Tenaris

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

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Tubos de Acero de México
Carr. Mty-Laredo Km 24.2
Apartado Postal 43
(65550) C. de Flores, N.L.
(52) 81 8305 9600 tel.
(52) 81 8305 9630 fax.

Vendido a: / Sold to: PLESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No: / Customers Order No: 12854 - 12885 - 12701 -	Lista de Empaque: / Packing List: 13335	Fecha/Date: 17 de Mayo de 2012
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**	**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
12	S47300	50	CODO 5 X 90° R.L. CED-STD	299	478	31	110					
13	S46244	50	CODO 2 X 90° R.C. CED-STD	280	475	30	135					
14	T55897	4	RED. CONC. 14 X 8 CED-STD	326	469	31	93					
15	T50508	30	CODO 8 X 90° R.C. CED-XS	313	484	45	101					
16	T53304	3	TEE 12 CED-40	347	471	46	122					
17	T54815	1	TEE 12 CED-40	261	453	39	130					

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	S47300	47300	0.340	0.200	0.750	0.012	0.001	0.290	0.030	0.030	0.010	0.015	0.001	0.002
HF	S46244	46244	0.330	0.190	0.740	0.012	0.000	0.290	0.050	0.035	0.020	0.022	0.001	0.002
CF	T55897	55897	0.310	0.170	0.700	0.012	0.002	0.310	0.060	0.065	0.015	0.030	0.000	0.000
HF	T50508	50508	0.320	0.180	0.680	0.011	0.002	0.260	0.060	0.071	0.024	0.030	0.000	0.000
HF	T53304	53304	0.290	0.160	0.660	0.008	0.002	0.260	0.050	0.070	0.028	0.060	0.000	0.000
HF	T54815	54815	0.310	0.180	0.680	0.007	0.001	0.280	0.050	0.053	0.020	0.030	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:

11046245 11054021 11048717 10042575 11019822 12016117

"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 frío 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.