ORIGINAL

QUALITY CERTIFICATE

주식회사 휴스틸
HUSTEEL Co., Ltd.

HEAD OFFICE SHINAN B/D 15F, 943-19, DAECHI-DONG, KANGAM-GU, SEOUL, KOREA
DAEBUL PLANT 3RO, DAEBUL INDUSTRIAL COMPLEX, SAMHO-EUP, YEONGAM-GUN, JEOLLANAM-DO, KOREA

P/O No. : 14109
L/C No. : M928598
ISSUED DATE : 2012.12.31
COMMODITY : E.R.W. STEEL PIPE
SPECIFICATION : API 5L-B/ASTM A53B

CERTIFICATE No. : 121231-437
MANUFACTURED No. : 2012-11-225
SUPPLIER : HUSTEEL CO., LTD.
CUSTOMER : PLESA ANAHUAC Y CIAS.,S.A. DE C.V.

NO.	HEAT_NO	QUAN-TITY	TYPE	NOMINAL SIZE	ORDER SIZE			WEIGHT	TENSILE TEST						CHEMICAL COMPOSITION(%)															
					O.D	W.T	LENGTH		DIR.	TS	YS	EL	YR	WTS	DIV	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti	B	CEQ	PCM
		PCS	*1		inch	inch	ft	lb/ft	*3	PSI		%	%	PSI	*5	-2			-3					-4				-5	-3	
					*2				*4						*6															
01	M51960	80	BPEB	10 3/4	10.750	0.225	20	25.31	T	68,310	59,028	39	86	77,447	H	6	2	72	10	4										
															P	11	5	70	12	8	16	6	27	10	14	206	5	24		
															P	7	5	72	11	4	17	7	27	13	13	203	4	18		
02	M60812	78	BPEB	14	14.000	0.225	20	33.13	T	64,249	52,066	40	81	68,310	H	6	2	77	13	5										
															P	5	2	79	12	3	19	5	24	10	16	254	6	10		
															P	5	2	78	12	3	17	4	26	10	13	247	7	10		
03	M60809	459	BPEB	14	14.000	0.225	20	33.13	T	63,959	50,616	39	79	74,981	H	6	2	74	13	5										
															P	5	2	77	11	4	18	4	30	10	17	249	8	10		
															P	5	2	76	11	4	17	4	29	10	14	238	7	10		

NO.	HYDROSTATIC TEST			HEAT TREATMENT	ZINC COATING TEST		THREADS		HARDNESS TEST	IMPACT TEST (0) ℃		
	T.P	H.T	RESULT		WZC	CST	TPI	ETL				
	PSI	sec		℃	g/㎡	TIMES		inch	HV	DIV	J (AVE)	SIZE
	*9			*10	*11		*12			*7		*8
01	890	5	GOOD	930								
02	690	5	GOOD	930								
03	690	5	GOOD	930								

*13 N · D · T (UT)	FLATTENING OR BEND TEST	VISUAL& DIMENSION	METALLOGRAPHIC TEST	RESIDUAL MAGNETISM
GOOD	GOOD	GOOD	GOOD	GOOD
FLANGE TEST	REVERSE FLATTENING TEST	CRUSH TEST		

NOTE

*1.Type of Pipe Ends

BPE	Black Plain Ends	GPE	Galvanized Plain Ends
BPEB	BPE Bevelled	GPEB	GPE Bevelled
BTE	Black Threaded Ends	GTE	Galvanized Threaded Ends
BTC	BlackThreaded & Coupled	GTC	Galvanized Threaded& Coupled

*2. **O.D** : Outsid Diameter, **W.T** : Wall Thickness *3. Direction- **L** : Longitudinal, **T** : Transverse
*4. **Tensile Test -TS** : Tensile Strength, **YS** : Yield Strength, **YR** : Yield Ratio, **EL** : Elongation, **WTS** : Weld tensile strength, **Gauge Length** : 2 inch, **Y.P method** : 0.5% Underload
*5. **H** : Heat analysis, **P** : Product analysis *6. **-2** : x1/100, **-3** : x1/1000, **-4** : x1/10000, **-5** : x1/10000, **Tr** :Trace *7. **B** : Base Metal, **W** : Weld Line, **H** : Heat Affected Zone
*8. **Specimen Size -A** :10x10mm, **B** :10x7.5mm, **C** :10x6.6mm, **D**:10x5.0mm, **Direction**: Transverse *9. **T.P** : Testing Pressure, **H.T** : Holding Time *10. **Heat Treatment** Seam Normalising
*11. **WZC** : Weight of Zinc Coating, **CST** : Copper Sulphate Test *12. **TPI** : Threads per inch, **ETL** : Effective length of threads *13. **NDT** : UT, **Reference Standard** 3.2 ㎜ Drilled Hole

SURVEYOR

WE HERYBY CERTIFY THAT THE MATERIAL HEREIN HAS BEEN MADE AND TESTED IN ACCORDANCE WITH THE ORDER AND ABOVE SPECIFICATION
THIS CERTIFICATE IS ISSUED ACCORDING TO EN 10204 3.1(ISO 10474 3.1 B)

MANAGER OF Q.A TEAM

본 검사증명서에 명기된 규격용도 외 사용시 안전상 문제가 발생할 수 있으며, 검사증명서 위 · 변조시 사문서 위조(형법231조)로 불이익을 당하실 수 있습니다.

ORIGINAL

QUALITY CERTIFICATE

주식회사 휴스틸
HUSTEEL Co., Ltd.

HEAD OFFICE SHINAN B/D 15F, 943-19, DAECHI-DONG, KANGAM-GU, SEOUL, KOREA
DAEBUL PLANT 3RO, DAEBUL INDUSTRIAL COMPLEX, SAMHO-EUP, YEONGAM-GUN, JEOLLANAM-DO, KOREA

P/O No. : 14109
L/C No. : M928598
ISSUED DATE : 2012.12.31
COMMODITY : E.R.W. STEEL PIPE
SPECIFICATION : API 5L-B/ASTM A53B

CERTIFICATE No. : 121231-437
MANUFACTURED No. : 2012-11-225
SUPPLIER : HUSTEEL CO., LTD.
CUSTOMER : PLESA ANAHUAC Y CIAS.,S.A. DE C.V.

NO.	HEAT_NO	QUAN-TITY	TYPE	NOMINAL SIZE	ORDER SIZE O.D	ORDER SIZE W.T	ORDER SIZE LENGTH	WEIGHT	TENSILE TEST DIR.	TS	YS	EL	YR	WTS
		PCS	*1		inch	inch	ft	lb/ft	*3	PSI		%	%	PSI
					*2					*4				
04	M59951	2	BPEB	16	16.000	0.500	20	82.85	T	68,890	57,287	43	83	69,325
05	M57654	15	BPEB	16	16.000	0.500	20	82.85	T	69,180	58,303	43	84	72,226
06	391637	2	BPEB	16	16.000	0.500	20	82.85	T	69,035	48,731	42	71	77,592

CHEMICAL COMPOSITION(%)

NO.	DIV	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti	B	CEQ	PCM
	*5	-2		-3						-4				-5	-3	
		*6														
04	H	6	1	75	12	4										
	P	5	1	76	11	4	25	5	33	10	13	323	6	10		
	P	5	1	76	11	4	25	5	33	10	13	319	6	10		
05	H	6	1	79	14	5										
	P	6	2	80	13	5	29	10	30	15	13	333	5	10		
	P	6	1	79	13	5	28	9	29	11	13	326	5	10		
06	H	16	1	86	12	3										
	P	11	2	86	13	4	13	75	8	10	18	78	11	39		
	P	15	2	86	13	4	13	76	8	10	17	76	11	39		

NO.	HYDROSTATIC TEST T.P	HYDROSTATIC TEST H.T	HYDROSTATIC TEST RESULT	HEAT TREATMENT	ZINC COATING TEST WZC	ZINC COATING TEST CST	THREADS TPI	THREADS ETL	HARDNESS TEST	IMPACT TEST DIV	IMPACT TEST J (AVE)	IMPACT TEST SIZE
	PSI	sec		℃	g/m²	TIMES		inch	HV	*7		*8
	*9			*10	*11		*12					
04	1340	5	GOOD	950								
05	1340	5	GOOD	950								
06	1340	5	GOOD	950								

IMPACT TEST (0) ℃

*13 N·D·T (UT)	FLATTENING OR BEND TEST	VISUAL& DIMENSION	METALLOGRAPHIC TEST	RESIDUAL MAGNETISM
GOOD	GOOD	GOOD	GOOD	GOOD
FLANGE TEST	REVERSE FLATTENING TEST	CRUSH TEST		

NOTE

*1.Type of Pipe Ends

BPE	Black Plain Ends	GPE	Galvanized Plain Ends
BPEB	BPE Bevelled	GPEB	GPE Bevelled
BTE	Black Threaded Ends	GTE	Galvanized Threaded Ends
BTC	BlackThreaded & Coupled	GTC	Galvanized Threaded& Coupled

* 2. **O.D** : Outsid Diameter, **W.T** : Wall Thickness *3. Direction- **L** : Longitudinal, **T** : Transverse
* 4. **Tensile Test -TS** : Tensile Strength, **YS** : Yield Strength, **YR** : Yield Ratio, **EL** : Elongation, **WTS** : Weld tensile strength, **Gauge Length** : 2 inch, **Y.P method** : 0.5% Underload
* 5. **H** : Heat analysis, **P** : Product analysis * 6. **-2** : x1/100, **-3** : x1/1000, **-4** : x1/10000,**-5** : x1/10000, **Tr** :Trace * 7. **B** : Base Metal, **W** : Weld Line, **H** : Heat Affected Zone
* 8. **Specimen Size -A** :10x10mm, **B** :10x7.5mm, **C** :10x6.6mm, **D**:10x5.0mm, **Direction**: Transverse * 9. **T.P** : Testing Pressure, **H.T** : Holding Time * 10. **Heat Treatment** Seam Normalising
* 11. **WZC** : Weight of Zinc Coating, **CST** : Copper Sulphate Test * 12. **TPI** : Threads per inch, **ETL** : Effective length of threads * 13. **NDT** : UT, **Reference Standard** 3.2 ⌀ Drilled Hole

SURVEYOR

WE HERYBY CERTIFY THAT THE MATERIAL HEREIN HAS BEEN MADE AND TESTED IN ACCORDANCE WITH THE ORDER AND ABOVE SPECIFICATION
THIS CERTIFICATE IS ISSUED ACCORDING TO EN 10204 3.1(ISO 10474 3.1 B)

MANAGER OF Q.A TEAM

본 검사증명서에 명기된 규격용도 외 사용시 안전상 문제가 발생할 수 있으며, 검사증명서 위·변조시 사문서 위조(형법231조)로 불이익을 당하실 수 있습니다.

ORIGINAL

QUALITY CERTIFICATE

주식회사 휴스틸
HUSTEEL Co., Ltd.

HEAD OFFICE SHINAN B/D 15F, 943-19, DAECHI-DONG, KANGAM-GU, SEOUL, KOREA
DAEBUL PLANT 3RO, DAEBUL INDUSTRIAL COMPLEX, SAMHO-EUP, YEONGAM-GUN, JEOLLANAM-DO, KOREA

P/O No. : 14109
L/C No. : M928598
ISSUED DATE : 2012.12.31
COMMODITY : E.R.W. STEEL PIPE
SPECIFICATION : API 5L-B/ASTM A53B

CERTIFICATE No. : 121231-437
MANUFACTURED No. : 2012-11-225
SUPPLIER : HUSTEEL CO., LTD.
CUSTOMER : PLESA ANAHUAC Y CIAS.,S.A. DE C.V.

NO.	HEAT_NO	QUAN-TITY	TYPE	NOMINAL SIZE	ORDER SIZE O.D	ORDER SIZE W.T	ORDER SIZE LENGTH	WEIGHT	TENSILE TEST DIR.	TS	YS	EL	YR	WTS
		PCS	*1		inch	inch	ft	lb/ft	*3	PSI		%	%	PSI
					*2				*4					
07	M59954	36	BPEB	16	16.000	0.500	20	82.85	T	69,035	57,287	41	83	67,730
08	285168	24	BPEB	16	16.000	0.500	20	82.85	T	69,180	49,166	44	71	78,027
09	M51960	44	BPEB	10 3/4	10.750	0.225	21	25.31	T	68,310	59,028	39	86	77,447

CHEMICAL COMPOSITION(%)

NO.	DIV	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti	B	CEQ	PCM
	*5	-2		-3						-4				-5	-3	
		*6														
07	H	5	1	76	15	4										
	P	5	1	78	14	4	20	8	34	10	14	330	7	10		
	P	5	1	78	14	4	19	8	34	10	14	326	7	10		
08	H	16	1	87	11	3										
	P	14	2	86	13	4	13	74	9	10	18	84	11	40		
	P	14	2	86	13	4	13	74	8	10	17	82	11	41		
09	H	6	2	72	10	4										
	P	11	5	70	12	8	16	6	27	10	14	206	5	24		
	P	7	5	72	11	4	17	7	27	13	13	203	4	18		

NO.	HYDROSTATIC TEST T.P	H.T	RESULT	HEAT TREATMENT	ZINC COATING TEST WZC	CST	THREADS TPI	ETL	HARDNESS TEST	IMPACT TEST (0) ℃ DIV	J (AVE)	SIZE
	PSI	sec		℃	g/㎡	TIMES		inch	HV	*7		*8
	*9			*10	*11		*12					
07	1340	5	GOOD	950								
08	1340	5	GOOD	950								
09	890	5	GOOD	930								

*13 N · D · T (UT)	FLATTENING OR BEND TEST	VISUAL& DIMENSION	METALLOGRAPHIC TEST	RESIDUAL MAGNETISM
GOOD	GOOD	GOOD	GOOD	GOOD
FLANGE TEST	REVERSE FLATTENING TEST	CRUSH TEST		

NOTE

*1.Type of Pipe Ends

BPE	Black Plain Ends	GPE	Galvanized Plain Ends
BPEB	BPE Bevelled	GPEB	GPE Bevelled
BTE	Black Threaded Ends	GTE	Galvanized Threaded Ends
BTC	BlackThreaded & Coupled	GTC	Galvanized Threaded& Coupled

* 2. **O.D** : Outsid Diameter, **W.T** : Wall Thickness *3. Direction- **L** : Longitudinal, **T** : Transverse
* 4. **Tensile Test -TS** : Tensile Strength, **YS** : Yield Strength, **YR** : Yield Ratio, **EL** : Elongation, **WTS** : Weld tensile strength, **Gauge Length** : 2 inch, **Y.P method** : 0.5% Underload
* 5. **H** : Heat analysis, **P** : Product analysis * 6. **-2** : x1/100, **-3** : x1/1000, **-4** : x1/10000, **-5** : x1/10000, **Tr** :Trace * 7. **B** : Base Metal, **W** : Weld Line, **H** : Heat Affected Zone
* 8. **Specimen Size -A** :10x10mm, **B** :10x7.5mm, **C** :10x6.6mm, **D**:10x5.0mm, **Direction**: Transverse * 9. **T.P** : Testing Pressure, **H.T** : Holding Time * 10. **Heat Treatment** Seam Normalising
* 11. **WZC** : Weight of Zinc Coating, **CST** : Copper Sulphate Test * 12. **TPI** : Threads per inch, **ETL** : Effective length of threads * 13. **NDT** : UT, **Reference Standard** 3.2 ℃ Drilled Hole

SURVEYOR

WE HERYBY CERTIFY THAT THE MATERIAL HEREIN HAS BEEN MADE AND TESTED IN ACCORDANCE WITH THE ORDER AND ABOVE SPECIFICATION
THIS CERTIFICATE IS ISSUED ACCORDING TO EN 10204 3.1(ISO 10474 3.1 B)

MANAGER OF Q.A TEAM

본 검사증명서에 명기된 규격용도 외 사용시 안전상 문제가 발생할 수 있으며, 검사증명서 위 · 변조시 사문서 위조(형법231조)로 불이익을 당하실 수 있습니다.