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:
20998	1 DE 1

Vendido a: Sold to: PLESA ANAHUAC Y CIA. S.A. DE C.V.

Pedido del Cliente No: Customers Order No: 5049 - 4897

Lista de Empaque: Packing List: 10811

Fecha/Date: 10 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 01.75-2003

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	T39452	5	TEE 12 CED-STD	323	484	35	113					
2	T39049	27	TEE 6 CED-XS	293	465	45	116					
3	T36285	15	RED. CONC. 8 X 6 CED-STD	348	490	30	106					
4	T37205	1	CODO 12 X 90° R.L. CED-STD	374	500	33	91					
5	T40518	15	CODO 12 X 90° R.L. CED-STD	358	503	31	108					
6	T39855	1	CODO 12 X 90° R.L. CED-STD	314	475	35	111					
7	T38542	1	CODO 12 X 90° R.L. CED-STD	299	477	30	96					
8	T40517	4	TEE RED. 8 X 6 CED-STD	311	481	33	107					
9	T38336	4	TEE 10 CED-STD	240	461	37	98					
10	T39736	2	TEE 10 CED-STD	311	476	45	118					
11	T19938	5	RED. CONC. 12 X 8 CED-40	324	481	46	95					

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	T39452	39452	0.310	0.170	0.670	0.010	0.003	0.280	0.070	0.079	0.041	0.040	0.000	0.000
HF	T39049	39049	0.290	0.160	0.670	0.009	0.002	0.270	0.050	0.053	0.011	0.030	0.000	0.000
CF	T36285	36285	0.300	0.170	0.660	0.011	0.002	0.270	0.050	0.066	0.030	0.030	0.000	0.000
HF	T37205	37205	0.310	0.170	0.660	0.010	0.003	0.270	0.050	0.055	0.050	0.030	0.000	0.000
HF	T40518	40518	0.300	0.170	0.680	0.008	0.002	0.280	0.060	0.057	0.013	0.030	0.000	0.000
HF	T39855	39855	0.310	0.180	0.670	0.013	0.003	0.290	0.040	0.057	0.009	0.030	0.000	0.000
HF	T38542	38542	0.300	0.170	0.670	0.006	0.001	0.270	0.050	0.051	0.015	0.030	0.000	0.000
HF	T40517	40517	0.300	0.170	0.670	0.009	0.002	0.290	0.060	0.053	0.013	0.030	0.000	0.000
HF	T38336	38336	0.290	0.160	0.650	0.008	0.001	0.250	0.050	0.067	0.012	0.030	0.000	0.000
HF	T39736	39736	0.290	0.160	0.680	0.008	0.001	0.260	0.040	0.049	0.010	0.020	0.000	0.000
CF	T19938	19938	0.310	0.170	0.660	0.007	0.002	0.270	0.050	0.061	0.065	0.030	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 (Tuberia 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:

8037556 8028703 7048654 7058503 8040425 8031698 8018621 8039239 8023202 8037858 4029862

"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

Notes:

Hot formed fittings in a range from 620°C to 980°C, cooled in still air,

Cold formed nomalized 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.