



**CERTIFICADO DE CALIDAD  
INSPECTION CERTIFICATE**

(DIN EN 10204 3.1.B - ISO 10474 3.1.B)

Empresas Riga, S.A. De C.V.  
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Vendido a: TUCOTA

Pedido del Cliente No: 7981  
Customers Order No:

Lista de Empaque: 6653  
Packing List:

Fecha/Date: 29 de Marzo de 2004

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

Sold to:

Dimensions y tolerancias / Dimension and tolerances

Factural/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	CANTIDA QUANTITY	DESCRIPCION / DESCRIPTION	ESF. CEDENCIA YIELD STRENGTH (Mpa)	ESF. RUPTURA TENSILE STRENGTH (Mpa)	ELONG. %2"	DUREZA HARDNESS HB	DIMENSIONES SAMPLE DIM mm	1 Joules	2 Joules	3 Joules	PROMEDIO AVERAGE Joules
1	TBD6	10	CODO 8 X 90 R.L. CED XS	301	483	42	138					
2	TDI6	10	RED. CONC. 8 X 6 CED XS	294	467	48	137					
3	TDJ6	30	RED. CONC. 8 X 6 CED STD	317	473	43	124					
4	SCM6	30	RED. CONC. 4 X 3 CED STD	344	487	35	140					
5	TBR6	17	TBE 6 CED XS	305	473	46	122					
6	TBM6	3	TBE 6 CED XS	292	460	47	140					
7	TCX6	10	RED. CONC. 8 X 4 CED STD	310	483	44	135					
8	TPH5	5	RED. CONC. 12 X 6 CED XS	330	498	48	144					
9	TPR6	8	RED. CONC. 14 X 12 CED STD	324	488	40	125					
10	TAL6	4	RED. CONC. 14 X 10 CED STD	358	480	33	143					
11	SZ15	96	CODO 2 X 4.5 CED STD	349	491	35	122					

**ANALISIS QUIMICO / CHEMICAL ANALYSIS**

PROCESO PROCESS	COLADA CODE	HEAT CODE	M.P./MOTHER PIPE	%C.E.	%C	%Mn	%P	%S	%Si	%Cr	%Cu	%Mo	%Ni	%V	%Nb
HF	TBD6			0.322	0.180	0.700	0.015	0.001	0.270	0.060	0.056	0.036	0.030	0.000	0.000
CF	TDI6			0.319	0.190	0.680	0.009	0.003	0.270	0.030	0.044	0.028	0.020	0.000	0.000
CF	TDJ6			0.297	0.170	0.660	0.008	0.002	0.270	0.030	0.055	0.023	0.040	0.000	0.000
CF	SCM6			0.327	0.180	0.790	0.008	0.001	0.310	0.030	0.050	0.020	0.030	0.001	0.001
CF	TBR6			0.315	0.180	0.690	0.019	0.025	0.270	0.060	0.041	0.021	0.020	0.000	0.000
CF	TBM6			0.306	0.180	0.660	0.009	0.002	0.270	0.030	0.044	0.023	0.030	0.000	0.000
CF	TCX6			0.309	0.170	0.650	0.012	0.003	0.270	0.070	0.092	0.036	0.050	0.000	0.000
CF	TPH5			0.319	0.180	0.730	0.009	0.003	0.250	0.040	0.063	0.020	0.021	0.000	0.000
CF	TPR6			0.311	0.180	0.660	0.006	0.002	0.270	0.040	0.062	0.033	0.030	0.000	0.000
CF	TAL6			0.340	0.180	0.770	0.012	0.001	0.280	0.080	0.079	0.031	0.070	0.000	0.000
HF	SZ15			0.324	0.180	0.790	0.010	0.002	0.290	0.030	0.040	0.010	0.020	0.001	0.001

Notes: Formado en caliente a 780°C-840°C, enfriado al aire. Formado en frío normalizado a 940°C max. Tiempo de permanencia 10'. Inspeccion Dimensional Satisfactoria. Visual dimensionalcheck. Satisfactory. CF FORMADO EN FRIO/COLD FORMED. HF FORMADO EN CALIENTE/HOT FORMED.

Notes: Hot formed fittings in a range from 780°C to 940°C, cooled in still air. Cold formed normalized at 940°C max. Holding time 10'. Visual dimensionalcheck. Satisfactory. CF FORMADO EN FRIO/COLD FORMED. HF FORMADO EN CALIENTE/HOT FORMED.

Gerente de Aseguramiento de Calidad: Quality Assurance Manager: ING. JOSE MARTINEZ MACIAS

CC-008

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 cents N°:

03018099	03016981	03019970
80219	03019017	03016981
04000246	03000423	03014895
03016298	165671	

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.