Heat: S17282
Your PO: P0235671-15
Order: 284065 X 0.432" ERW A53/API5L GR B/X-42 PEB SRL
Line: 2

# INSPECTION CERTIFICATE

P/O No. : 310364-00
L/C No. : HU20110829001

ISSUED DATE : 2022.07.13
COMMODITY : H.F.W STEEL PIPE / E.R.W STEEL PIPE
SPECIFICATION : API 5L X42 PSL1/5LB PSL1/ ASTM A53B/ASME SA53B

주식회사 휴스틸
**HUSTEEL Co., Ltd.**
HEAD OFFICE SHINAN B/D 15F, 943-19, DAECHI-DONG, KANGNAM-GU, SEOUL, KOREA
DANGJIN PLANT 131, BUGOKGONGDAN STREET, SONGAK-EUP, DANGJIN-SI, CHUNGCHEONGNAM-DO, KOREA

CERTIFICATE No. : 220713-225
MANUFACTURED No. : 22-05-007-0
SUPPLIER : HUSTEEL CO., LTD.
CUSTOMER : HUSTEEL USA INC.

Original certificate can be verified through QReal Application

| NO. | HEAT_NO | QUAN-TITY | TYPE | NOMINAL SIZE | ORDER SIZE O.D | ORDER SIZE W.T | ORDER SIZE LENGTH | WEIGHT |
|---|---|---|---|---|---|---|---|---|
| | | PCS | *1 | | inch | inch | ft | lb/ft |
| 01 | S17286 | 207 | BPEB | 6 | 6.625 | 0.280 | 21 | 18.99 |
| 02 | S17282 | 7 | BPEB | 6 | 6.625 | 0.432 | 42 | 28.60 |
| 03 | S21439 | 7 | BPEB | 8 | 8.625 | 0.188 | 42 | 16.96 |

| NO. | TENSILE TEST Ori. TYPE *3 | TS PSI *4 | YS PSI *4 | EL % | YR % | WTS PSI |
|---|---|---|---|---|---|---|
| 01 | L | 68,020 | 61,928 | 37 | 91 | |
| 02 | L | 70,340 | 67,440 | 33 | 95 | |
| 03 | T | 64,539 | 55,112 | 39 | 85 | 66,714 |

| NO. | DIV *5 | CHEMICAL COMPOSITION(%) C -2 | Si -2 | Mn -2 | P -3 | S -3 | Cu -3 | Ni -3 | Cr -3 | Mo -4 | V -4 | Nb -4 | Ti -4 | B -5 | CE IIW -3 | CE Pcm -3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | *6 | | | | | | | | | | | | | | |
| 01 | H | 6 | 2 | 74 | 16 | 5 | 23 | 10 | 30 | TR | TR | 180 | 10 | 10 | | |
| | P | 6 | 2 | 75 | 15 | 5 | 29 | 12 | 30 | 34 | 10 | 132 | 7 | 10 | | |
| | P | 6 | 2 | 75 | 15 | 5 | 30 | 11 | 31 | 35 | 17 | 137 | 7 | 10 | | |
| 02 | H | 6 | 1 | 70 | 14 | 7 | 26 | 10 | 30 | 10 | 10 | 220 | 10 | 10 | | |
| | P | 6 | 1 | 68 | 12 | 6 | 15 | 7 | 25 | 25 | 11 | 205 | 7 | 10 | | |
| | P | 6 | 1 | 68 | 13 | 6 | 15 | 6 | 24 | 24 | 12 | 202 | 7 | 10 | | |
| 03 | H | 7 | 1 | 75 | 15 | 7 | 23 | 10 | 30 | TR | 10 | 140 | TR | 30 | | |
| | P | 7 | 1 | 73 | 16 | 5 | 39 | 13 | 27 | 13 | 12 | 147 | 9 | 10 | | |
| | P | 7 | 1 | 73 | 17 | 5 | 41 | 10 | 28 | 10 | 15 | 156 | 10 | 10 | | |

| NO | HYDROSTATIC TEST T.P MPa *9 | HYDROSTATIC TEST H.T sec *9 | HYDROSTATIC TEST RESULT *9 | HEAT TREATMENT ℃ *10 | ZINC COATING TEST WZC g/㎡ *11 | ZINC COATING TEST CST TIMES *11 | THREADS TPI *12 | THREADS ETL mm *12 | HARDNESS TEST HV | IMPACT TEST ( 0 ) ℃ DIV *7 | IMPACT TEST Energy (Ind, J) | IMPACT TEST SIZE *8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 2670 | 5 | GOOD | 900 | | | | | | | | |
| 02 | 2970 | 5 | GOOD | 950 | | | | | | | | |
| 03 | 1380 | 5 | GOOD | 850 | | | | | | | | |

| *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 | | |
| | | | | |

- Latest edition per API (46th,2018) ASTM(2020) ASME(2021)
- Confirm to NACE MR 0175 and MR 0103 ; Chemical Composition, Heat Treatment, Hardness
- Manufacturing - Pipe : Husteel(Dangjin Works, Korea)
  Coil Rolling / Steel Making : HYUNDAI STEEL(Dangjin Works), POSCO(Gwangyang Works) / Korea
- MELTED AND POURED IN KOREA
- EN 10204.3.1

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. Orientation & Type(Location) - **L** : Longitudinal Strip(Pipe body, L90), **T** : Transverse Strip(Pipe body, T180 & Seam weld, W), **F** : Full Size Longitudinal, Size - 38.1mm(O.D 170mm above), 25.4mm(O.D 60.3 ~ 170mm), 19.1mm(O.D 50mm and below), Full Size(O.D 27.2mm and below)
* 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** Pipe body(T90) **W** : Seam weld(W), **H** : Heat Affected Zone
* 8. **Specimen Size** - **A** 10x10mm, **B** 10x7.5mm, **C** 10x6.6mm, **D** 10x5.0mm, **E** 10x3.3mm **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** 3.2ϕ Drilled Hole

SURVEYOR

WE HEREBY 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)

S.G. Lee
MANAGER OF Q.A TEAM

HMC C-30-05-(21)

HUSTEEL