

Inspection Certificate (EN10204 3.1)

472 S044



CUSTOMER : Southwest S&A

PO. NO. : 606836

MPS. NO. : N/A

PROJECT NAME : N/A

SPECIFICATION : ASTM A182 F304/F304L-17

ASME SA182 F304/F304L-2017ED

Felix Metal Tech Co., Ltd.

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CERTIFICATE NO. : FV181103-033

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DATE : 2018-11-03

| Description | Lot No. | Tension Test *1 | | | | | | Hardness Test | Impact Test | | | | | | | |
|--|---------|----------------------------|------------------|-------|------|-------|-------|---------------|-------------|------------|--------------------------------------|----|---|----|----|------|
| | | *2 | Size of Specimen | | Y.S. | T.S. | E.L. | | R.A. | Temp. : °C | Notch : mmV | | | | | |
| | | | D | G.L. | | | | | | | | | | | | |
| | | | mm | mm | MPa | | % | % | HBW | Min. | Avg. | | | | | |
| 1 #150 BL RF 3" | 3 | Spec. Min. Max. CODM24 | T | 12.5 | 50 | 314.1 | 596.3 | 64.8 | 76.2 | 237 | 159, 159 | | | | | |
| ===== << B L A N K >> ===== | | | | | | | | | | | | | | | | |
| TOTAL | 3 | | | | | | | | | | | | | | | |
| Heat Treatment *4 | | Chemical Composition(%) *3 | | | | | | | | | | | | | | |
| S : 1050°C x 2.0 hrs, WC | | Heat No. | Spec. Min. Max. | C | Si | Mn | P | S | Ni | Cr | Mo | Cu | V | Nb | Al | N |
| | | H10208 | H | 0.03 | 1.00 | 2.00 | 0.045 | 0.030 | 8.00 | 18.00 | | | | | | 0.10 |
| | | | | 0.017 | 0.30 | 1.67 | 0.039 | 0.022 | 8.10 | 18.30 | | | | | | 0.10 |
| Dimension & Visual | | | | UT | | | MT | | | PT | | | | | | |
| Accepted (ASME B16.5-2013) | | | | N/A | | | N/A | | | N/A | | | | | | |
| Abbreviation | | | | | | | | | | | | | | | | |
| *1. Tension Test : Y.S. = Yield Strength, T.S. = Tensile Strength, E.L. = Elongation, R.A. = Reduction of Area, G.L. = Gauge Length(mm), D. = Diameter(Ø) | | | | | | | | | | | | | | | | |
| *2. Location : L = Longitudinal, Tr = Transverse, T = Tangential, R = Radial | | | | | | | | | | | | | | | | |
| *3. Chemical Composition : H = Heat Analysis, P = Product Analysis | | | | | | | | | | | | | | | | |
| *4. Heat Treatment : N = Normalized, A = Annealed, Q = Quenched, T = Tempered, S = Solution Treated, S.R. = Stress Relieved, A.C. = Air Cooled, W.C. = Water Cooled, F.C. = Furnace Cooled | | | | | | | | | | | | | | | | |
| *5. CE : C+Mn/6+(Cr+Mo+V)/5+(Ni+Cu)/15 | | | | | | | | | | | | | | | | |
| We hereby certify that the material herein has been tested, inspected and satisfied in accordance with the above specification. | | | | | | | | | | | T. X. Thu Manager / Q.M. Team | | | | | |
| Surveyor | | | | | | | | | | | | | | | | |