



Tenaris

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

Tubos de Acero de México, S.A.
Carr. Mty.-Ibarro Km 24.2
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Vendido a: PLESA ANAHUAC Y CIA. S.A. DE C.V.
Sold to: PLESA ANAHUAC Y CIA. S.A. DE C.V.

Pedido del Cliente No: 5280.
Customers Order No: 5280.

Lista de Empaque: 1 DE 1
Packing List: 10973

Fecha/Dat: 30 de Octubre de 2008

Especificaciones y Grados / Standard or Specification and Steel Grade
Seamless Fittings according to ASTM A 234 "W" WPB-97, A234 "W" WPB-05a, NACE MR 01.75-2003
Conform to ASME II Ed. 2001 ASME SA-234 "W" Grade WPB, NACE MR0103-2003

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 RUPURA TENSILE STRENGTH (Mpa)	ELONG %2"	DUREZA HARDNESS HBW	DIMENSIONES SAMPLE DIM mm	1 Joules	2 Joules	3 Joules	PROMEDIO AVERAGE Joules
1	T28738	1	CODO 4 X 45° CED-STD	338	482	35	121					
2	T21775	1	CODO 4 X 45° CED-STD	359	496	40	112					
3	S28475	14	CODO 4 X 45° CED-STD	322	498	32	105					
4	S27721	14	CODO 4 X 45° CED-STD	364	509	27	119					
5	S26550	20	CODO 4 X 45° CED-STD	341	475	34	95					
6	T40571	30	RED CONC. 8 X 6 CED-STD	306	485	35	113					
7	S32237	1	CODO 4 X 45° CED-XS	339	509	50	126					
8	S21172	26	CODO 4 X 45° CED-XS	278	467	39	105					
9	23229	5	CODO 4 X 45° CED-XS	276	463	33	104					

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	T28738	28738	0.300	0.170	0.670	0.009	0.002	0.300	0.040	0.077	0.022	0.030	0.000	0.000
HF	T21775	21775	0.300	0.170	0.660	0.009	0.003	0.300	0.050	0.069	0.024	0.030	0.000	0.000
HF	S28475	28475	0.360	0.200	0.830	0.007	0.001	0.310	0.050	0.059	0.020	0.035	0.001	0.000
HF	S27721	27721	0.320	0.180	0.770	0.011	0.001	0.290	0.040	0.050	0.010	0.027	0.001	0.000
HF	S26550	26550	0.320	0.190	0.720	0.010	0.002	0.270	0.040	0.018	0.010	0.013	0.001	0.002
CF	T40571	40571	0.310	0.170	0.720	0.009	0.004	0.280	0.050	0.057	0.011	0.030	0.000	0.000
HF	S32237	32237	0.341	0.190	0.810	0.010	0.001	0.300	0.030	0.056	0.020	0.021	0.002	0.001
HF	S21172	21172	0.320	0.180	0.780	0.012	0.001	0.290	0.020	0.021	0.010	0.016	0.001	0.002
HF	23229	23229	0.310	0.180	0.700	0.012	0.001	0.290	0.040	0.053	0.010	0.023	0.001	0.000

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) certs conform to ASTM A106 Grade B N° 6036120 5008943 443255 433886 420901 8050484 207936 369604 392294

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.

Notas: Formado en caliente a 820°C-980°C, enfriado al aire. Formado en frío normalizado a 940°C max. Tiempo de permanencia 10'.
Holding time 10'.
Visual dimensional check. Satisfactory.
Visual dimensional check. Satisfactory.
CF FORMADO EN FRIO/COLD FORMED

Quality Manager/Jefe de Calidad: ING. WALDO GALLEGOS GALVAN

Los valores de dureza para conexiones de NPS de 2" y menores, se obtienen de la conversión de dureza Rockwell B a dureza Brinell HBW mediante la tabla WILSON DESK CHART 60.

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. The values of hardness for fittings NPS 2" and smaller ones obtain from the conversion of hardness Rockwell B to hardness Brinell HBW by means of table WILSON DESK CHART 60.

CC-008