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)

Número: Number:	Página/Page:
23053	1 DE 1

Vendido a: Sold to: PLESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No: Customers Order No: 7372 - 7414 - 7265 - 7433 - 7413 -	Lista de Empaque: Packing List: 11756	Fecha/Date: 15 de Diciembre de 2009
Especificaciones y Grados / Standard or Specification and Steel Grade **Seamless Fittings according to ASTM A 234M WPB-07, NACE MR 01.75-2003** **Conform to ASME II Ed. 2001 ASME SA-234M 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
12	S33737	20	CODO 6 X 90° R.L. CED-XS	280	466	37	135					
13	T46005	30	TEE 6 CED-STD	306	473	44	118					
14	T40546	5	RED. CONC. 14 X 12 CED-STD	256	472	30	108					
15	T46806	20	CODO 10 X 90° R.L. CED-80	308	476	44	116					
16	YX2	13	TEE 3 CED-160	367	533	30	153					
17	T25718	5	TEE RED. 12 X 10 C-80	325	495	38	89					
18	T29890	4	RED. CONC. 10 X 4 CED-80	285	483	34	95					
19	ZC2	12	TEE 4 CED-160	298	465	39	135					

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	S33737	33737	0.340	0.200	0.750	0.009	0.001	0.270	0.040	0.034	0.010	0.017	0.001	0.002
HF	T46005	46005	0.300	0.170	0.660	0.016	0.002	0.290	0.040	0.053	0.018	0.030	0.002	0.000
CF	T40546	40546	0.320	0.190	0.660	0.010	0.002	0.290	0.040	0.066	0.014	0.030	0.000	0.000
HF	T46806	46806	0.310	0.180	0.670	0.009	0.002	0.290	0.040	0.065	0.030	0.030	0.000	0.000
HF	YX2	KH98AM	0.329	0.180	0.700	0.013	0.001	0.270	0.050	0.160	0.020	0.100	0.004	0.001
HF	T25718	25718	0.340	0.190	0.820	0.009	0.003	0.200	0.060	0.123	0.024	0.040	0.000	0.000
CF	T29890	29890	0.320	0.180	0.720	0.007	0.001	0.280	0.040	0.062	0.023	0.030	0.000	0.000
HF	ZC2	NRWI	0.304	0.200	0.550	0.013	0.008	0.200	0.050	0.010	0.000	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:
479806 9052832 9040856 9060618 0 6003233 6036111 0

"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.

CC-008