Tubos 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

Tenaris

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

Numero: Number:	Pagina/Page:
21016	1 DE 1

Vendido a: Sold to:	PROVEEDORA DE MATERIALES ANCER, S.A. DE C.V.	Pedido del Cliente No: Customers Order No:	5282 - 5262 - 5275 -
Lista de Empaque: Packing List:	10818	Fecha/Date:	12 de Septiembre de 2008

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 01.76-2003

Conform to ASME II Ed. 2001 ASME SA-234"M",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. RUPTURA TENSILE STRENGTH (Mpa)	ELONG. %2"	DUREZA HARDNESS HBW	DIMENSIONES SAMPLE DIM mm	1 Joules	2 Joules	3 Joules	PROMEDIO AVERAGE Joules
1	S25836	20	CODO 6 X 90° R.C. CED-STD	283	459	33	98					
2	T40846	6	CODO 16 X 90° R.L. CED-XS	321	492	46	124					
3	T40745	30	CODO 8 X 90° R.L. CED-XS	298	472	42	118					
4	S21171	570	CODO 2 1/2 X 90° R.L. CED-STD	327	500	31	116					
5	T40156	4	CODO 14 X 90° R.L. CED-40	325	524	42	122					
6	T38541	1	CODO 14 X 90° R.L. CED-40	243	438	36	100					
7	T38642	4	RED. CONC. 16 X 12 CED-XS	326	464	40	94					

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	S25836	25836	0.320	0.180	0.750	0.010	0.002	0.300	0.030	0.036	0.010	0.020	0.001	0.001
HF	T40846	40846	0.310	0.190	0.650	0.010	0.004	0.300	0.040	0.048	0.012	0.020	0.001	0.000
HF	T40745	40745	0.290	0.170	0.670	0.009	0.001	0.280	0.030	0.042	0.005	0.020	0.000	0.000
HF	S21171	21171	0.310	0.180	0.740	0.010	0.001	0.290	0.010	0.018	0.010	0.010	0.001	0.002
HF	T40156	40156	0.300	0.170	0.700	0.011	0.001	0.290	0.040	0.049	0.006	0.030	0.000	0.000
HF	T38541	38541	0.310	0.180	0.680	0.007	0.002	0.290	0.050	0.073	0.014	0.040	0.000	0.000
CF	T38642	38642	0.310	0.170	0.670	0.012	0.002	0.270	0.040	0.050	0.040	0.090	0.000	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 Nº:

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 suplier Raw material (Seamless Pipe) certs conform to ASTM A106 Grade B Nº:

418146 8043420 8047084 369597 8041366 8011770 8023126

"Este material cumple con los requerimientos especificados en la orden".

"The material of this certificate heat number mentioned above is in compilance with the requirements specified in the order".

Notas:

Formado en caliente a 620°C-980°C, enfriado al aire; Formado en frio normalizado a 940°C max.

Tiempo de permanencia 10'.

Inspección Dimensional: Satisfactoria.

HF: FORMADO EN CALIENTE/HOT FORMED

Notas:

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'.

Visual dimensional check: Satisfactory

CF: FORMADO EN FRIO/COLD FORMED

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

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 1/2" and smaller ones obtain from the conversion of hardness Rockwell B to hardness Brinell HBW by means of table WILSON DESK CHART 60.

Los valores de dureza para conexiones de NPS de 2 1/2" y menores, se obtienen de la conversión de dureza Rockwell B a dureza Brinell HBW mediante la tabla WILSON DESK CHART 60.