



Tenaris Group

CERTIFICADO DE CALIDAD
INSPECTION CERTIFICATE

(DIN EN 10204 3.1.B - ISO 10474 3.1.B)

Numero: 10654
Pagina/Page: 1 DE 1

Tubos de Acero de México, S.A.
Km 433.7 Carr. México-Veracruz
Via Xalapa
(91697) Veracruz, Ver. México
(52) 229 989 1100 tel
(52) 229 989 1120 fax

Vendido A: TUBOS CONEXIONES Y TANQUES, S.A. DE C.V.

Pedido del cliente No: 6366, 6700
Customers Order No:

Lista de empaque: 6182
Fecha/Date: 25 de 2003
Agosto

Especificaciones y Grados / Standard or Specification and Steel Grade
Seamless Fittings according to ASTM/ASME AISA 234 WPB - NACE MR 01.75 ed. 02 -
Conform to ASME II Ed. 2001

Dimensiones y tolerancias / Dimension and tolerances
ASME B 16.9 and ASME B 16.28 edition 2001

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 HB	DIMENSIONES SAMPLE DIM mm	1 Joules	2 Joules	3 Joules	PROMEDIO AVERAGE Joules
1	SVC5	528	CODO R.L. 3 X 90 CED STD	345	498	34	151	N/A	N/A	N/A	N/A	N/A
2	SVK5	50	CODO 4 X 45 CED XS	330	482	39	137	N/A	N/A	N/A	N/A	N/A
3	TWH5	77	CODO 6 X 45 CED STD	339	498	40	131	N/A	N/A	N/A	N/A	N/A
4	TXW5	57	CODO 6 X 45 CED STD	343	505	38	136	N/A	N/A	N/A	N/A	N/A
5	TV05	5	CODO 6 X 45 CED XS	278	486	42	135	N/A	N/A	N/A	N/A	N/A
6	TXF5	24	CODO 6 X 45 CED XS	301	476	42	140	N/A	N/A	N/A	N/A	N/A
7	TVY5	32	CODO R.L. 6 X 90 CED STD	326	488	39	136	N/A	N/A	N/A	N/A	N/A
8	TWH5	168	CODO R.L. 6 X 90 CED STD	339	498	40	131	N/A	N/A	N/A	N/A	N/A
9	TWK5	102	CODO R.L. 8 X 90 CED STD	308	477	40	135	N/A	N/A	N/A	N/A	N/A

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	SVC5	26120	0.3360	0.200	0.760	0.009	0.002	0.310	0.020	0.030	0.010	0.020	0.001	0.001
HF	SVK5	26013	0.3390	0.180	0.830	0.010	0.001	0.310	0.040	0.050	0.030	0.040	0.001	0.001
HF	TWH5	11794	0.3480	0.180	0.840	0.011	0.021	0.290	0.060	0.097	0.036	0.040	0.000	0.000
HF	TXW5	12431	0.3620	0.190	0.840	0.007	0.003	0.270	0.060	0.079	0.058	0.040	0.000	0.000
HF	TV05	11195	0.3150	0.180	0.690	0.011	0.002	0.310	0.040	0.065	0.024	0.040	0.000	0.000
HF	TXF5	11584	0.3010	0.170	0.670	0.008	0.003	0.260	0.040	0.068	0.021	0.040	0.000	0.000
HF	TVY5	11584	0.3010	0.170	0.670	0.008	0.003	0.260	0.040	0.068	0.021	0.040	0.000	0.000
HF	TWH5	11794	0.3480	0.180	0.840	0.011	0.021	0.290	0.060	0.097	0.036	0.040	0.000	0.000
HF	TWK5	11793	0.3100	0.180	0.670	0.008	0.002	0.280	0.040	0.081	0.023	0.004	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 y/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°:
165676 165681 03008990
03011983 03006715 03008478
03008480 03009199

Notas: Formado en caliente a 780°C-940°C, enfriado al aire. Formado en frio normalizado a 940°C max. Tiempo de permanencia 10'.
Hot formed fittings in a range from 780°C to 940°C. Cooled in still air. Cold formed normalized at 940°C max. Holding time 10'.

Inspeccion Dimensional Satisfactoria. Visual dimensional check Satisfactory.
HF: FORMADO EN CALIENTE/HOT FORMED CF: FORMADO EN FRIO/COLD FORMED

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

CC-008