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 9630 fax.

Tenaris

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

Número: Number:	Pagina/Page:
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Vendido a: Sold to:	PROVEEDORA DE MATERIALES ANCER, S.A. DE C.V.	Pedido del Cliente No: Customers Order No:	5939	Lista de Empaque: Packing List:	12515	Fecha/Date: 15 de Febrero de 2011

Especificaciones y Grados / Standard or Specification and Steel Grade Seamless Fittings according to ASTM A 234 WPB-07, NACE MR 01.75-2003 Conform to ASME II Ed. 2001 ASME SA-234,Grade WPB, NACE MR0103-2003	Dimensiones y tolerancias / Dimension and tolerances ASME B 16.9 - 2007 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	T41415	2	TEE RED. 10 X 8 CED-STD	335	487	35	96					
2	T53005	30	CODO 6 X 45° CED-STD	324	489	40	126					
3	S27721	35	CODO 4 X 45° CED-STD	364	509	27	119					
4	T49521	5	CODO 8 X 45° CED-STD	343	511	39	120					
5	T51345	3	CODO 8 X 45° CED-STD	324	486	41	124					
6	T50878	12	CODO 8 X 45° CED-STD	318	493	41	106					
7	S42139	4	CODO 4 X 90° R.C. CED-STD	314	478	33	99					
8	S32307	25	CODO 2 1/2 X 45° CED-STD	314	485	31	122					
9	T49520	9	RED. CONC 6 X 5 CED-STD	339	514	39	116					
10	T52004	5	TEE RED. 8 X 6 CED-STD	312	487	44	120					
11	T51542	2	CODO 12 X 45° SMC-80	284	480	46	114					

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	T41415	41415	0.310	0.170	0.780	0.009	0.001	0.270	0.030	0.046	0.004	0.029	0.000	0.000
HF	T53005	53005	0.310	0.180	0.680	0.009	0.001	0.270	0.050	0.060	0.016	0.030	0.000	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	0.002
HF	T49521	49521	0.290	0.170	0.670	0.015	0.003	0.270	0.010	0.049	0.019	0.020	0.000	0.000
HF	T51345	51345	0.310	0.170	0.720	0.012	0.001	0.290	0.060	0.062	0.017	0.030	0.000	0.000
HF	T50878	50878	0.300	0.170	0.700	0.015	0.001	0.280	0.040	0.054	0.016	0.030	0.000	0.000
HF	S42139	42139	0.300	0.170	0.740	0.011	0.001	0.330	0.030	0.023	0.010	0.022	0.002	0.002
HF	S32307	32307	0.330	0.190	0.710	0.012	0.002	0.260	0.050	0.039	0.010	0.029	0.001	0.001
CF	T49520	49520	0.290	0.170	0.670	0.017	0.003	0.290	0.020	0.046	0.019	0.020	0.000	0.000
HF	T52004	52004	0.320	0.180	0.680	0.015	0.002	0.290	0.060	0.054	0.024	0.040	0.000	0.000
HF	T51542	51542	0.320	0.180	0.710	0.011	0.002	0.270	0.040	0.061	0.018	0.030	0.000	0.000

Certificamos que los resultados de los Analisis Quimicos y Pruebas Mecánicas 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 corract copy of the test certificate issued by the manufacturer and/or supplier Raw material (Seamless Pipe) certs conform to ASTM A106 Grade B N°

8062384 11000908 433886 10025019 10046503 10040352 10053814 460317 10025165 10060053 10053621

"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 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 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

CC-008