

MILL'S QUALITY CERTIFICATES

SeAH SeAH Steel Corp.

(주)세아제강

발급일자 : 2013.03.27
 DATE OF ISSUE : 2013.03.27
 계약서번호 :
 L/C No. (P/O No.) : 1103108267
 수 요 가 :
 CUSTOMER : PLESA
 주문자 :
 SHIPPER : DUFERCO SA

증명서번호 :
 CERTIFICATE NO. : E201303-0145-000602(5009422)
 제품명 :
 COMMODITY : H.F.W STEEL PIPE
 제품규격 :
 SPECIFICATION : API 5LB PSL1/ASTM A53B(2012)

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

NO.	HEAT NO. (BATCH NO.)	관 단 TYPE *1	주 문 치 수 ORDER SIZE			수 량 QUANTITY			비 고 REMARK
			10"	X 0.500"	X 6.120 M	분 수 PCS	총 길이 TOTAL LENGTH	중량(M/T) WEIGHT	
1	4-3450 (SHN3142110)	BBE	10"	X 0.500"	X 6.120 M	127	777.240 M	63.384	* NACE MR 0175 * AS PER ATTACHED RIDER * HEAT TREATMENT TEMPERATURE OF WELD SEAM: MIN 900°C
2	4-3445 (SHN3153060)	BBE	14"	X 0.250"	X 6.120 M	122	746.640 M	41.147	
3	4-3444 (SHN3153070)	BBE	14"	X 0.250"	X 6.120 M	54	330.480 M	18.213	
4	4-3444 (SHN3162120)	BBE	14"	X 0.500"	X 6.120 M	46	281.520 M	30.232	


HEAT NO. (BATCH NO.)	HYDROSTATIC TEST 5 Sec. psi	N. D. U.	V. D. U.	P. L. A. T. T. E. N. I. N. G. U.	S. H. O. C. K. U.	C. O. M. P. R. E. S. S. I. O. N. U.	R. M. A. G. N. E. T. I. S. M. GAUSS	B. E. N. D. I. N. G. *3	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. V. E. R. T. E. N. I. N. G.	ZINC COATING TEST WEIGHT OF ZINC COAT-ING	CHEMICAL COMPOSITION(%)												TENSILE TEST (Gage Length : 50mm)				IMPACT TEST (°C)		HARDNESS TEST HERB	HEAT TREATMENT SN			
															C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti	CEQ	D. I. R.	TENSILE STRENGTH	YIELD STRENGTH	E. L.	EN-ERGY			SHEAR AREA	HARDNESS TEST HERB	HEAT TREATMENT SN
															*4	*5	*6	*7					*8	*9	psi	psi	%	Joule	%	*10	*11						
기준 SPEC							30								MAX	26		120	30	30	40	40	40	15	80							99					
1	1990	G	G	G	G		G							H	18	19	46	15	4							26	T	69760	50760	38			83	G			
2	770	G	G	G	G		G							P	17	20	47	16	4	1	1	1	TR	2	2	2	26	W	76430								
3	770	G	G	G	G		G							P	17	18	46	16	3	1	1	1	TR	2	1	2	25	T	70920	49600	36			83	G		
4	1530	G	G	G	G		G							H	17	17	44	15	3							24	W	77300									
														P	17	18	45	15	4	1	1	1	TR	1	2	TI	25	T	69610	49450	37			83	G		
														P	18	18	45	17	4	1	1	1	TR	2	2	1	26	W	77010								
														H	17	17	44	15	3							24	T	77010									
														P	18	17	45	15	3	1	1	2	TR	2	2	2	26	T	65550	50470	39			83	G		
														P	18	18	45	14	3	1	1	2	TR	2	2	2	26	W	76720								

NOTE: *1-BBE:Black Beveled End(30°) *2-U:Weld Seam Ultrasonic Test *3-S:Seam
 *4-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



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SeAH SeAH Steel Corp. (주)세아제강

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 계약서번호 : 1103108267
 L/C No. (P/O No.) : 1103108267
 수요자 : PLESA
 CUSTOMER : PLESA
 주문자 : DUFERCO SA
 SHIPPER : DUFERCO SA

증명서번호 : E201303-0145-000602(5009422)
 CERTIFICATE NO. : E201303-0145-000602(5009422)
 제품명 : H.F.W STEEL PIPE
 COMMODITY : H.F.W STEEL PIPE
 제품규격 : API 5LB PSL1/ASTM A53B(2012)
 SPECIFICATION : API 5LB PSL1/ASTM A53B(2012)

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

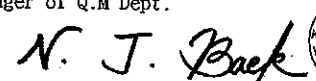

NO.	HEAT NO. (BATCH NO.)	판단 TYPE	주문치수 ORDER SIZE			수량 QUANTITY			비고 REMARK
			12"	X SCH40	X 6.120 M	본수 PCS	총길이 TOTAL LENGTH	중량(M/T) WEIGHT	
9	4-3445 (SHN3221040)	BBE	12"	X SCH40	X 6.120 M	134	820.080 M	65.319	* NACE MR 0175 * AS PER ATTACHED RIDER * HEAT TREATMENT TEMPERATURE OF WELD SEAM : MIN 900°C
10	4-3447 (SHN3222030)	BBE	12"	X 0.500"	X 6.120 M	106	648.720 M	63.224	
11	4-3444 (SHN3222050)	BBE	12"	X 0.250"	X 6.120 M	206	1,260.720 M	63.175	
12	SB59518 (SIN2143060)	BBE	18"	X 0.500"	X 6.120 M	11	67.320 M	9.368	

NO.	HEAT NO. (BATCH NO.)	HYDROSTATIC TEST 5 Sec. psi	N D T U *2	V I S U E & 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 M A G N E T I C I T Y	B E N D I N G *3	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 S I N G	ZINC COATING TEST		CHEMICAL COMPOSITION(%)											TENSILE TEST (Gage Length : 50mm)			IMPACT TEST (°C)		HARD- NESS TEST	HEAT TREAT MENT					
															WEIGHT OF ZINC COAT- ING	THICKNESS C.S	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	HRB	SN
															*4	*5	*6	*7											*8	*9	psi	psi			%	Joule	%	*11	
기준								30								MAX	26		120	30	30	40	40	40	15	80								99					
SPBC																MIN																							
9	4-3445 (SHN3221040)	1360	G	G	G	G		G							H	18	18	45	16	3																			
10	4-3447 (SHN3222030)	1680	G	G	G	G		G							P	18	17	45	18	4	1	1	2	TR	1	2	1		26	T	69610	50610	37			84	G		
11	4-3444 (SHN3222050)	840	G	G	G	G		G							P	17	17	47	18	3	1	1	TR	TR	2	2	1		25	T	68890	51480	37			83	G		
12	SB59518 (SIN2143060)	1190	G	G	G	G		G							H	17	17	44	15	3																			
															P	16	17	45	16	3	1	1	1	TR	1	1	2		24	T	69760	49740	37			83	G		
															P	16	18	44	17	4	1	2	1	TR	1	1	2		24	W	76870								
															H	17	1	77	14	8																			
															P	16	1	77	13	9	2	1	2	TR	2	1	1		30	T	71210	53800	39			84	G		
															P	16	1	78	15	10	2	1	2	TR	2	1	1		30	W	77740								

OTHERS : *1-BBE:Black Beveled End(30°) *2-U:Weld Seam Ultrasonic Test *3-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.
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Manager of Q.M Dept.



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 CUSTOMER : PLESA
 주문자 :
 SHIPPER : DUFERCO SA

증명서번호 : E201303-0145-000602(5009422)
 COMMODITY : H.F.W STEEL PIPE
 제품규격 : API 5LB PSL1/ASTM A53B(2012)

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


NO.	HEAT NO. (BATCH NO.)	판단 TYPE	주문치수 ORDER SIZE			수량 QUANTITY			비고 REMARK
			18"	X 0.250"	X 6.120 M	본수 PCS	총길이 TOTAL LENGTH	중량(M/T) WEIGHT	
13	4-3450 (SIN3182080)	BBE	18"	X 0.250"	X 6.120 M	72	440.640 M	31.338	* NACE MR 0175 * AS PER ATTACHED RIDER * HEAT TREATMENT TEMPERATURE OF WELD SEAM : MIN 900°C
14	4-3448 (SIN3192080)	BBE	18"	X 0.375"	X 6.120 M	34	208.080 M	21.815	
15	4-3450 (SIN3192090)	BBE	18"	X 0.375"	X 6.120 M	12	73.440 M	7.699	
16	4-3448 (SIN3192210)	BBE	18"	X 0.500"	X 6.120 M	26	159.120 M	22.142	

HEAT NO. (BATCH NO.)	5 Sec. psi	HYDROSTATIC TEST	N D R E S U L T	V I S U A L & S I M U L A T I O N	F L A T T E N I N G	S H O C K	C O R R O S I O N	R E S I D U A L S M G A U S S	B E N D I N G	D R I P T	C R U S H	F L A N G I N G	F L A N G E	R E L A T I V E S T R E N G T H	ZINC COATING TEST		CHEMICAL COMPOSITION(%)											TENSILE TEST (Gage Length : 50mm)			IMPACT TEST (°C)		HARD- NESS TEST	HEAT TREATMENT		
															WEIGHT OF ZINC COAT-ING	가 중 량 C.S	알 칼 리 A.LK	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti	CEQ	D I R	TENSILE STRENGTH			YIELD STRENGTH	E.L
기준 SPEC								30									MAX	26	120	30	30	40	40	40	15	80									99	
13 (SIN3182080)	600	G	G	G	G			G								H	18	19	46	15	4	1	2	1	TR	2	1	1	26	T	70920	50900	35		83	G
14 (SIN3192080)	890	G	G	G	G			G								P	18	19	46	15	5	1	2	2	TR	2	1	1	26	W	76290					
15 (SIN3192090)	890	G	G	G	G			G								P	15	18	45	7	4	2	1	1	TR	1	1	1	23	T	67870	49310	38		84	G
16 (SIN3192210)	1190	G	G	G	G			G								H	18	19	46	15	4	2	1	1	TR	1	1	2	24	W	76290					
																P	17	19	46	17	4	1	1	1	TR	2	2	1	25	T	67730	46410	40		84	G
																P	17	18	47	16	5	1	2	1	TR	2	2	1	25	W	76580					
																H	15	18	44	17	3							22								
																P	15	17	45	19	4	1	2	2	TR	3	1	2	23	T	65990	48730	38		83	G
																P	16	17	45	18	5	1	2	2	TR	3	1	2	24	W	77010					

*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
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CERTIFICATES
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(주)세아제강

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제품규격 : API 5LB PSL1/ASTM A53B(2012)
SPECIFICATION : API 5LB PSL1/ASTM A53B(2012)

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


NO.	HEAT NO. (BATCH NO.)	관 단 TYPE	주 문 치 수 ORDER SIZE	수 량 QUANTITY			비 고 REMARK
				본 수 PCS	총 길이 TOTAL LENGTH	중량(M/T) WEIGHT	
17	4-3448 (SINS211080)	BBE	16" X 0.500" X 6.120 M	85	520,200 M	64.141	* NACE MR 0175 * AS PER ATTACHED RIDER * HEAT TREATMENT TEMPERATURE OF WELD SEAM : MIN 900°C

NO.	HEAT NO. (BATCH NO.)	HYDROSTATIC TEST		N D T U	V I S U A L & S U N 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 S I D U A L S G A U S S	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 V E R S E N I N G	ZINC COATING TEST			CHEMICAL COMPOSITION(%)											TENSILE TEST (Gage Length : 50mm)			IMPACT TEST (°C)		HARD- NESS TEST	HEAT TREAT MENT						
		5-psi	5-sec													W E I G H T O F Z I N C C O A T I N G	H I C K	A L K	D I S T R I B U T I O N	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	HRB	SN
		psi	psi													C.S	*4	*5	*6	*7											*8	*9	psi	psi			%	Joule	%	*11		
기준 SPEC									30										MAX MIN	26		120	30	30	40	40	40	15	80							60200	35500				99	
17	4-3448 (SINS211080)	1340	G	G	G	G			G										H P P	15 15 16	18 18 17	44 45 43	17 19 18	3 5 4	2 2 2	2 2 1	1 1 1	TR TR TR	3 3 3	2 2 2	2 2 2	22 23 24	T T W	66130 66130 76580	53510	38					82	G

OTHERS : *1-BBE:Black Beveled End(30°) *2-U:Weld Seam Ultrasonic Test *3-G:GOOD *4-T:Trace *5-GOOD *6-T:Trace *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 *THIS CERTIFICATE IS ISSUED ACCORDING TO EN 10204 3.1 (ISO 10474 3.1.B)

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



CONFIDENTIAL

QUALITY CERTIFICATE



주식회사 휴스틸
(HUSTEEL CO.,LTD.)

계약서번호
P/O No. : 12691
L/C No. : M927857
발급일자
ISSUED DATE : 2012. 10. 04.
제품명
COMMODITY : E.R.W. STEEL PIPES
재용규격
SPECIFICATION : API 5L-B / ASTM A53B

HEAD OFFICE : Shinan B/D 15F, 943-19, Daechi-dong
Kangnam-ku, SEOUL 135-845, KOREA
DANGJIN PLANT: 569-1,BUGOK-RI,SONGAK-MYEON, DANGJIN-GUN,
CHUNGCHEONGNAM-DO,KOREA
DAEBUL PLANT: 150,DAEBULSANDAN3-RO, YOUNGAM-GUN
JOLLANAM-DO, KOREA

증서번호
CERTIFICATE No. : 20121004-323
제조번호
MANUFACTURED No. : 2012-06-204
공급자
SUPPLIER : HUSTEEL CO.,LTD
수요자
CUSTOMER : PLESA ANAHUAC Y
CIAS., S.A. DE C.V.

ITEM NO.	HEAT NO. (LOT)	관종 TYPE	수량 QUANTITY (PIECES)	호칭명 NOMINAL SIZE (inch)	주문치수 ORDER SIZE			중량 WEIGHT (lb/ft)	인장시험 TENSILE TEST				화학성분 CHEMICAL COMPOSITION(%)														
					바깥지름 O.D (mm)	두께 W.T. (in)	길이 LENGTH (ft)		인장강도 TS (psi)	항복강도 YS (psi)	연신율 EL (%)	항복비 YR (YS/TS)	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Nb	Ti	B	PCM	CEQ
													-2	-3	-2	-3			-4				-3				
1	M51960	BPB	16	10 3/4	273.1	0.225	20'	25.29	70775	61638	30		6	20	75	10	4	16	21	5	2	8	167	5			
2	M49071	BPB	24	12 3/4	323.9	0.312	20'	41.48	66860	53952	41		4	9	78	12	4	7	23	1	1	10	196	7			
3	28746	BPB	38	24	610.0	0.250	20'	63.47	70340	45250	39		16	13	86	16	3	6	14	4	16	11	21	4			
4	579605	BPB	6	24	610.0	0.250	20'	63.47	72226	48586	41		14	8	81	10	2	4	9	3	4	8	16	3			
5	663086	BPB	28	24	610.0	0.250	20'	63.47	73241	51486	35		17	18	84	16	2	11	10	6	31	8	16	9			
6	664324	BPB	15	24	610.0	0.250	20'	63.47	72516	48731	33		16	12	85	15	3	7	13	4	15	10	17	4			
7	M33287	BPB	1	24	610.0	0.250	20'	63.47	66424	58013	36		7	13	75	12	5	14	23	4	3	6	183	4			
8	M36086	BPB	4	24	610.0	0.250	20'	63.47	66714	58738	37		7	18	76	11	3	15	22	3	5	7	194	5			
9	M37641	BPB	2	24	610.0	0.250	20'	63.47	66569	55402	39		6	10	79	15	5	19	22	7	19	7	180	7			
10	M40255	BPB	1	24	610.0	0.250	20'	63.47	65409	53807	40		6	16	79	13	7	19	20	6	7	8	164	7			

ITEM NO.	수입시험 HYDROSTATIC TEST		열처리온도 HEAT TREATMENT (°C)	비파괴 시험 NDT (U.T)	경도시험 HARDNESS TEST (HV)	외주장 CIRCUMFERENCE	용접부인장강도 TENSILE STRENGTH OF WELDS (psi)	아연도금시험 ZINC COATING TEST		VISUAL & DIMENSION	FLATTENING (BEND) TEST	W D T	R G T	M G T	S.T (%)	충격시험 IMPACT TEST		Res. Mag.	비고 REMARKS
	TP (psi)	RE-SULT						WZC (g/㎡)	CST (TIMES)							ENERGY(J)	SIZE (in)		
	①	②						③	④							⑤	⑥		
1	900	GOOD	930	ACCEPT		74836				ACCEPT	GOOD					GOOD	0.1	16	
2	1050	GOOD	930	ACCEPT		70921				ACCEPT	GOOD					GOOD	0.1	16	
3	450	GOOD	930	ACCEPT		74401				ACCEPT	GOOD					GOOD	0.1	17	
4	450	GOOD	930	ACCEPT		76287				ACCEPT	GOOD					GOOD	0.1	16	
5	450	GOOD	930	ACCEPT		77302				ACCEPT	GOOD					GOOD	0.1	16	
6	450	GOOD	930	ACCEPT		76577				ACCEPT	GOOD					GOOD	0.1	16	
7	450	GOOD	930	ACCEPT		70485				ACCEPT	GOOD					GOOD	0.1	17	
8	450	GOOD	930	ACCEPT		70775				ACCEPT	GOOD					GOOD	0.1	16	
9	450	GOOD	930	ACCEPT		70630				ACCEPT	GOOD					GOOD	0.1	16	
10	450	GOOD	930	ACCEPT		69470				ACCEPT	GOOD					GOOD	0.1	17	

N : TYPE BPE BLACK PLAIN ENDS BPB BPE BEVELLED BTE BLACK THREADED ENDS BTC BLACK THREADED & COUPLED GPE GALVANIZED PLAIN ENDS GTE GALVANIZED THREADED ENDS GTC GALVANIZED THREAD & COUPLED
 O : O.D. OUTSIDE DIAMETER W.T. WALL THICKNESS C CHEMICAL COMPOSITION CHECK-ANALYSIS/UNIT -2:1/×100 -3:1/×1000 -4:1/×10000 TR TRACE S)TP TESTING PRESSURE NDT NON-DESTRUCTIVE TEST
 T E.T EDDY CURRENT TEST U.T ULTRASONIC TEST WZC WEIGHT OF ZINC COATING CST COPPER SULPHATE TEST WDT WELD DUCTILITY TEST RGT RING GAGE TEST MGT METALLOGRAPHIC TEST S.T STRAIGHTNESS
 E : P=Position B=Base Metal, CL=Center Line S)SPECIMEN SIZE, A:10x10mm, B:10x7.5mm, C:10x6.7mm, D:10x5.0mm, RES.MAG. : RESIDUAL MAGNITISM

SIGNATURE: _____
 WE HEREBY CERTIFY THAT THE PRODUCTS HEREIN HAVE BEEN MADE AND TESTED IN ACCORDANCE WITH THE ABOVE SPECIFICATION AND ALSO WITH THE REQUIREMENTS CALLED FOR THE ORDER.
 SIGNATURE: *[Signature]*
 MANAGER OF QUALITY ASSURANCE TEAM

ORIGINAL

QUALITY CERTIFICATE

주식회사 휴스틸
(HUSTEEL CO.,LTD.)

계약서번호
P/D No. : 12691
U/C No. : M927857
발급일자
ISSUED DATE : 2012. 10. 04.
제품명
COMMODITY : E.R.W. STEEL PIPES
제품규격
SPECIFICATION : API 5L-B / ASTM A53B

HEAD OFFICE : Shinan B/D 15F, 943-19, Daechi-dong
Kangnam-ku, SEOUL 135-845, KOREA
DANGJIN PLANT: 569-1,BUGOK-RI,SONGAK-MYEON, DANGJIN-GUN,
CHUNGCHEONGNAM-DO,KOREA
DAEBUL PLANT: 150,DAEBULSANDAN3-RO, YOUNGAM-GUN
JOLLANAM-DO, KOREA

증명서번호
CERTIFICATE No. : 20121004-323
제조번호
MANUFACTURED No. : 2012-06-204
공급자
SUPPLIER : HUSTEEL CO.,LTD
수요자
CUSTOMER : PLESA ANAHUAC Y
CIAS., S.A. DE C.V.

ITEM NO.	HEAT NO. (LOT)	관종 TYPE	수량 QUANTITY (PIECES)	표칭경 NOMINAL SIZE (inch)	주문치수 ORDER SIZE			중량 WEIGHT (lb/ft)	인장시험 TENSILE TEST				화학성분 CHEMICAL COMPOSITION(%)														
					외경 O.D (mm)	두께 W.T. (in)	길이 LENGTH (ft)		인장강도 TS (psi)	항복강도 YS (psi)	연신율 EL (%)	항복비 YR (YS/TS)	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Nb	Ti	B	PCM	CEQ
11	M41261	BPEB	2	24	610.0	0.250	20'	63.47	63814	55402	40		7	11	72	11	6	17	21	5	9	9	187	6	1		
12	M48848	BPEB	1	24	610.0	0.250	20'	63.47	70775	46845	39		15	13	87	16	4	8	15	6	17	10	28	5	1		
13	M51332	BPEB	51	24	610.0	0.250	20'	63.47	64394	53662	40		7	11	78	14	5	16	20	8	10	7	173	5	1		

ITEM NO.	수압시험 HYDROSTATIC TEST		열처리온도 HEAT TREATMENT (°C)	비파괴 시험 NOT (U.T)	경도시험 HARDNESS TEST (HV)	외주경 CIRCUMFERENCE		용접부인장강도 TENSILE STRENGTH OF WELDS (psi)	아연도금시험 ZINC COATING TEST		VISUAL & DIMENSION	FLATTENING (BEND) TEST	W D T	R G T	M G T	S.T (%)	충격시험 IMPACT TEST		Res. Mag.	비고 REMARKS
	TP (psi)	RE-SULT				END	BODY		WZC (g/m²)	CST (TIMES)							P	ENERGY(J) SIZE		
	(psi)																			
11	450	GOOD	930	ACCEPT				67875			ACCEPT	GOOD				GOOD	0.1	16		
12	450	GOOD	930	ACCEPT				74836			ACCEPT	GOOD				GOOD	0.1	16		
13	450	GOOD	930	ACCEPT				68455			ACCEPT	GOOD				GOOD	0.1	17		

N TYPE BPE BLACK PLAIN ENDS BPEB BPE BEVELLED BTE BLACK THREADED ENDS BTC BLACK THREADED & COUPLED GPE GALVANIZED PLAIN ENDS GTE GALVANIZED THREADED ENDS GTC GALVANIZED THREAD & COUPLED
 O O.D. OUTSIDE DIAMETER W.T. WALL THICKNESS CHEMICAL COMPOSITION CHECK-ANALYSIS/UNIT -2:1/100 -3:1/1000 -4:1/10000 TR TRACE TP TESTING PRESSURE NDT NON-DESTRUCTIVE TEST
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 E P=Position B:Base Metal, CL:Center Line SPECIMEN SIZE, A:10x10mm, B:10x7.5mm, C:10x6.7mm, D:10x5.0mm, RES.MAG.: RESIDUAL MAGNETISM

SIGNATURE: _____
 본 제품은 관련 규격이 정한 시험 및 검사에 합격하였음을 증명합니다.
 WE HEREBY CERTIFY THAT THE PRODUCTS HEREIN HAVE BEEN MADE AND TESTED IN ACCORDANCE WITH THE ABOVE SPECIFICATION AND ALSO WITH THE REQUIREMENTS CALLED FOR THE ORDER.
 SIGNATURE: *[Signature]*
 MANAGER OF QUALITY ASSURANCE TEAM

SURVEYOR TO:
HMS C-30-05-(21)

