONFIRM TO NACE NORM MR0175(LAST EDITION)
6	SQ23238 (SHKY302040)	BBE	12 " X 0.375 " X 6.120 M	2	12.240 M	0.901	*ERW: CHEMICAL COMPOSITION, HEAT TREATMENT AND HARDNESS ONLY
7	SQ23238 (SHKY302050)	BBE	12 " X 0.375 " X 6.120 M	167	1,022.040 M	75.273	*DSAW:CHEMICAL COMPOSITION AND HARDNESS ONLY
8	SB88950 (SHKY302060)	BBE	12 " X 0.375 " X 6.120 M	93	569.160 M	41.919	

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	DESIG *6	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti		CEQ *8	DIR *9	TENSILE STRENGTH psi	YIELD STRENGTH psi	E.L % *10	IMPACT TEST (℃) ENE-RGY Joule	SHEAR AREA %	HARD-NESS TEST	HEAT TREAT MENT SN *11
																				CHEMICAL COMPOSITION(%)														TENSILE TEST (Gage Length : 50mm)						
																				2			3		2	2	2	2	3	3	3										
기준 SPEC									30										MAX	26		120	30	30	40	40	40	15	80													
																			MIN																60200	35500						
5	SQ23235 (SHKY302030)	1260	G	G	G	G			G										H	18	2	80	10	3																	
																			P	18	2	80	10	4	2	1	1	TR	1	1	TR			T	73240	48730	36				G
																			P	17	3	79	10	5	2	1	1	TR	1	1	TR			W	77590						
6	SQ23238 (SHKY302040)	1260	G	G	G	G			G										H	18	2	78	10	3																	
																			P	19	2	78	8	3	1	1	TR	TR	2	1	1			T	74110	50180	35				G
																			P	18	3	79	12	5	1	1	TR	TR	2	1	1			W	76000						
7	SQ23238 (SHKY302050)	1260	G	G	G	G			G										H	18	2	78	10	3																	
																			P	17	2	79	12	4	2	TR	TR	TR	TR	1	1			T	70770	45250	36				G
																			P	18	2	77	10	2	2	TR	TR	TR	TR	1	1			W	75270						
8	SB88950 (SHKY302060)	1260	G	G	G	G			G										H	18	2	74	18	7																	
																			P	17	3	75	20	7	2	2	TR	TR	TR	2	1			T	69610	49600	37				G
																			P	17	1	74	16	5	2	2	TR	TR	TR	2	1			W	73670						

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

Surveyor :

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Manager of Q.M Dept.
N. J. Baek

MILL'S QUALITY CERTIFICATE

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.: E201101-0142-000142(5006262)

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 : 2011.01.24

계 약 서 번 호
L/C No. (P/O No.) : P01103083800

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
9	SB83877 (SHKY302080)	BBE	12 " X 0.500 " X 6.120 M	1	6.120 M	0.596	CONFIRM TO NACE NORM MR0175(LAST EDITION)
10	SB87476 (SHKY302090)	BBE	12 " X 0.500 " X 6.120 M	3	18.360 M	1.789	*ERW: CHEMICAL COMPOSITION, HEAT TREATMENT AND HARDNESS ONLY
11	SB88950 (SHKZ011020)	BBE	12 " X 0.500 " X 6.120 M	2	12.240 M	1.193	*DSAW:CHEMICAL COMPOSITION AND HARDNESS ONLY
12	C025990 (SHKZ011050)	BBE	12 " X 0.500 " X 6.120 M	2	12.240 M	1.193	

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	DESIG *6	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti		CEQ	DIR	TENSILE STRENGTH psi	YIELD STRENGTH psi	E.L % *10	IMPACT TEST (℃) ENE-RGY Joule	SHEAR AREA %	HARD-NESS TEST	HEAT TREAT MENT SN *11
																				*7													*8	*9							
기준 SPEC									30										MAX	26		120	30	30	40	40	40	15	80						60200	35500					
																			MIN																						
9	SB83877	1680	G	G	G	G			G										H	18	1	80	9	6																	
	(SHKY302080)																		P	17	1	80	11	7	2	TR	1	TR	TR	TR	TR			T	67440	46410	37				G
																			P	19	1	81	10	4	2	TR	1	TR	TR	TR	TR			W	73960						
10	SB87476	1680	G	G	G	G			G										H	18	1	77	13	6																	
	(SHKY302090)																		P	17	1	76	11	4	TR	2	TR	TR	2	1	2			T	68310	48440	38				G
																			P	19	2	78	11	8	TR	2	TR	TR	2	1	2			W	75850						
11	SB88950	1680	G	G	G	G			G										H	18	2	74	18	7																	
	(SHKZ011020)																		P	19	2	74	20	7	1	1	1	TR	1	TR	TR			T	68160	49310	38				G
																			P	17	3	74	18	7	1	1	1	TR	1	TR	TR			W	73380						
12	C025990	1680	G	G	G	G			G										H	14	16	79	17	3																	
	(SHKZ011050)																		P	14	17	80	17	1	1	TR	TR	TR	2	1	2			T	74400	59900	35				G
																			P	13	15	79	19	5	1	TR	TR	TR	2	1	2			W	77450						

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

Surveyor :

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(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.: E201101-0142-000142(5006262)
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 : 2011.01.24
계 약 서 번 호 L/C No. (P/O No.) : P01103083800
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
13	C035869 (SHKZ011070)	BBE	12 " X 0.500 " X 6.120 M	11	67.320 M	6.561	CONFIRM TO NACE NORM MR0175(LAST EDITION) *ERW: CHEMICAL COMPOSITION, HEAT TREATMENT AND HARDNESS ONLY *DSAW:CHEMICAL COMPOSITION AND HARDNESS ONLY
14	SB89491 (SHKZ071050)	BBE	14 " X 0.250 " X 6.120 M	96	587.520 M	32.378	
15	SB90373 (SHKZ072140)	BBE	14 " X 0.375 " X 6.120 M	62	379.440 M	30.765	
16	SP86125 (SHKZ151030)	BBE	10 " X 0.250 " X 6.120 M	5	30.600 M	1.288	

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	DESIG *6	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti		CEQ *8	DIR *9	TENSILE STRENGTH psi	YIELD STRENGTH psi	E.L % *10	IMPACT TEST (℃) ENERGY Joule	SHEAR AREA %	HARD-NESS TEST	HEAT TREAT MENT SN *11
																				CHEMICAL COMPOSITION(%) *7															TENSILE TEST (Gage Length : 50mm)						
기준 SPEC									30										MAX	26		120	30	30	40	40	40	15	80													
																			MIN																	60200	35500					
13	C035869 (SHKZ011070)	1680	G	G	G	G			G										H	13	15	80	11	1																		
																			P	13	14	80	9	1	TR	2	1	TR	2	2	TR			T	71930	57290	28				G
																			P	13	15	80	12	TR	TR	2	1	TR	2	2	TR			W	75420						
14	SB89491 (SHKZ071050)	770	G	G	G	G			G										H	15	1	66	17	6																		
																			P	14	2	67	16	8	1	1	1	TR	1	TR	1			T	68890	46700	33				G
																			P	14	TR	66	18	4	1	1	1	TR	1	TR	1			W	72510						
15	SB90373 (SHKZ072140)	1150	G	G	G	G			G										H	18	1	72	17	10																		
																			P	17	2	73	17	12	TR	2	1	TR	2	1	1			T	70050	50320	35				G
																			P	18	TR	72	16	12	TR	2	1	TR	2	1	1			W	74690						
16	SP86125 (SHKZ151030)	1000	G	G	G	G			G										H	15	1	69	12	3																		
																			P	14	TR	70	13	1	1	TR	1	TR	2	1	2			T	66570	47860	36				G
																			P	14	1	69	13	4	1	TR	1	TR	2	1	2			W	71640						

NOTE *1 ~ *11: Refer To Others

OTHERS
*1-BBE:Black Beveled End(30°)
*2-U:Weld Seam Ultrasonic Test
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*9-T:Base Metal Transverse, W:Weld Part Transverse *10-E.L:Elongation *11-S.N:Seam Normalizing *G:GOOD *Tr:Trace

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(주)세 아 제 강

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POHANG PLANT ; 14-1, JANGHEUNG-DONG, NAM-GU, POHANG

증명서번호 CERTIFICATE NO.: E201101-0142-000142(5006262)
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 : 2011.01.24
계 약 서 번 호 L/C No. (P/O No.) : P01103083800
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	SQ18869 (SHKZ151040)	BBE	10 " X 0.250 " X 6.120 M	2	12.240 M	0.515	CONFIRM TO NACE NORM MR0175(LAST EDITION)
18	SQ18862 (SHKZ151060)	BBE	10 " X 0.250 " X 6.120 M	31	189.720 M	7.985	*ERW: CHEMICAL COMPOSITION, HEAT TREATMENT AND HARDNESS ONLY
19	SQ18859 (SHKZ151070)	BBE	10 " X 0.250 " X 6.120 M	77	471.240 M	19.835	*DSAW:CHEMICAL COMPOSITION AND HARDNESS ONLY
20	SB90849 (SHKZ161040)	BBE	10 " X SCH40 X 6.120 M	81	495.720 M	29.991	

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	DESIG *6	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti		CEQ *8	DIR *9	TENSILE STRENGTH psi	YIELD STRENGTH psi	E.L % *10	IMPACT TEST (℃) ENE-RGY Joule	SHEAR AREA %	HARD-NESS TEST	HEAT TREAT MENT SN *11
																				CHEMICAL COMPOSITION(%)																					
																					2			3		2	2	2	2	3	3	3									
기준 SPEC									30										MAX	26		120	30	30	40	40	40	15	80												
																			MIN																60200	35500					
17	SQ18869 (SHKZ151040)	1000	G	G	G	G			G										H	15	1	69	13	5																	
																			P	16	2	69	12	4	TR	1	TR	TR	TR	TR	1			T	73380	55110	32				G
																			P	14	TR	69	14	7	TR	1	TR	TR	TR	TR	1			W	76430						
18	SQ18862 (SHKZ151060)	1000	G	G	G	G			G										H	15	1	68	11	4																	
																			P	14	2	69	9	2	1	1	1	TR	1	1	2			T	72660	49740	32				G
																			P	16	TR	68	11	5	1	1	1	TR	1	1	2			W	76870						
19	SQ18859 (SHKZ151070)	1000	G	G	G	G			G										H	15	1	71	10	4																	
																			P	14	2	70	11	6	TR	1	TR	TR	1	1	1			T	70190	52930	34				G
																			P	14	TR	71	11	2	TR	1	TR	TR	1	1	1			W	75130						
20	SB90849 (SHKZ161040)	1450	G	G	G	G			G										H	18	1	76	16	6																	
																			P	17	2	75	14	6	TR	TR	1	TR	2	TR	1			T	66860	47860	36				G
																			P	17	TR	77	18	5	TR	TR	1	TR	2	TR	1			W	71640						

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

Surveyor :

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Manager of Q.M Dept.
N. J. Baek

MILL'S QUALITY CERTIFICATE

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.: E201101-0142-000142(5006262)
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 : 2011.01.24
계 약 서 번 호 L/C No. (P/O No.) : P01103083800
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
21	SQ20798 (SHKZ161080)	BBE	10 " X 0.500 " X 6.120 M	1	6.120 M	0.500	CONFIRM TO NACE NORM MR0175(LAST EDITION)
22	SQ20798 (SHKZ162010)	BBE	10 " X 0.500 " X 6.120 M	1	6.120 M	0.499	*ERW: CHEMICAL COMPOSITION, HEAT TREATMENT AND HARDNESS ONLY
23	SQ20801 (SHKZ162020)	BBE	10 " X 0.500 " X 6.120 M	2	12.240 M	0.998	*DSAW:CHEMICAL COMPOSITION AND HARDNESS ONLY
24	SQ20801 (SHKZ162030)	BBE	10 " X 0.500 " X 6.120 M	3	18.360 M	1.497	

NO.	HEAT NO (BATCH NO.)	HYDROSTATIC TEST 5 Sec. psi	HYDROSTATIC TEST RESULT	N·D·T U *2	DIMENSION & VISUAL	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	CHEMICAL COMPOSITION(%) DESIG *6	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti		CEQ *8	TENSILE TEST (Gage Length : 50mm) DIR *9	TENSILE STRENGTH psi	YIELD STRENGTH psi	E.L % *10	IMPACT TEST (℃) ENE-RGY Joule	SHEAR AREA %	HARD-NESS TEST	HEAT TREAT MENT SN *11
																				*7																					
기준 SPEC									30										MAX	26		120	30	30	40	40	40	15	80												
																			MIN																	60200	35500					
21	SQ20798 (SHKZ161080)	1990	G	G	G	G			G										H	17	1	78	9	4																	
																			P	17	1	79	9	6	2	TR	1	TR	2	TR	2			T	74250	47570	37				G
																			P	16	2	79	10	3	2	TR	1	TR	2	TR	2			W	77880						
22	SQ20798 (SHKZ162010)	1990	G	G	G	G			G										H	17	1	78	9	4																	
																			P	16	2	78	8	2	1	TR	2	TR	1	1	TR			T	73380	48730	37				G
																			P	17	TR	77	8	5	1	TR	2	TR	1	1	TR			W	75420						
23	SQ20801 (SHKZ162020)	1990	G	G	G	G			G										H	17	1	78	8	3																	
																			P	16	2	79	6	4	2	TR	TR	TR	TR	TR	TR			T	75420	50030	37				G
																			P	18	2	79	7	5	2	TR	TR	TR	TR	TR	TR			W	77450						
24	SQ20801 (SHKZ162030)	1990	G	G	G	G			G										H	17	1	78	8	3																	
																			P	16	1	79	9	1	1	2	1	TR	2	TR	TR			T	74830	51340	37				G
																			P	17	2	77	9	3	1	2	1	TR	2	TR	TR			W	77740						

NOTE: *1 ~ *11: Refer To Others

OTHERS:
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*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 :

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Manager of Q.M Dept.

N. J. Baek

주식회사세아제강 SeAH

MILL'S QUALITY CERTIFICATE

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.: E201101-0142-000142(5006262)
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 : 2011.01.24
계 약 서 번 호 / L/C No. (P/O No.) : P01103083800
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
25	SQ23241 (SHKZ162040)	BBE	10 " X 0.500 " X 6.120 M	18	110.160 M	8.984	CONFIRM TO NACE NORM MR0175(LAST EDITION) *ERW: CHEMICAL COMPOSITION, HEAT TREATMENT AND HARDNESS ONLY *DSAW:CHEMICAL COMPOSITION AND HARDNESS ONLY
26	SQ23060 (SHKZ162050)	BBE	10 " X 0.500 " X 6.120 M	39	238.680 M	19.464	
27	SB92389 (SIKZ271080)	BBE	18 " X 0.375 " X 6.120 M	47	287.640 M	30.156	
28	SB92389 (SIKZ272030)	BBE	18 " X 0.500 " X 6.120 M	63	385.560 M	53.651	

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	DESIG *6	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti		CEQ *8	DIR *9	TENSILE STRENGTH psi	YIELD STRENGTH psi	E.L % *10	IMPACT TEST (℃) ENERGY Joule	SHEAR AREA %	HARD-NESS TEST	HEAT TREAT MENT SN *11
																				CHEMICAL COMPOSITION(%)																TENSILE TEST (Gage Length : 50mm)						
																					2		3		2	2	2	2	3	3	3										
																			*6	*7													*8	*9			*10	Joule	%		*11
기준 SPEC									30										MAX	26		120	30	30	40	40	40	15	80													
																			MIN																60200	35500						
25	SQ23241	1990	G	G	G	G			G										H	18	2	78	10	3																		
	(SHKZ162040)																		P	17	2	77	12	1	2	2	TR	TR	TR	TR	1			T	73820	46990	37				G
																			P	17	2	78	9	5	2	2	TR	TR	TR	TR	1			W	76140						
26	SQ23060	1990	G	G	G	G			G										H	18	2	79	13	2																		
	(SHKZ162050)																		P	17	2	79	13	2	1	TR	TR	TR	1	1	1			T	73240	49020	36				G
																			P	17	2	78	15	4	1	TR	TR	TR	1	1	1			W	77590						
27	SB92389	890	G	G	G	G			G										H	18	2	79	13	7																		
	(SIKZ271080)																		P	17	2	80	14	7	TR	1	1	TR	1	TR	2			T	74540	50610	33				G
																			P	17	1	79	15	5	TR	1	1	TR	1	TR	2			W	78320						
28	SB92389	1190	G	G	G	G			G										H	18	2	79	13	7																		
	(SIKZ272030)																		P	17	1	80	12	9	1	TR	1	TR	2	1	TR			T	72220	46700	36				G
																			P	18	3	79	13	5	1	TR	1	TR	2	1	TR			W	75560						

NOTE *1 ~ *11: Refer To Others

OTHERS
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*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

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(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.: E201101-0142-000142(5006262)

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 : 2011.01.24

계 약 서 번 호
L/C No. (P/O No.) : P01103083800

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
29	SB90180 (SIKZ272040)	BBE	18 " X 0.500 " X 6.120 M	65	397.800 M	55.354	CONFIRM TO NACE NORM MR0175(LAST EDITION) *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	ZINC COATING TEST WEIGHT OF ZINC COAT-ING	균일성 C.S *4	알칼리 ALK *5
기준 SPEC									30									
29	SB90180 (SIKZ272040)	1190	G	G	G	G			G									

NO.	HEAT NO (BATCH NO.)	DESIG *6	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti		CEQ *8	DIR *9	TENSILE STRENGTH psi	YIELD STRENGTH psi	E.L % *10	IMPACT TEST (℃) ENERGY Joule	SHEAR AREA %	HARDNESS TEST	HEAT TREATMENT SN *11
			2			3		2	2	2	2	3	3	3										
			*7																					
기준 SPEC		MAX	26		120	30	30	40	40	40	15	80												
		MIN																60200	35500					
29	SB90180 (SIKZ272040)	H	19	2	79	15	7																	
		P	18	1	80	17	5	TR	TR	TR	TR	2	TR	2			T	71640	47420	32				G
		P	19	2	78	16	8	TR	TR	TR	TR	2	TR	2			W	76140						

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