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)

Numero: Number:	Pagina/Page:
26672	1

Vendido a: Sold to: PLESA ANAHUAC Y CIA. S.A. DE C.V.

Pedido del Cliente No: Customers Order No: 14222 - 14336

Lista de Empaque: Packing List: 13835

Fecha/Date: 5 de Diciembre 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
1	T5006	200	CODO 6 X 90° R.L. CED-STD.	320	481	31	156					
2	T61893	5	TEE 12 CED-STD	304	471	36	129					
3	T62025	12	RED. CONC. 8 X 4 CED-STD	319	495	44	124					
4	T61177	5	RED. CONC. 8 X 4 CED-STD	309	468	36	154					
5	T59118	80	CODO 4 X 45° CED-STD	336	508	34	154					
6	T61865	30	RED. CONC. 8 X 6 CED-STD	324	490	41	155					
7	T5012	68	CODO 2 1/2 X 90° R.L. CED-STD	360	514	36	164					
8	T61395	6	CODO 14 X 90° R.L. CED-XS	318	471	39	142					
9	S31802	3	CODO 1 1/4 X 90° R.L. CED-XS	369	523	50	133					
10	S38130	44	CODO 1 1/4 X 90° R.L. CED-XS	363	535	34	122					
11	KJ5	3	CODO 1 1/4 X 90° R.L. CED-XS	334	483	49	134					

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	T5006	5006	0.310	0.170	0.800	0.005	0.002	0.310	0.010	0.038	0.004	0.020	0.000	0.000
HF	T61893	61893	0.310	0.180	0.660	0.012	0.001	0.280	0.040	0.061	0.018	0.030	0.000	0.000
CF	T62025	62025	0.330	0.180	0.720	0.012	0.001	0.300	0.070	0.067	0.027	0.030	0.000	0.000
CF	T61177	61177	0.300	0.170	0.680	0.011	0.001	0.280	0.040	0.059	0.030	0.030	0.000	0.000
HF	T59118	59118	0.340	0.180	0.830	0.016	0.001	0.310	0.060	0.052	0.011	0.030	0.000	0.000
CF	T61865	61865	0.300	0.170	0.670	0.016	0.001	0.280	0.040	0.053	0.018	0.030	0.000	0.000
HF	T5012	5012	0.330	0.190	0.820	0.003	0.000	0.310	0.010	0.036	0.005	0.020	0.000	0.000
HF	T61395	61395	0.310	0.170	0.680	0.015	0.002	0.280	0.050	0.076	0.025	0.030	0.000	0.000
HF	S31802	31802	0.320	0.180	0.770	0.009	0.002	0.330	0.030	0.034	0.010	0.014	0.001	0.001
HF	S38130	38130	0.313	0.180	0.710	0.009	0.001	0.280	0.030	0.043	0.020	0.022	0.001	0.001
HF	KJ5	21962	0.334	0.180	0.810	0.010	0.001	0.290	0.040	0.040	0.030	0.030	0.001	0.001

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:

12071298 12062973 12073088 12048455 12032019 12065456 12068280 12041137 207944 258860 152461

"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.