

Tenaris

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

Numero:
Number: 19093
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Tubbs de Acero de México, S.A.
Carr. Mty-Laredo Km 24.2
Apartado Postal 43
(65550) C. de Flores, N.L. Méx.
(52) 81 8305 9600 tel
(52) 81 8305 9620 fax

Vendido a: Sold to: PROVEEDORA DE MATERIALES ANGER, S.A. DE C.V.	Pedido del Cliente No: Customers Order No: 5123 - 5120 -	Lista de Empaque: Packing List: 9840	Fecha/Date: 31 de Octubre de 2007
Especificaciones y Grados / Standard or Specification and Steel Grade Seamless Fittings according to ASTM A 234"M" WPB-97, A234"M" WPB-05a, NACE MR 01.75-2003 Conform to ASME II Ed. 2001 ASME SA-234"M", Grade WPB.	Dimensiones y tolerancias / Dimension and tolerances ASME B 16.9 - 2003 and ASME B 16.28 - 1994		Factura/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	CANTIDAD QUANTITY	DESCRIPCION / DESCRIPTION	ESF. CEDENCIA YIELD STRENGTH (Mpa)	ESF. RUPTURA TENSILE STRENGTH (Mpa)	ELONG. %2"	DUREZA HARDNESS HBW	DIMENSIONES SAMPLE SIZE (mm)			PROMEDIO AVERAGE Joules	
								1	2	3		
23	S22475	50	RED. CONC. 4 X 2 CED-STD	324	504	34	116					
24	S45459	1	RED. CONC. 4 X 3 CED-XS	337	484	37	109					
25	S20808	29	RED. CONC. 4 X 3 CED-XS	326	490	33	90					
26	S38130	40	RED. CONC. 2 X 1 1/4 CED-STD	347	489	39	134					
27	S25296	10	RED. CONC. 2 X 1 1/4 CED-STD	349	491	35	126					
28	S45402	24	CODO 2 1/2 X 45° CED-XS	294	466	36	130					

PLEASE ANAHUAC Y CIA. S.A. DE C.V.

CONTROL DE CALIDAD

FECHA: 09 Jun 2010


ERMA: E. RUIZ

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
CF	S22475	22475	0.330	0.190	0.800	0.009	0.001	0.260	0.030	0.020	0.010	0.020	0.001	0.001
CF	S45459	45459	0.320	0.180	0.740	0.008	0.001	0.330	0.050	0.032	0.020	0.022	0.001	0.001
CF	S20808	20808	0.340	0.190	0.820	0.013	0.001	0.390	0.020	0.024	0.010	0.019	0.001	0.000
CF	S38130	38130	0.313	0.180	0.710	0.009	0.001	0.280	0.030	0.043	0.020	0.022	0.001	0.001
CF	S25296	25296	0.324	0.180	0.790	0.010	0.002	0.290	0.030	0.040	0.010	0.020	0.001	0.001
HF	S45402	45402	0.320	0.180	0.740	0.010	0.001	0.290	0.040	0.045	0.020	0.022	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 (Tubería 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) parts conform to ASTM A106 Grade B N°: 380958 318410 366679 258860 165671 317311

"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".

<p>Notas:</p> <p>Formado en caliente a 620°C-980°C, enfriado al aire: Formado en frío normalizado a 940°C max.</p> <p>Tiempo de permanencia 10'.</p> <p>Inspección Dimensional: Satisfactoria.</p> <p>HF: FORMADO EN CALIENTE/HOT FORMED</p>	<p>Notes:</p> <p>Hot formed fittings in a range from 620°C to 980°C, cooled in still air.</p> <p>Cold formed normalized at 940°C max.</p> <p>Holding time 10'.</p> <p>Visual dimensional check: Satisfactory</p> <p>CF: FORMADO EN FRIO/COLD FORMED</p>	<p>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.</p> <p align="right">Jefe de Calidad: Quality Manager:  ING. JOSE MARTINEZ MACIAS</p>
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