

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

Numero:
1 08 69

Empresas Riga, S.A. De C.V.
 Carr. Mty.-Laredo Km. 24.2
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Vendido A: **TRUCORA**

Pedido del cliente No: **6225, 6179**
 Customers Order No:

Lista de empaque:
 Packing List: **6059**

Fecha/Date: **JUNIO 25 de 2003**

Especificaciones y Grados / Standard or Specification and Steel Grade
 Seamless Fittings according to ASTM/ASME AISA 234 WPB - NACE MR 01.75 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

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. RUPURA TENSILE STRENGTH (MPa) | ELONG. %2" | DUREZA HARDNESS HB | DIMENSIONES SAMPLE DIM mm | 1 Joules | 2 Joules | 3 Joules | PROMEDIO AVERAGE Joules |
| 1 | SVCS | 200 | CODO 3 X 90 RL STD | 345 | 498 | 34 | 151 | N/A | N/A | N/A | N/A | N/A |
| 2 | SOUS | 250 | CODO 2 1/2 X 90 RL STD | 347 | 501 | 39 | 123 | N/A | N/A | N/A | N/A | N/A |
| 3 | SZS | 50 | RED. CONC. 4 X 3 STD | 333 | 468 | 39 | 156 | N/A | N/A | N/A | N/A | N/A |
| 4 | KWS | 30 | TEE RED. 4 X 2 STD | 320 | 462 | 38 | 156 | N/A | N/A | N/A | N/A | N/A |
| 5 | KXS | 5 | TEE RED. 2 X 1 STD | 353 | 469 | 42 | 134 | N/A | N/A | N/A | N/A | N/A |
| 6 | SUVS | 456 | CODO 4 X 90 RL STD | 333 | 488 | 34 | 135 | N/A | N/A | N/A | N/A | N/A |
| 7 | MOS | 7 | CODO 6 X 90 RL XS | 313 | 495 | 35 | 139 | N/A | N/A | N/A | N/A | N/A |
| 8 | TVPS | 43 | CODO 6 X 90 RL XS | 318 | 488 | 40 | 136 | N/A | N/A | N/A | N/A | N/A |
| 9 | BNS | 243 | CODO 1 1/4 X 90 RL STD | 334 | 514 | 50 | 124 | N/A | N/A | N/A | N/A | N/A |
| 10 | SVXS | 200 | CODO 4 X 45 STD | 335 | 482 | 35 | 136 | N/A | N/A | N/A | N/A | N/A |

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 | SVCS | 26120 | 0.336 | 0.200 | 0.760 | 0.009 | 0.002 | 0.310 | 0.020 | 0.030 | 0.010 | 0.020 | 0.001 | 0.001 |
| HF | SOUS | 23880 | 0.340 | 0.200 | 0.730 | 0.014 | 0.001 | 0.290 | 0.040 | 0.050 | 0.020 | 0.040 | 0.001 | 0.001 |
| CF | SZS | 48349 | 0.329 | 0.140 | 1.030 | 0.010 | 0.001 | 0.260 | 0.030 | 0.080 | 0.020 | 0.020 | 0.001 | 0.001 |
| CF | KWS | 45137 | 0.321 | 0.180 | 0.650 | 0.008 | 0.002 | 0.230 | 0.070 | 0.120 | 0.030 | 0.060 | 0.001 | 0.001 |
| CF | KXS | 44347 | 0.298 | 0.170 | 0.640 | 0.013 | 0.002 | 0.240 | 0.030 | 0.001 | 0.030 | 0.130 | 0.001 | 0.000 |
| HF | SUVS | 24824 | 0.336 | 0.190 | 0.790 | 0.007 | 0.001 | 0.310 | 0.030 | 0.040 | 0.020 | 0.020 | 0.001 | 0.001 |
| HF | MOS | 97757 | 0.313 | 0.180 | 0.670 | 0.007 | 0.004 | 0.270 | 0.050 | 0.063 | 0.024 | 0.040 | 0.000 | 0.000 |
| HF | TVPS | 11194 | 0.315 | 0.180 | 0.680 | 0.007 | 0.002 | 0.280 | 0.040 | 0.062 | 0.033 | 0.040 | 0.000 | 0.000 |
| HF | BNS | 43300 | 0.325 | 0.180 | 0.770 | 0.010 | 0.000 | 0.300 | 0.040 | 0.040 | 0.020 | 0.020 | 0.001 | 0.001 |
| HF | SVXS | 26237 | 0.313 | 0.180 | 0.730 | 0.010 | 0.001 | 0.270 | 0.020 | 0.030 | 0.020 | 0.020 | 0.001 | 0.001 |

Certificamos que los resultados de los Analisis Quimicos y Pruebas Mecanicas son verdaderos o una copia fiel de los certificados enviados por el Fabricante y/o el proveedor de Materia Prima 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 certs N°:

| | | |
|----------|----------|----------|
| 165676 | 158101 | 03003742 |
| 42230 | 41650 | 161656 |
| 02014482 | 03006715 | 2005327 |
| 165680 | | |