Tenaris

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

Número: Number:	Página/Page:
24408	1 DE 1

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.

Vendido a: / Sold to: PLESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No: / Customers Order No: 10081	Lista de Empaque: / Packing List: 12562	Fecha/Date: 08 de Junio 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	S42236	213	CODO 4 X 90° R.L. CED-STD	323	489	32	108
2	S42775	15	CODO 4 X 90° R.L. CED-STD	333	489	31	140
3	T49269	10	TEE RED. 10 X 8 CED-STD	313	485	44	120
4	T51817	100	CODO 6 X 90° R.L. CED-STD.	316	499	42	124
5	S42895	160	CODO 3 X 90° R.L. CED-XS	314	485	34	128
6	S42236	2	CODO 4 X 45° CED-STD	323	489	32	108
7	S42775	18	CODO 4 X 45° CED-STD	333	489	31	140
8	S42774	20	CODO 4 X 45° CED-STD	325	505	33	140
9	S42141	50	CODO 3 X 45° CED-STD	348	526	31	124
10	S43735	50	CODO 2 X 45° CED-STD	351	504	30	126
11	T50508	36	CODO 8 X 90° R.L. CED-XS	294	482	44	109

PRUEBA DE IMPACTO 0°C / IMPACT TEST 0°C				
DIMENSIONES SAMPLE DIM mm	1 Joules	2 Joules	3 Joules	PROMEDIO AVERAGE Joules

"El presente certificado #24408 anula al certificado del mismo número emitido el 11-Marzo-2011".

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	S42236	42236	0.330	0.190	0.760	0.011	0.001	0.290	0.040	0.031	0.020	0.035	0.002	0.002
HF	S42775	42775	0.300	0.170	0.730	0.010	0.001	0.300	0.030	0.029	0.010	0.020	0.002	0.002
HF	T49269	49269	0.310	0.180	0.670	0.010	0.001	0.300	0.020	0.068	0.030	0.030	0.000	0.000
HF	T51817	51817	0.330	0.190	0.710	0.011	0.001	0.300	0.050	0.054	0.026	0.030	0.000	0.000
HF	S42895	42895	0.320	0.190	0.730	0.012	0.002	0.300	0.030	0.016	0.010	0.015	0.003	0.002
HF	S42236	42236	0.330	0.190	0.760	0.011	0.001	0.290	0.040	0.031	0.020	0.035	0.002	0.002
HF	S42775	42775	0.300	0.170	0.730	0.010	0.001	0.300	0.030	0.029	0.010	0.020	0.002	0.002
HF	S42774	42774	0.320	0.180	0.750	0.012	0.002	0.300	0.040	0.024	0.010	0.015	0.002	0.002
HF	S42141	42141	0.340	0.190	0.800	0.010	0.001	0.330	0.030	0.040	0.010	0.028	0.002	0.002
HF	S43735	43735	0.310	0.180	0.720	0.011	0.001	0.270	0.020	0.020	0.010	0.019	0.002	0.002
HF	T50508	50508	0.310	0.170	0.690	0.010	0.002	0.260	0.060	0.072	0.023	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:

10053813 11001303 10030173 10047703
10060215 10053813 11001303 10057872
10057993 11004276 10040917

"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/jJefe de Caldad
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