



# Tenaris

## CERTIFICADO DE CALIDAD INSPECTION CERTIFICATE (DIN EN 10204:2004E - ISO 10474 3.1.B)

Tubos de Acero de México, S.A.  
Carr. Méty-Laredo Km 24.2  
Apartado Postal 43  
(65550) C. de Flores, N.L. Méx.  
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Vendido a: <b>PIESA ANAHUAC Y CIA. S. A. DE C. V.</b> Sold to:	Pedido del Cliente No: <b>1999 - 1893 -</b> Customers Order No:	Lista de Empaque: <b>8580</b> Packing List:	Fecha/Date: <b>16 de Octubre de 2006</b>
Especificaciones y Grados / Standard or Specification and Steel Grade Seamless Fittings according to ASTM A 234-97, A 234-05a, NACE MR 01:75-2003 Conform to ASME II Ed. 2001 ASME SA-234, Grade WPB	Dimensiones y tolerancias / Dimension and tolerances <b>ASME B 16.9 - 2003 and ASME B 16.28 - 1994</b>	Numero: <b>16825</b> Number:	Pagina/Page: <b>1 DE 1</b>
Factura/Invoice: <b>Bocas / Ends</b> Biselado / Bevelled ends			

ART. ITEM	COLADA HEAT CODE	CANTIDAD QUANTITY	DESCRIPCION / DESCRIPTION	PRUEBAS MECANICAS / MECHANICAL TEST				PRUEBA DE IMPACTO 0°C / IMPACT TEST 0°C					
				ESF. CEDENCIA YIELD STRENGTH (Mpa)	ESF. RUPATURA TENSILE STRENGTH (Mpa)	ELONG. %2"	DUREZA HARDNESS HB	DIMENSIONES SAMPLE DIM mm	1 Joules	2 Joules	3 Joules	PROMEDIO AVERAGE Joules	
23	SC5	10	TEE RED. 4 X 2 CED-STD	319	461	38	156						
24	T29077	20	RED. CONC. 10 X 4 CED-STD	327	489	44	155						
25	T25669	4	CODO 14 X 45 CED-XS	307	470	48	116						
26	R05	1	CODO 14 X 45 CED-XS	329	499	46	143						
27	S45186	50	CODO 5 X 90° R. I. CED-STD	314	476	35	132						
28	T29031	8	TEE RED. 6 X 3 CED-STD	319	454	37	105						
29	S60750	20	CODO 4 X 45° CED-XS	480	503	30	126						

### 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	SC5	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	T29077	29077	0.310	0.170	0.680	0.008	0.001	0.280	0.050	0.074	0.038	0.040	0.000	0.000
HF	T25669	25669	0.310	0.170	0.680	0.014	0.002	0.280	0.060	0.078	0.037	0.030	0.000	0.000
HF	R05	99413	0.344	0.180	0.660	0.009	0.003	0.270	0.050	0.058	0.022	0.030	0.000	0.000
HF	S45186	45186	0.330	0.190	0.740	0.013	0.002	0.280	0.040	0.042	0.020	0.032	0.001	0.001
HF	T29031	29031	0.300	0.160	0.670	0.009	0.002	0.280	0.050	0.078	0.038	0.040	0.000	0.000
HF	S60750	60750	0.321	0.170	0.760	0.011	0.003	0.280	0.050	0.070	0.030	0.042	0.002	0.001

Certificamos que los resultados de los Analisis Quimicos y Pruebas Mecanicas son

verdadros o una copia fiel de los certificados enviados por el Fabricante y/o el proveedor de Materia Prima (Tuberia 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°  
42230 6017948 6009582 03000990 316292 6015400  
207939

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.

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.

Jefe de Calidad:  
Quality Manager:

ING. JOSE MARTINEZ MACIAS

CC-008

Notes:

Formado en caliente a 620°C-980°C, enfriado al aire. Formado en frio normalizado a 940°C max. Tiempo de permeancia 10'

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'

Inspeccion Dimensional Satisfactoria

Visual dimensional check: Satisfactory

HF: FORMADO EN CALIENTE/MOT FORMED

CF: FORMADO EN FRIO/COLD FORMED