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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Tenaris

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

Numero: Number:	Pagina/Page:
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Vendido a: Sold to: PLESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No: Customers Order No: 11409 - 12170 -	Lista de Empaque: Packing List: 13119	Fecha/Date: 7 de Febrero 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	R71005	134	CODO 1 X 90° R.L. CED-STD	329	462	46	163					
13	T50961	3	CODO 12 X 90° R.L. CED-XS	303	482	45	120					
14	T52003	1	CODO 12 X 90° R.L. CED-XS	302	484	45	118					
15	T41645	2	CODO 12 X 90° R.L. CED-XS	323	477	35	100					
16	S31050	10	CODO 3 X 90° R.C. CED-STD	309	481	32	110					
17	S32706	10	CODO 3 X 90° R.C. CED-STD	311	484	31	122					

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	R71005	71005	0.310	0.170	0.720	0.009	0.002	0.210	0.050	0.018	0.018	0.080	0.001	0.001
HF	T50961	50961	0.310	0.180	0.670	0.011	0.003	0.270	0.030	0.056	0.028	0.040	0.000	0.000
HF	T52003	52003	0.330	0.190	0.690	0.018	0.002	0.280	0.050	0.061	0.027	0.040	0.000	0.000
HF	T41645	41645	0.310	0.180	0.660	0.014	0.001	0.280	0.050	0.050	0.010	0.030	0.000	0.000
HF	S31050	31050	0.340	0.200	0.780	0.007	0.001	0.280	0.030	0.028	0.010	0.013	0.001	0.002
HF	S32706	32706	0.320	0.180	0.770	0.010	0.001	0.300	0.040	0.045	0.010	0.026	0.001	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:
2270324 10042590 10053774 8059875 469441 470997

"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 CF: FORMADO EN FRIO/COLD 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

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.