Tenaris

Tubos de Acero de México, S.A.
Carr. Mty-Laredo Km 24.2
Apartado Postal 43
(65550) C. de Flores, N.L. Méx.
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CERTIFICADO DE CALIDAD
INSPECTION CERTIFICATE
(DIN EN 10204:2004E - ISO 10474 3.1.B)

Numero: Number:	Pagina/Page:
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Vendido a: PROVEEDORA DE MATERIALES ANCER, S.A. DE C.V.
Sold to:

Pedido del Cliente No: 5960 -
Customers Order No:

Lista de Empaque: 12642
Packing List:

Fecha/Date: 28 de Abril 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

ART. ITEM	COLADA HEAT CODE	CANTIDAD QUANTITY	DESCRIPCION / DESCRIPTION	ESF. CEDENCIA YIELD STRENGTH (Mpa)	ESF. RUPTURA TENSILE STRENGTH (Mpa)	ELONG. %2"	DUREZA HARDNESS HBW
1	T53775	213	CODO 6 X 90° R.L. CED-STD.	325	487	39	124
2	T52308	87	CODO 6 X 90° R.L. CED-STD.	312	481	41	122
3	T51816	110	TEE 4 CED-STD	308	486	40	122
4	T52308	57	TEE 4 CED-STD	311	486	42	120
5	T50760	6	TEE RED. 10 X 4 CED-STD	306	481	32	104
6	T41415	4	TEE RED. 10 X 4 CED-STD	318	495	33	124
7	T51581	10	TEE RED. 12 X 6 CED-STD	327	504	42	122
8	T50825	1	TEE RED. 6 X 2 CED-XS	307	483	37	100

PRUEBA DE IMPACTO 0°C / IMPACT TEST 0°C

DIMENSIONES SAMPLE DIM mm	1 Joules	2 Joules	3 Joules	PROMEDIO AVERAGE Joules
	-			

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	T53775	53775	0.320	0.180	0.700	0.011	0.001	0.300	0.060	0.059	0.028	0.030	0.000	0.000
HF	T52308	52308	0.310	0.180	0.670	0.012	0.002	0.290	0.040	0.061	0.022	0.030	0.000	0.000
HF	T51816	51816	0.320	0.180	0.680	0.008	0.001	0.300	0.060	0.065	0.026	0.040	0.000	0.000
HF	T52308	52308	0.310	0.180	0.690	0.012	0.001	0.280	0.040	0.063	0.023	0.030	0.000	0.000
HF	T50760	50760	0.310	0.180	0.670	0.015	0.001	0.290	0.050	0.047	0.018	0.030	0.000	0.000
HF	T41415	41415	0.320	0.190	0.740	0.009	0.002	0.300	0.020	0.047	0.010	0.020	0.000	0.000
HF	T51581	51581	0.350	0.190	0.850	0.009	0.001	0.300	0.050	0.067	0.016	0.040	0.000	0.000
HF	T50825	50825	0.320	0.190	0.660	0.012	0.001	0.280	0.050	0.050	0.012	0.020	0.000	0.000

Certificamos que los resultados de los Análisis Químicos 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 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.

11014282 11011333 11006318 11006317 10047276 9002743 10049762 10050019

"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-960°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 960°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 markad 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.