



Tenaris Group

**CERTIFICADO DE CALIDAD
INSPECTION CERTIFICATE**

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

Empresas Riga, S.A. De C.V.
Carr. Mty-Laredo Km. 24.2
Cd. Mérida de Flores, N.L. 65550
Tel: (81) 83-44-88-60
Fax: (81) 83-44-88-01

Vendido A: TUBOS CONEXIONES Y TANQUES, S.A. DE C.V.
Sold to:

Pedido del cliente No: 5601,5614,5690
Customers Order No:

Lista de empaque: 5824
Bocas / Ends
Biselado / Bevelled ends

Fecha/Date: 10 de 2003
MARZO

Especificaciones y Grados / Standard or Specification and Steel Grade
Seamless Fittings according to ASTM/ASME A5A 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

Packing List:
Fecha/Date: 10 de 2003
MARZO

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. RUPTORA TENSILE STRENGTH (MPa)	ELONG. %2"	DUREZA HARDNESS HB	DIMENSIONES SAMPLE DIM mm	1 Joules	2 Joules	3 Joules	PROMEDIO AVERAGE Joules
1	JY5	50	CONC. RED. 3 X 1 1/2 SCH STD	337	491	34	141	N/A	N/A	N/A	N/A	N/A
2	OM5	80	CONC. RED. 3 X 2 SCH STD	371	508	38	144	N/A	N/A	N/A	N/A	N/A
3	HHS	13	CONC. RED. 4 X 3 SCH STD	341	481	40	137	N/A	N/A	N/A	N/A	N/A
4	JH5	67	CONC. RED. 4 X 3 SCH STD	329	486	36	128	N/A	N/A	N/A	N/A	N/A
5	FG5	30	CONC. RED. 6 X 4 SCH STD	305	469	44	144	N/A	N/A	N/A	N/A	N/A
6	KN5	4	TEE 4 SCH STD	314	479	44	137	N/A	N/A	N/A	N/A	N/A
7	ML5	37	TEE 4 SCH STD	342	499	35	132	N/A	N/A	N/A	N/A	N/A
8	NV5	59	TEE 4 SCH STD	305	473	42	135	N/A	N/A	N/A	N/A	N/A
9	MF5	100	TEE 6 SCH STD	328	485	32	140	N/A	N/A	N/A	N/A	N/A

ANALISIS QUIMICO / CHEMICAL ANALYSIS														
PROCESO PROCESS	COLADA HEAT CODE	COLADAN/HEAT M.P./MOTHER PIPE	%C.E.	%C	%Mn	%P	%S	%Si	%Cr	%Cu	%Mo	%Ni	%V	%Nb
CF	JY5	22138	0.3150	1.80	0.730	0.010	0.001	0.310	0.030	0.050	0.010	0.020	0.001	0.001
CF	OM5	98920	0.3180	1.80	0.680	0.012	0.003	0.270	0.060	0.075	0.027	0.040	0.000	0.000
CF	HHS	96135	0.3030	1.70	0.650	0.006	0.002	0.270	0.050	0.069	0.039	0.040	0.000	0.000
CF	JH5	22069	0.3160	1.80	0.700	0.010	0.001	0.280	0.050	0.040	0.020	0.030	0.001	0.001
CF	FG5	95546	0.3020	1.70	0.670	0.007	0.002	0.270	0.040	0.073	0.022	0.040	0.000	0.000
CF	KN5	96344	0.3000	1.70	0.650	0.008	0.002	0.270	0.040	0.080	0.028	0.040	0.000	0.000
CF	ML5	97757	0.3250	1.71	0.753	0.006	0.003	0.276	0.049	0.068	0.053	0.043	0.001	0.000
CF	NV5	98562	0.3190	1.90	0.670	0.007	0.002	0.280	0.020	0.076	0.029	0.030	0.000	0.000
CF	MF5	97887	0.3170	1.80	0.670	0.008	0.002	0.280	0.070	0.074	0.019	0.040	0.000	0.000

Formado en caliente a 780°C-940°C, enfriado al aire / Formado en frío normalizado a 940°C max.
Tiempo de permanencia 10'.

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'.

Inspección Dimensional: Satisfactoria. / Visual dimensional check: Satisfactory.
HF: FORMADO EN CALIENTE/HOT FORMED CF: FORMADO EN FRIO/COLD FORMED

Notas:

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°:

02019497 02007416
152476 02001248 02009246
02015552 02019475 02015340

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

CC-008