



Empresas Riga, S.A. De C.V.
Carr. My-Laredo Km. 24.2
Ciénega de Flores, N.L. 65550
Tel: (81) 83-44-88-60
Fax: (81) 83-44-88-01

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

Vendido a: TUBOS, CONEXIONES Y TANQUES, S.A. DE C.V. Pedido del Cliente No: 7905 Fecha/Date: 31 de Mayo de 2004
Sold to: Customers Order No: Dimensiones y tolerancias / Dimension and tolerances

Especificaciones y Grados / Standard or Specification and Steel Grade: WPB ASTM A-234 - A E 250 NF A 49-281- ANSI B 16.9 ASME B 16.9 and ASME B 16.28 edition 2001
NACE MR01.75 ASME II Parte D Tab. Y1

Numero: 12182
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Lista de Empaque: 6775 Fecha/Date: 31 de Mayo de 2004
Packing List: Bocas / Ends
Biselado / Bevelled ends

ART. ITEM	COLADA HEAT CODE	CANTIDAD QUANTITY	DESCRIPCION / DESCRIPTION	PRUEBAS MECANICAS / MECHANICAL TEST				PRUEBA DE IMPACTO -10°C / IMPACT TEST -10°C			
				ESF. CEDENCIA YIELD STRENGTH (Mpa)	ESF. RUPTURA TENSILE STRENGTH (Mpa)	ELONG. %2"	DUREZA HARDNESS HB	DIMENSIONES SAMPLE DIM mm	1 Joules	2 Joules	3 Joules
1	TD06	18	RED. TBE 6 X 3 SCH-STD	313	481	40	126				
2	TGR6	2	RED. TBE 6 X 3 SCH-STD	315	506	40	116				
3	TGR6	14	RED. TBE 6 X 4 SCH-STD	294	479	42	125				
4	TGU6	6	RED. TBE 6 X 4 SCH-STD	316	481	42	141				
5	TGD6	6	CONC. RED. 14 X 12 SCH-STD	338	507	42	103				
6	TGN6	20	CONC. RED. 6 X 4 SCH-STD	309	462	45	126				
7	THC6	35	ELLS 6 X 90 L.R. SCH-XH	314	476	44	141				
8	SDH6	100	ELLS 4 X 90 L.R. SCH-XH	319	485	40	129				
9	TZK5	7	ELLS 8 X 45 SCH-XH	306	474	45	135				
10	TCY6	13	ELLS 8 X 45 SCH-XH	301	482	42	135				
11	TGM6	50	TBE 6 SCH-STD	325	486	43	108				

ANALISIS QUIMICO / CHEMICAL ANALYSIS

PROCESO PROCESS	COLADA CODE	HEAT	COLADA/HEAT M.P./MOTHER PIPE	%C.E.	%C	%Mn	%P	%S	%Si	%Cr	%Cu	%Mo	%Ni	%V	%Nb
CF	TD06		15280	0.305	0.170	0.670	0.010	0.003	0.270	0.040	0.092	0.030	0.050	0.000	0.000
CF	TGR6		15954	0.325	0.190	0.690	0.009	0.003	0.280	0.050	0.087	0.004	0.050	0.000	0.000
CF	TGR6		12167	0.321	0.190	0.650	0.007	0.005	0.260	0.050	0.080	0.023	0.040	0.000	0.000
CF	TGU6		15954	0.333	0.190	0.690	0.009	0.003	0.280	0.050	0.086	0.046	0.050	0.000	0.000
CF	TGD6		14787	0.346	0.190	0.830	0.011	0.003	0.300	0.040	0.094	0.004	0.040	0.000	0.000
CF	TGN6		15954	0.295	0.170	0.680	0.005	0.029	0.290	0.005	0.008	0.037	0.040	0.000	0.000
CF	THC6		16600	0.320	0.190	0.660	0.010	0.002	0.270	0.040	0.073	0.028	0.030	0.000	0.000
HF	SDH6		29755	0.321	0.180	0.770	0.009	0.001	0.300	0.040	0.030	0.010	0.010	0.000	0.000
HF	TZK5		13015	0.307	0.170	0.670	0.008	0.003	0.270	0.050	0.063	0.039	0.050	0.000	0.000
HF	TCY6		13824	0.344	0.190	0.790	0.008	0.003	0.240	0.050	0.047	0.037	0.030	0.000	0.000
CF	TGM6		16512	0.302	0.170	0.660	0.011	0.003	0.280	0.060	0.096	0.003	0.040	0.000	0.000

Certificamos que los resultados de los Analisis Quimicos y Pruebas Mecanicas
son verdaderos o una copia fiel de los certificados enviados por el Fabricante
V/o el proveedor de Materia Prima con N°:
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 supplier Raw
material certs N°:
04003195 04009338 03011291
04011137 04009331 04008482
04011291 180216 03014054
03019973 04009400

El material cumple con lo especificado en la Orden y PED 8723CE Annex I Par 7.5.
The material of this certificate heat number mentioned above is in compliance
with the requirements specified in the order and PED 8723CE Annex I Par 7.5.

Notas:
Formado en caliente a 780°C-940°C, enfriado al aire. Formado en frío normalizado a 940°C max.
Holding time 10'
Visual dimensional check. Satisfactory
CF FORMADO EN FRIO/COLD FORMED

Gerente de Aseguramiento de Calidad:
Quality Assurance Manager:
ING. JOSE MARTINEZ MACIAS

CC-008