# MANUFACTURER'S CERTIFICATE

(Mill Test Certificate) DIN 50049-3.1-B / EN 10204-3.1

| | | | |
|---|---|---|---|
| Purchaser | : PROVEEDORA DE MATERIALES ANCER SA DE C.V. | Certificate No | : 110121 |
| Product | :CARBON STEEL PIPE FITTINGS | Order No | : PO. 249 |
| Specification | : ASTM A-234 WPB - 2006A | Date | : FEBRUARY 7, 2011 |
| | : ASME SA234 WPB | L/C No | : Y000588 |

| Raw Material Standard | Inspection Standard | Visual Inspection | |
|---|---|---|---|
| PIPE : ASTM A106 B/ A53B / API5LB<br>PLATE : ASTM A516 Gr 50 / 60 | ANSI B16.9<br>ANSI B16.28 | PASS | PASS |

| | Product & Size (inch) | | Heat ID. | Quantity | Heat NO. | Raw Material Maker | |
|---|---|---|---|---|---|---|---|
| 1 | 90 ELBOW LR XH | 2" | 879 | 200 | 566879 | B.T.L. | 65-060152/001/2634 |
| 2 | 45 ELBOW LR XH | 6" | 459 | 100 | 566459 | B.T.L. | 65-053864/001/2634 |
| 3 | TEE XH | 3" | 395 | 160 | J31C395 | S.M.I. | BYYJ3242 |
| 4 | TEE XH | 14" | 062 | 1 | 83062 | M.N.M. | 90015395 |
| 5 | TEE XH | 18" | 921 | 4 | 986921 | D.L.M. | 99/01500 |
| | PTU-MXPMS-10-0120ADC (PO.243) | | | | | | |
| 6 | 45 ELBOW LR STD | 3" | 377 | 300 | 567377 | B.T.L. | 65-062308/001/2634 |
| 7 | 45 ELBOW LR STD | 4" | 156 | 300 | 567156 | B.T.L. | 65-062308/001/2634 |
| 8 | 45 ELBOW LR STD | 6" | 138 | 240 | 567138 | B.T.L. | 65-062308/001/2634 |
| 9 | 90 ELBOW LR XH | 3" | 551 | 600 | 561551 | B.T.L. | D124.363 |
| 10 | 45 ELBOW LR XH | 20" | 065 | 1 | J338065 | S.M.I. | 1Y032381 |

| Standard | Chemical Composition % | | | | | | | | | | | | Mechanical Test | | | Average Hardness | CE Long Formula |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | C | Si | Mn | P | S | Cu | Ni | Cr | Mo | V | Nb | Al | YS | TS | E | | |
| | x 100 | x 100 | x 100 | x 1000 | x 1000 | x 100 | x 100 | x 100 | x 100 | x 100 | x 1000 | x 1000 | psi | psi | % | Hb | x 100 |
| Min. | - | 10 | 29 | - | - | - | - | - | - | - | - | - | 35,000 | 60,000 | 30 | - | - |
| Max. | 30 | - | 106 | 48 | 58 | 40 | 40 | 40 | 15 | 8 | - | 50 | - | 85,000 | - | 197 | 42 |
| 1 | 13 | 17 | 75 | 10 | 2 | 11 | 8 | 10 | 2 | 1 | - | - | 51400 | 67800 | 30 | 158 | 29 |
| 2 | 13 | 14 | 76 | 7 | 1 | 9 | 6 | 4 | 2 | 1 | - | - | 43500 | 63500 | 38 | 135 | 28 |
| 3 | 19 | 17 | 51 | 19 | 11 | 1 | 3 | 5 | 1 | 0 | - | - | 44200 | 66400 | 59 | 148 | 29 |
| 4 | 15 | 20 | 67 | 11 | 4 | 0 | 1 | 1 | 2 | 0 | - | - | 47300 | 65900 | 44 | 140 | 27 |
| 5 | 16 | 22 | 84 | 9 | 4 | 15 | 8 | 9 | 3 | 3 | - | - | 45600 | 72900 | 42 | 137 | 35 |
| 6 | 14 | 16 | 78 | 9 | 2 | 9 | 7 | 9 | 2 | 1 | - | - | 49600 | 66100 | 38 | 167 | 30 |
| 7 | 13 | 15 | 76 | 7 | 2 | 8 | 5 | 9 | 3 | 1 | - | - | 44900 | 61900 | 38 | 157 | 28 |
| 8 | 13 | 15 | 77 | 6 | 2 | 7 | 5 | 6 | 1 | 1 | - | - | 48100 | 64500 | 38 | 162 | 28 |
| 9 | 13 | 16 | 76 | 7 | 3 | 10 | 8 | 7 | 3 | 1 | - | - | 43600 | 64300 | 42 | 155 | 29 |
| 10 | 20 | 20 | 55 | 18 | 13 | 1 | 2 | 3 | 0 | 0 | - | - | 51700 | 71400 | 38 | 166 | 30 |

- We hereby certify that the products described herein have been manufactured, inspected and conforms to standard as specified above.
- Abbreviation : JFE = JFE STEEL CORP BTL = BENTELER, GERMANY SDC = SIDERCA, ARGENTINA
  SMI = SUMITOMO, JAPAN DLM = DALMINE, ITALY MNM=MANNESMANN
- ALL FITTINGS ARE HEAT TREATED TO MEET NACE MR0175-03 STANDARD SPECIFICATION AT 650-680 C x 1.0 HR.
- CE = C + (Mn/6) + (Cr + Mo + V)/5 +( Ni+Cu)/15
- ALL TEES ARE TESTED BY MAGNETIC PARTICLE EXAMINATION (MT)

Chief of Quality Assurance Dept