

| | | | |
|--|--|--------------------|--------------|
| CERTIFICADO DE CALIDAD INSPECTION CERTIFICATE (DIN EN 10204:2004E - ISO 10474 3.1.B) | | Numero: Number: | Pagina/Page: |
| | | 28621 | 1 |

| | | | | | | | |
|--|-----------------------------------|--|-------|------------------------------------|--|-------------|---------------------|
| Vendido a: Sold to: | PLESA ANAHUAC Y CIA. S.A. DE C.V. | Pedido del Cliente No: Customers Order No: | 18308 | Lista de Empaque: Packing List: | 14912 | Fecha/Date: | 18 de junio de 2014 |
| Especificaciones y Grados / Standard or Specification and Steel Grade Seamless Fittings according to ASTM A 234 WPB-13e Conform to ASME II Ed. 2001 ASME SA-234, Grade WPB | | Dimensiones y tolerancias / Dimension and tolerances ASME B 16.9 - 2007 | | | 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 |
| 1 | T7533 | 16 | CODO 6 X 90° R.C. CED-STD | 312 | 452 | 30 | 143 | | | | | |
| 2 | T5584 | 1 | CODO 6 X 90° R.C. CED-STD | 333 | 500 | 38 | 163 | | | | | |
| 3 | T5875 | 11 | CODO 6 X 90° R.C. CED-STD | 302 | 492 | 34 | 148 | | | | | |
| 4 | T4887 | 2 | CODO 6 X 90° R.C. CED-STD | 329 | 494 | 41 | 132 | | | | | |
| 5 | T7537 | 10 | CODO 6 X 90° R.C. CED-STD | 278 | 482 | 34 | 152 | | | | | |
| 6 | T68667 | 1 | CODO 10 X 45° CED-XS | 273 | 472 | 37 | 138 | | | | | |
| 7 | T65956 | 1 | CODO 10 X 45° CED-XS | 275 | 457 | 38 | 148 | | | | | |
| 8 | T63913 | 1 | CODO 10 X 45° CED-XS | 328 | 488 | 37 | 148 | | | | | |
| 9 | T69256 | 5 | CODO 10 X 45° CED-XS | 309 | 490 | 36 | 146 | | | | | |
| 10 | T65622 | 17 | TEE 10 CED-STD | 332 | 476 | 36 | 145 | | | | | |
| 11 | T64971 | 7 | TEE 10 CED-STD | 312 | 475 | 37 | 143 | | | | | |

| ANALISIS QUIMICO / CHEMICAL ANALYSIS | | | | | | | | | | | | | | |
|--------------------------------------|------------------|------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 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 | T7533 | 7533 | 0.300 | 0.170 | 0.710 | 0.006 | 0.002 | 0.270 | 0.020 | 0.037 | 0.007 | 0.020 | 0.000 | 0.000 |
| HF | T5584 | 5584 | 0.310 | 0.170 | 0.770 | 0.004 | 0.001 | 0.310 | 0.020 | 0.036 | 0.008 | 0.020 | 0.000 | 0.000 |
| HF | T5875 | 5875 | 0.320 | 0.180 | 0.780 | 0.005 | 0.001 | 0.320 | 0.020 | 0.023 | 0.007 | 0.020 | 0.000 | 0.000 |
| HF | T4887 | 4887 | 0.290 | 0.160 | 0.740 | 0.005 | 0.002 | 0.330 | 0.020 | 0.030 | 0.005 | 0.020 | 0.000 | 0.000 |
| HF | T7537 | 7537 | 0.310 | 0.180 | 0.710 | 0.005 | 0.001 | 0.270 | 0.030 | 0.042 | 0.007 | 0.020 | 0.000 | 0.000 |
| HF | T68667 | 68667 | 0.300 | 0.170 | 0.680 | 0.006 | 0.001 | 0.260 | 0.040 | 0.062 | 0.013 | 0.030 | 0.000 | 0.000 |
| HF | T65956 | 65956 | 0.310 | 0.180 | 0.670 | 0.008 | 0.001 | 0.310 | 0.050 | 0.065 | 0.017 | 0.030 | 0.000 | 0.000 |
| HF | T63913 | 63913 | 0.300 | 0.170 | 0.670 | 0.015 | 0.001 | 0.290 | 0.050 | 0.056 | 0.020 | 0.030 | 0.000 | 0.000 |
| HF | T69256 | 69256 | 0.300 | 0.170 | 0.660 | 0.010 | 0.001 | 0.300 | 0.060 | 0.072 | 0.021 | 0.040 | 0.000 | 0.000 |
| HF | T65622 | 65622 | 0.310 | 0.180 | 0.670 | 0.015 | 0.001 | 0.280 | 0.050 | 0.057 | 0.011 | 0.040 | 0.000 | 0.000 |
| HF | T64971 | 64971 | 0.320 | 0.180 | 0.660 | 0.009 | 0.001 | 0.290 | 0.060 | 0.056 | 0.033 | 0.040 | 0.000 | 0.000 |

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 de Materia Prima (Tubería Sin Costura) conforme ASTM A106 Grado B con N°:
We certify that result of chemical analysis and mechanical test are true and correct copy of the test certificate issued by the manufacturer and/or supplier Raw material (Seamless Pipe) certs conform to ASTM A106 Grade B N°:
14025112 13015017 13024731 12062304 14009634 13093398 13049730 13016397 14004267 13036983 13032086
"Este material cumple con los requerimientos especificados en la orden".
"The material of this certificate heat number mentioned above is in compliance with the requirements specified in the order".

| | | | |
|---|--|--|--|
| 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 | Quality Manager/Jefe de Calidad: ING. WALDO GALLEGOS GALVAN | 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. MATERIAL ACCORDING TO NACE MR0175 / ISO 15156-1, 2009 AND NACE MR0103, 2012 ONLY HARDNESS |
|---|--|--|--|

| | | | |
|--|--|-----------------------------|-------------------|
| CERTIFICADO DE CALIDAD INSPECTION CERTIFICATE (DIN EN 10204:2004E - ISO 10474 3.1.B) | | Numero: Number: 28619 | Pagina/Page: 2 |
|--|--|-----------------------------|-------------------|

| | | | |
|---|---|---|---|
| Vendido a: Sold to: PLESA ANAHUAC Y CIA. S.A. DE C.V. | Pedido del Cliente No: Customers Order No: 18096 - 18336 | Lista de Empaque: Packing List: 14912 | Fecha/Date: 18 de junio de 2014 |
| Especificaciones y Grados / Standard or Specification and Steel Grade Seamless Fittings according to ASTM A 234 WPB-13e Conform to ASME II Ed. 2001 ASME SA-234, Grade WPB | Dimensiones y tolerancias / Dimension and tolerances ASME B 16.9 - 2007 | | 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 | T5967 | 60 | CODO 8 X 90° R.L. CED-STD | 301 | 484 | 32 | 146 | | | | | |
| 13 | T65622 | 1 | TEE 10 CED-STD | 332 | 476 | 36 | 145 | | | | | |
| 14 | T64971 | 12 | TEE 10 CED-STD | 312 | 475 | 37 | 143 | | | | | |
| 15 | T62907 | 5 | TEE 10 CED-STD | 326 | 470 | 39 | 149 | | | | | |
| 16 | T70009 | 6 | TEE 10 CED-STD | 318 | 477 | 37 | 137 | | | | | |
| 17 | T71010 | 10 | TEE RED. 10 X 6 CED-STD | 304 | 454 | 33 | 133 | | | | | |
| 18 | T65030 | 7 | CODO 14 X 90° R.L. CED-40 | 260 | 459 | 38 | 154 | | | | | |
| 19 | T65689 | 2 | CODO 14 X 90° R.L. CED-40 | 273 | 446 | 39 | 144 | | | | | |
| 20 | T65886 | 3 | CODO 14 X 90° R.L. CED-40 | 248 | 439 | 39 | 145 | | | | | |
| 21 | T68667 | 8 | CODO 10 X 45° CED-80 | 307 | 474 | 40 | 146 | | | | | |
| 22 | T69560 | 2 | CODO 10 X 45° CED-80 | 310 | 487 | 44 | 118 | | | | | |

| ANALISIS QUIMICO / CHEMICAL ANALYSIS | | | | | | | | | | | | | | |
|--------------------------------------|------------------|------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 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 | T5967 | 5967 | 0.320 | 0.180 | 0.760 | 0.005 | 0.001 | 0.310 | 0.020 | 0.047 | 0.006 | 0.020 | 0.000 | 0.000 |
| HF | T65622 | 65622 | 0.310 | 0.180 | 0.670 | 0.015 | 0.001 | 0.280 | 0.050 | 0.057 | 0.011 | 0.040 | 0.000 | 0.000 |
| HF | T64971 | 64971 | 0.320 | 0.180 | 0.660 | 0.009 | 0.001 | 0.290 | 0.060 | 0.056 | 0.033 | 0.040 | 0.000 | 0.000 |
| HF | T62907 | 62907 | 0.320 | 0.180 | 0.700 | 0.007 | 0.001 | 0.280 | 0.060 | 0.077 | 0.029 | 0.040 | 0.000 | 0.000 |
| HF | T70009 | 70009 | 0.310 | 0.180 | 0.670 | 0.010 | 0.001 | 0.260 | 0.070 | 0.057 | 0.015 | 0.030 | 0.000 | 0.000 |
| HF | T71010 | 71010 | 0.310 | 0.180 | 0.680 | 0.007 | 0.001 | 0.290 | 0.040 | 0.062 | 0.013 | 0.030 | 0.000 | 0.000 |
| HF | T65030 | 65030 | 0.300 | 0.170 | 0.650 | 0.010 | 0.002 | 0.270 | 0.060 | 0.056 | 0.032 | 0.030 | 0.000 | 0.000 |
| HF | T65689 | 65689 | 0.320 | 0.180 | 0.690 | 0.008 | 0.001 | 0.280 | 0.060 | 0.054 | 0.014 | 0.030 | 0.000 | 0.000 |
| HF | T65886 | 65886 | 0.310 | 0.180 | 0.660 | 0.006 | 0.001 | 0.270 | 0.040 | 0.066 | 0.014 | 0.030 | 0.000 | 0.000 |
| HF | T68667 | 68667 | 0.300 | 0.170 | 0.680 | 0.007 | 0.001 | 0.260 | 0.040 | 0.062 | 0.013 | 0.030 | 0.000 | 0.000 |
| HF | T69560 | 69560 | 0.300 | 0.170 | 0.680 | 0.007 | 0.001 | 0.270 | 0.050 | 0.059 | 0.016 | 0.040 | 0.000 | 0.000 |

Certificamos que los resultados de los Analisis Quimicos y Pruebas Mecánicas son verdaderos o una copia fiel de los certificados enviados por el Fabricante y/o el proveedor de Materia Prima (Tubería Sin Costura) conforme ASTM A106 Grado B con N°:
 We certify that result of chemical analysis and mechanical test are true and correct copy of the test certificate issued by the manufacturer and/or supplier Raw material (Seamless Pipe) certs conform to ASTM A106 Grade B N°:
 13025317 13036983 13032086 13010743 14021709 14021736 13034081 13047008 13041544 14001015 14004270
 "Este material cumple con los requerimientos especificados en la orden".
 "The material of this certificate heat number mentioned above is in compliance with the requirements specified in the order".

| | | | | |
|--|---|--|--|-----------------|
| 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. MATERIAL ACCORDING TO NACE MR0175 / ISO 15156-1, 2009 AND NACE MR0103, 2012 ONLY HARDNESS | Quality Manager/Jefe de Calidad: ING. WALDO GALLEGOS GALVAN | FOR03161 |
|--|---|--|--|-----------------|



Tubos de Acero de México, S.A.
 Carr. Mty-Laredo Km 24.2
 Apartado Postal 43
 (65550) C. de Flores, N.L. Méx.
 (52) 81 8305 9600 tel
 (52) 81 8305 9620 fax

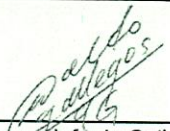
| | | | |
|--|--------------------|--------------|--|
| CERTIFICADO DE CALIDAD INSPECTION CERTIFICATE (DIN EN 10204:2004E - ISO 10474 3.1.B) | Numero: Number: | Pagina/Page: | |
| | 28620 | 3 | |

| | | | | | | | |
|--|-----------------------------------|--|-----------------|------------------------------------|--|-------------|---------------------|
| Vendido a: Sold to: | PLESA ANAHUAC Y CIA. S.A. DE C.V. | Pedido del Cliente No: Customers Order No: | 17355 - 18096 - | Lista de Empaque: Packing List: | 14912 | Fecha/Date: | 18 de junio de 2014 |
| Especificaciones y Grados / Standard or Specification and Steel Grade Seamless Fittings according to ASTM A 234 WPB-13e Conform to ASME II Ed. 2001 ASME SA-234, Grade WPB | | Dimensiones y tolerancias / Dimension and tolerances ASME B 16.9 - 2007 | | | 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 |
| 23 | T70009 | 10 | TEE 10 CED-80 | 323 | 471 | 39 | 143 | | | | | |
| 24 | T7192 | 20 | CODO 5 X 45° CED-XS | 323 | 472 | 36 | 151 | | | | | |
| 25 | T65451 | 6 | TEE RED. 6 X 3 CED-STD | 332 | 483 | 37 | 146 | | | | | |
| 26 | T66648 | 2 | TEE RED. 6 X 3 CED-STD | 300 | 456 | 38 | 146 | | | | | |
| 27 | T66113 | 12 | TEE RED. 6 X 3 CED-STD | 296 | 477 | 37 | 146 | | | | | |

| ANALISIS QUIMICO / CHEMICAL ANALYSIS | | | | | | | | | | | | | | |
|--------------------------------------|------------------|------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 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 | T70009 | 70009 | 0.310 | 0.180 | 0.670 | 0.010 | 0.001 | 0.260 | 0.070 | 0.057 | 0.014 | 0.030 | 0.000 | 0.000 |
| HF | T7192 | 7192 | 0.310 | 0.180 | 0.720 | 0.006 | 0.001 | 0.270 | 0.030 | 0.035 | 0.010 | 0.020 | 0.000 | 0.000 |
| HF | T65451 | 65451 | 0.320 | 0.180 | 0.690 | 0.012 | 0.000 | 0.280 | 0.080 | 0.049 | 0.027 | 0.030 | 0.000 | 0.000 |
| HF | T66648 | 66648 | 0.300 | 0.170 | 0.670 | 0.009 | 0.001 | 0.290 | 0.040 | 0.071 | 0.016 | 0.040 | 0.000 | 0.000 |
| HF | T66113 | 66113 | 0.310 | 0.180 | 0.660 | 0.009 | 0.002 | 0.280 | 0.060 | 0.068 | 0.020 | 0.040 | 0.000 | 0.000 |

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 de Materia Prima (Tubería Sin Costura) conforme ASTM A106 Grado B con N°:
 We certify that result of chemical analysis and mechanical test are true and correct copy of the test certificate issued by the manufacturer and/or supplier Raw material (Seamless Pipe) certs conform to ASTM A106 Grade B N°:
 14026493 14011757 13034082 13064755 13076484
 "Este material cumple con los requerimientos especificados en la orden".
 "The material of this certificate heat number mentioned above is in compliance with the requirements specified in the order".

| | | |
|--|---|--|
| 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 |  Quality Manager / Jefe de Calidad: ING. WALDO GALLEGOS GALVAN |
|--|---|--|

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.
 MATERIAL ACCORDING TO NACE MR0175 / ISO 15156-1, 2009 AND NACE MR0103, 2012 ONLY HARDNESS

FOR03161