QUALITY CERTIFICATE

주식회사 휴스틸
HUSTEEL Co., Ltd.
HEAD OFFICE : SHINAN B/D 15F, 943-19, DAECHI-DONG, KANGNAM-GU, SEOUL, KOREA
DAEBUL PLANT : 3RO, DAEBUL INDUSTRIAL COMPLEX, SAMHO-EUP, YEONGAM-GUN, JEOLLANAM-DO, KOREA

P/O No. : 23804
L/C No. : M934747
ISSUED DATE : 2016.09.29
COMMODITY : E.R.W SQUARE STEEL PIPE
SPECIFICATION : ASTM A500 GRADE-B

CERTIFICATE No. : 160929-258
MANUFACTURED No. : 16-08-212
SUPPLIER : HUSTEEL CO., LTD.
CUSTOMER : PLESA ANAHUAC Y CIAS S.A. DE C.V.

Original certificate can be verified through QReal Application.

NO.	HEAT_NO	QUANTITY	TYPE	ORDER SIZE			WEIGHT	TENSILE TEST						CHEMICAL COMPOSITION(%)															
				SIDE LENGTH	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		inch	inch	ft	lb/ft		PSI		%	%	PSI		-2		-3					-4					-5	-3	
			*1	*2				*3	*4					*5	*6														
01	N97980	18	BPE	10"X10"	0.500	40	62.47	T	68,890	59,463	37	86		P	14	1	49	10	4										
02	N99122	19	BPE	10"X10"	0.500	40	62.47	T	74,111	64,829	36	87		P	13	1	46	10	4										
03	SP60823	27	BPE	10"X10"	0.375	40	47.78	T	71,355	56,852	38	80		P	16	1	50	8	4										
04	SP61231	24	BPE	10"X10"	0.375	40	47.78	T	74,256	59,173	36	80		P	18	1	51	8	5										
05	SP60823	60	BPE	10"X10"	0.312	40	40.17	T	74,111	58,448	36	79		P	17	1	51	9	4										
06	G29988	12	BPE	16"X16"	0.500	40	103.31	T	70,340	62,218	37	88		P	17	2	47	16	5										
07	G29987	12	BPE	16"X16"	0.500	40	103.31	T	70,630	59,173	39	84		P	17	2	47	16	5										
08	G29986	12	BPE	16"X16"	0.500	40	103.31	T	71,065	61,928	37	87		P	16	2	47	17	5										
09	G29999	24	BPE	16"X16"	0.500	40	103.31	T	68,600	54,387	36	79		P	17	2	47	16	5										

NO.	HYDROSTATIC TEST			HEAT TREATMENT	ZINC COATING TEST		THREADS		HARDNESS TEST	IMPACT TEST (0) ℃			*13 N · D · T (UT)	FLATTENING OR BEND TEST	VISUAL& DIMENSION	METALLOGRAPHIC TEST	RESIDUAL MAGNETISM
	T.P	H.T	RESULT		WZC	CST	TPI	ETL							GOOD		
	PSI	sec		℃	g/㎡	TIMES		mm	HV	DIV	J (AVE)	SIZE	FLANGE TEST	REVERSE FLATTENING TEST	CRUSH TEST		
	*9			*10	*11		*12			*7		*8					
01																	
02																	
03																	
04																	
05																	
06																	
07																	
08																	
09																	

Latest edition per ASTM(2013)

COPY

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** : Outside 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** : x1/100000, **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 Normalizing
*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)

Chul Sang Lee
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.
HUSTEEL

QUALITY CERTIFICATE

주식회사 휴스틸
HUSTEEL Co., Ltd.

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

P/O No. : 23804
L/C No. : M934747

ISSUED DATE : 2016.09.29

COMMODITY : E.R.W SQUARE STEEL PIPE

SPECIFICATION : ASTM A500 GRADE-B

CERTIFICATE No. : 160929-258

MANUFACTURED No. : 16-08-212

SUPPLIER : HUSTEEL CO., LTD.

CUSTOMER : PLESA ANAHUAC Y CIAS S.A. DE C.V.

Original certificate can be verified through QReal Application.

NO.	HEAT_NO	QUANTITY	TYPE	ORDER SIZE			WEIGHT	TENSILE TEST						CHEMICAL COMPOSITION(%)															
				SIDE LENGTH	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														
10	G29985	12	BPE	16"X16"	0.500	40	103.31	T	69,760	59,463	36	85		P	13	1	45	9	11										
11	N96008	12	BPE	16"X16"	0.500	40	103.31	T	65,844	54,677	43	83		P	6	2	80	9	5										
12	G30039	12	BPE	16"X16"	0.500	40	103.31	T	68,165	53,227	40	78		P	16	1	46	14	4										
13	G30034	12	BPE	16"X16"	0.500	40	103.31	T	67,150	57,723	34	86		P	12	2	45	12	4										
14	SU76414	44	BPE	16"X16"	0.375	40	78.33	T	70,195	55,837	35	80		P	14	1	48	9	3										
15	G30048	5	BPE	16"X16"	0.625	40	127.58	T	71,065	62,654	37	88		P	16	1	47	16	5										
16	G29991	1	BPE	16"X16"	0.625	40	127.58	T	68,455	57,287	39	84		P	14	1	48	10	5										
17	G29990	8	BPE	16"X16"	0.625	40	127.58	T	69,180	59,463	39	86		P	16	1	46	14	4										

NO.	HYDROSTATIC TEST			HEAT TREATMENT	ZINC COATING TEST		THREADS		HARDNESS TEST	IMPACT TEST (0) ℃			*13 N · D · T (UT)	FLATTENING OR BEND TEST	VISUAL& DIMENSION	METALLOGRAPHIC TEST	RESIDUAL MAGNETISM
	T.P	H.T	RESULT		WZC	CST	TPI	ETL							GOOD		
	PSI	sec		℃	g/m²	TIMES		mm	HV	DIV	J (AVE)	SIZE	FLANGE TEST	REVERSE FLATTENING TEST	CRUSH TEST		
	*9			*10	*11		*12			*7		*8					
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	

Latest edition per ASTM(2013)

COPY

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** : Outside 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** : x1/100000, **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 Normalizing
*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)

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.
HUSTEEL