

CERTIFICADO DE CALIDAD
INSPECTION CERTIFICATE
 (DIN EN 10204:2004E - ISO 10474 3.1.B)

Número:
 Number: 22607

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| Vendido a: Sold to: PLESA ANAHUAC Y CIA. S.A. DE C.V. | Pedido del Cliente No: Customers Order No: 6636 - 6645 | Lista de Empaque: Packing List: 11518 | Fecha/Date: 9 de Julio de 2009 |
| Especificaciones y Grados / Standard or Specification and Steel Grade Seamless Fittings according to ASTM A 234M WPB-07, NACE MR 01.75-2003 Conform to ASME II Ed. 2001 ASME SA-234M Grade WPB, NACE MR0103-2003 | Dimensiones y tolerancias / Dimension and tolerances ASME B 16.9 - 2007 and ASME B 16.28 - 1994 | | Factura/Invoice: Bocas / Ends Biselado / Bevelled ends |

| DESCRIPCION DE MATERIAL / MATERIAL DESCRIPTION | | | | PRUEBAS MECANICAS / MECHANICAL TEST | | | | PRUEBA DE IMPACTO 0°C / IMPACT TEST 0°C | | | | |
|--|------------------|-------------------|---------------------------|-------------------------------------|-------------------------------------|------------|---------------------|---|----------|----------|----------|-------------------------|
| ART. ITEM | COLADA HEAT CODE | CANTIDAD QUANTITY | DESCRIPCION / DESCRIPTION | ESF. CEDENCIA YIELD STRENGTH (Mpa) | ESF. RUPTURA TENSILE STRENGTH (Mpa) | ELONG. %2" | DUREZA HARDNESS HBW | DIMENSIONES SAMPLE DIM mm | 1 Joules | 2 Joules | 3 Joules | PROMEDIO AVERAGE Joules |
| 12 | T42086 | 30 | CODO 8 X 45° CED-STD | 270 | 434 | 36 | 129 | | | | | |
| 13 | T41466 | 5 | CODO 8 X 45° CED-STD | 276 | 471 | 39 | 109 | | | | | |
| 14 | T42773 | 60 | CODO 8 X 90° R.L. CED-STD | 365 | 494 | 34 | 106 | | | | | |
| 15 | T39855 | 21 | CODO 12 X 45° SHC-80 | 292 | 481 | 54 | 118 | | | | | |
| 16 | T41272 | 5 | CODO 12 X 45° SHC-80 | 301 | 500 | 50 | 122 | | | | | |
| 17 | T43376 | 10 | TEE RED. 8 X 4 CED-STD | 3294 | 4961 | 43 | 120 | | | | | |
| 18 | T27384 | 1 | TEE RED. 10 X 6 CED-XS | 319 | 498 | 44 | 97 | | | | | |
| 19 | T38336 | 6 | TEE RED. 10 X 6 CED-XS | 303 | 476 | 40 | 92 | | | | | |
| 20 | T36472 | 13 | TEE RED. 10 X 6 CED-XS | 326 | 498 | 37 | 93 | | | | | |
| 21 | T38477 | 5 | TEE 12 CED-20 | 310 | 476 | 39 | 99 | | | | | |
| 22 | T21227 | 100 | CODO 1 X 45° CED-STD | 289 | 417 | 51 | 122 | | | | | |

| ANALISIS QUIMICO / CHEMICAL ANALYSIS | | | | | | | | | | | | | | Certificamos que los resultados de los Análisis Químicos y Pruebas Mecánicas son verdaderos o una copia fiel de los certificados enviados por el Fabricante y/o el proveedor | | |
|--------------------------------------|------------------|------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|--|--|
| PROCESO PROCESS | COLADA HEAT CODE | COLADA/HEAT M.P./MOTHER PIPE | %C.E. | %C | %Mn | %P | %S | %Si | %Cr | %Cu | %Mo | %Ni | %V | %Nb | | |
| HF | T42086 | 42086 | 0.300 | 0.170 | 0.670 | 0.009 | 0.001 | 0.280 | 0.050 | 0.064 | 0.011 | 0.030 | 0.000 | 0.000 | de Materia Prima (Tubería Sin Costura) conforme ASTM A106 Grado B con N°: | |
| HF | T41466 | 41466 | 0.310 | 0.180 | 0.670 | 0.010 | 0.002 | 0.280 | 0.040 | 0.061 | 0.006 | 0.030 | 0.000 | 0.000 | We certify that result of chemical analysis and mechanical test are true and correct | |
| HF | T42773 | 42773 | 0.310 | 0.180 | 0.670 | 0.016 | 0.001 | 0.260 | 0.040 | 0.071 | 0.023 | 0.030 | 0.000 | 0.000 | copy of the test certificate issued by the manufacturer and/or supplier Raw | |
| HF | T39855 | 39855 | 0.310 | 0.180 | 0.670 | 0.013 | 0.003 | 0.290 | 0.040 | 0.056 | 0.008 | 0.030 | 0.000 | 0.000 | material (Seamless Pipe) certs conform to ASTM A106 Grade B N°: | |
| HF | T41272 | 41272 | 0.350 | 0.190 | 0.820 | 0.017 | 0.002 | 0.310 | 0.060 | 0.040 | 0.011 | 0.030 | 0.000 | 0.000 | 8064909 8052365 9002651 8063991 8054890 9022140 | |
| HF | T43376 | 43376 | 0.300 | 0.170 | 0.690 | 0.015 | 0.004 | 0.280 | 0.040 | 0.062 | 0.013 | 0.030 | 0.000 | 0.000 | 6028007 8014054 8034710 8023170 6612 | |
| HF | T27384 | 27384 | 0.340 | 0.190 | 0.790 | 0.009 | 0.002 | 0.290 | 0.050 | 0.064 | 0.014 | 0.030 | 0.000 | 0.000 | | |
| HF | T38336 | 38336 | 0.310 | 0.180 | 0.670 | 0.009 | 0.001 | 0.260 | 0.050 | 0.064 | 0.014 | 0.030 | 0.000 | 0.000 | | |
| HF | T36472 | 36472 | 0.320 | 0.170 | 0.760 | 0.011 | 0.002 | 0.280 | 0.060 | 0.063 | 0.028 | 0.030 | 0.000 | 0.000 | "Este material cumple con los requerimientos especificados en la orden". | |
| HF | T38477 | 38477 | 0.310 | 0.170 | 0.680 | 0.008 | 0.001 | 0.280 | 0.050 | 0.074 | 0.029 | 0.040 | 0.000 | 0.000 | "The material of this certificate heat number mentioned above is in compliance | |
| HF | T21227 | 21227 | 0.290 | 0.160 | 0.650 | 0.009 | 0.001 | 0.250 | 0.060 | 0.021 | 0.040 | 0.022 | 0.001 | 0.000 | with the requirements specified in the order". | |

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| Notas: Formado en caliente a 620°C-980°C, enfriado al aire; Formado en frío normalizado a 940°C max. Tiempo de permanencia 10'. Inspección Dimensional: Satisfactoria. HF: FORMADO EN CALIENTE/HOT FORMED | Notes: Hot formed fittings in a range from 620°C to 980°C, cooled in still air. Cold formed normalized at 940°C max. Holding time 10'. Visual dimensional check: Satisfactory CF: FORMADO EN FRIO/COLD FORMED | The Products described herein were produced in accordance with the above referenced specification and are identified with the "R" which is permanently marked on each fitting / The values of hardness for fittings NPS 2 1/2" and smaller ones obtain from the conversion of hardness Rockwell B to hardness Brinell HBW by means of table WILSON DESK CHART 60. Los valores de dureza para conexiones de NPS de 2 1/2" y menores, se obtienen de la conversión de dureza Rockwell B a dureza Brinell HBW mediante la tabla WILSON DESK CHART 60. |
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Quality Manager / Jefe de Calidad:
 ING. WALDO GALLEGOS GALVAN