

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:	5495	Lista de empaque:	5759	Fecha/Date:	ENERO 31 de 2003
Sold to:		Customers Order No:		Packing List:		Bocas / Ends	
Especificaciones y Grados / Standard or Specification and Steel Grade				Dimensiones y tolerancias / Dimension and tolerances			
Seamless Fittings according to ASTM/ASME A54 234 WPB - NACE MR 01.75 ed. 02 -				ASME B 16.9 and ASME B 16.28 edition 2001			
Conform to ASME II Ed. 2001				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. RUP.TURA TENSILE STRENGTH (MPa)	ELONG. %2"	DUREZA HARDNESS HB	DIMENSIONES SAMPLE DIM (mm)	1 Joules	2 Joules	3 Joules	PROMEDIO AVERAGE Joules
1	PV5	50	CAPS 10 SCH STD	334	497	32	146	N/A	N/A	N/A	N/A	N/A
2	PA5	36	ELLS 12 X 45 SCH STD	323	474	44	140	N/A	N/A	N/A	N/A	N/A
3	OO5	18	ELLS 12 X 90 L.R. SCH STD	335	502	44	141	N/A	N/A	N/A	N/A	N/A
4	OK5	50	ELLS 4 X 45 SCH STD	372	506	38	131	N/A	N/A	N/A	N/A	N/A
5	PN5	100	ELLS 6 X 90 L.R. SCH STD	344	510	39	131	N/A	N/A	N/A	N/A	N/A
6	JK5	60	ELLS 8 X 90 L.R. SCH STD	303	487	38	137	N/A	N/A	N/A	N/A	N/A
7	KF5	1	CONC. RED. 12 X 8 SCH XH	312	483	46	147	N/A	N/A	N/A	N/A	N/A
8	WU4	2	CONC. RED. 12 X 8 SCH XH	365	529	35	141	N/A	N/A	N/A	N/A	N/A
9	JY5	40	CONC. RED. 3 X 2 1/2 SCH STD	337	491	34	141	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
CF	PV5	271151	0.2890	0.160	0.770	0.009	0.003	0.171	0.001	0.001	0.001	0.001	0.001	0.003
HF	PA5	99317	0.2990	0.170	0.650	0.007	0.003	0.270	0.040	0.076	0.027	0.040	0.000	0.000
HF	OO5	99155	0.3250	0.180	0.720	0.007	0.002	0.260	0.060	0.059	0.035	0.030	0.000	0.000
HF	OK5	98919	0.3070	0.170	0.680	0.010	0.003	0.270	0.050	0.078	0.029	0.040	0.000	0.000
HF	PN5	99520	0.3220	0.170	0.750	0.012	0.005	0.280	0.070	0.069	0.029	0.040	0.000	0.000
HF	JK5	97449	0.3450	0.180	0.840	0.006	0.001	0.260	0.050	0.067	0.035	0.050	0.000	0.000
CF	KF5	97341	0.3230	0.190	0.650	0.008	0.003	0.280	0.050	0.064	0.038	0.040	0.000	0.000
CF	WU4	90712	0.3540	0.180	0.834	0.001	0.001	0.328	0.046	0.122	0.008	0.236	0.002	0.000
CF	JY5	22138	0.3150	0.180	0.730	0.010	0.001	0.310	0.030	0.050	0.010	0.020	0.001	0.001

Notes:
 Formed in caliente a 780°C-940°C, enfriado al aire. Formado en frío normalizado a 940°C max.
 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".
 Visual dimensional check. Satisfactory.
 Visual dimensional check. Satisfactory.

Gerente de Aseguramiento de Calidad:
Quality Assurance Manager:

ING. JOSE MARTINEZ MACIAS

CC-008

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 cents N°:

42376	03000282	02019957
02019497	03000839	02013049
02012922	01017152	152476