

CERTIFICADO DE CALIDAD
INSPECTION CERTIFICATE
 (DIN EN 10204 3.1 B - ISO 10474 3.1 B)

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|---|--|--|---------------------------------------|
| Vendido a: PLESA ANAHUAC Sold to: | Pedido del Cliente No: 100001278 Customer's Order No: | Lista de Empaque: 7544 Packing List: | Fecha/Date: 30 de Mayo de 2005 |
| Especificaciones y Grados / Standard or Specification and Steel Grade Seamless Fittings according to ASTM A 234-97, A234-02 / ASME ASA 234 WPR NACE MR 0175 ed. 02 - Conform to ASME II Ed. 2001 | Dimensiones y tolerancias / Dimension and tolerances ASME B 16.9 and ASME B 16.28 edition 2001 | Factura/Invoice: Bocas / Ends Biselado / Bevelled ends | |

| ART. ITEM | COLADA HEAT CODE | CANTIDA QUANTITY | DESCRIPCION / DESCRIPTION | PRUEBAS MECANICAS / MECHANICAL TEST | PRUEBA DE IMPACTO 0°C / IMPACT TEST 0°C | PROMEDIO AVERAGE JOULES |
|-----------|------------------|------------------|---------------------------|--|---|-------------------------|
| 1 | TEF6 | 1 | ELLS 10 X 45 SCH-XH | ESF. CEDENCIA YIELD STRENGTH (Mpa) 311 | DUREZA HARDNESS HB 128 | |
| 2 | TYV5 | 5 | ELLS 10 X 45 SCH-XH | 499 | 140 | |
| 3 | T21682 | 25 | ELLS 12 X 45 SCH-XH | 488 | 120 | |
| 4 | T21932 | 18 | ELLS 12 X 90 L.R. SCH-STD | 463 | 104 | |
| 5 | T19909 | 7 | ELLS 12 X 90 L.R. SCH-XH | 483 | 137 | |
| 6 | T21933 | 2 | ELLS 12 X 90 L.R. SCH-XH | 482 | 124 | |
| 7 | T21932 | 12 | ELLS 14 X 90 L.R. SCH-STD | 312 | 104 | |
| 8 | S33411 | 28 | ELLS 3 X 90 L.R. SCH-STD | 354 | 135 | |
| 9 | S33675 | 264 | ELLS 3 X 90 L.R. SCH-STD | 341 | 101 | |
| 10 | S33676 | 236 | ELLS 3 X 90 L.R. SCH-STD | 341 | 113 | |
| 11 | S33639 | 31 | ELLS 4 X 45 SCH-STD | 349 | 120 | |

| PROCESO HEAT CODE | COLADA HEAT CODE | COLAD/HEAT M.P./MOTHER PIPE | %C | %E | %Mn | %P | %S | %SI | %Cr | %Cu | %MO | %Ni | %V | %Nb |
|-------------------|------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| HF | TEF6 | 15279 | 0.305 | 0.170 | 0.660 | 0.012 | 0.003 | 0.270 | 0.050 | 0.092 | 0.030 | 0.040 | 0.000 | 0.000 |
| HF | TYV5 | 12676 | 0.353 | 0.190 | 0.840 | 0.010 | 0.001 | 0.300 | 0.060 | 0.008 | 0.050 | 0.004 | 0.000 | 0.000 |
| HF | T21682 | 21682 | 0.306 | 0.180 | 0.660 | 0.008 | 0.001 | 0.270 | 0.050 | 0.056 | 0.003 | 0.030 | 0.000 | 0.000 |
| HF | T21932 | 21932 | 0.310 | 0.180 | 0.660 | 0.008 | 0.002 | 0.260 | 0.030 | 0.069 | 0.039 | 0.030 | 0.000 | 0.000 |
| HF | T19909 | 19909 | 0.313 | 0.180 | 0.680 | 0.007 | 0.001 | 0.280 | 0.040 | 0.069 | 0.025 | 0.030 | 0.000 | 0.000 |
| HF | T21933 | 21933 | 0.328 | 0.190 | 0.710 | 0.010 | 0.002 | 0.260 | 0.040 | 0.072 | 0.032 | 0.010 | 0.000 | 0.000 |
| HF | T21932 | 21932 | 0.310 | 0.180 | 0.660 | 0.008 | 0.001 | 0.260 | 0.030 | 0.069 | 0.039 | 0.030 | 0.000 | 0.000 |
| HF | S33411 | 33411 | 0.324 | 0.180 | 0.730 | 0.011 | 0.002 | 0.300 | 0.080 | 0.034 | 0.010 | 0.024 | 0.001 | 0.001 |
| HF | S33675 | 33675 | 0.319 | 0.180 | 0.720 | 0.007 | 0.001 | 0.280 | 0.040 | 0.070 | 0.020 | 0.027 | 0.002 | 0.001 |
| HF | S33676 | 33676 | 0.344 | 0.190 | 0.800 | 0.007 | 0.002 | 0.320 | 0.040 | 0.042 | 0.040 | 0.020 | 0.002 | 0.001 |
| HF | S33639 | 33639 | 0.317 | 0.180 | 0.750 | 0.011 | 0.001 | 0.330 | 0.030 | 0.031 | 0.010 | 0.019 | 0.001 | 0.001 |

ANALISIS QUIMICO / CHEMICAL ANALYSIS

Notas:
 Heat treated ranges in a range from 780°C to 840°C, cooled in still air.
 Heat treated ranges in a range from 780°C to 840°C, cooled in still air.
 Cof. Formado en FRIGOCOLD FORMED

Inspeccion Dimensional / Dimensional Inspection
 Inspeccion Dimensional / Dimensional Inspection

Visual Dimensional / Visual Dimensional Inspection

Visual Dimensional / Visual Dimensional Inspection

CC-008

Jefe de Aseguramiento de Calidad: **Quality Assurance Coordinator**
ING. JOSE MARTINEZ MACIAS