

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.**
Sold to: **Customers Order No: 5601, 5614, 5690**
Pedido del cliente No: **5601, 5614, 5690**
Dimensiones y tolerancias / Dimension and tolerances
ASME B 16.9 and ASME B 16.28 edition 2001

Lista de empaque: **5824** Fecha/Date: **MARZO 10 de 2003**
Packing List: **Bocas / Ends**
Biselado / Bevelled ends

ART. ITEM	COLADA HEAT CODE	CANTIDAD QUANTITY	DESCRIPCION / DESCRIPTION	PRUEBAS MECANICAS / MECHANICAL TEST				PRUEBA DE IMPACTO 0°C / IMPACT TEST 0°C			
				ESF. CEDENCIA YIELD STRENGTH (MPa)	ESF. RUPTURA TENSILE STRENGTH (MPa)	ELONG. %2"	DUREZA HB	DIMENSIONES SAMPLE DIM	1 Joules	2 Joules	3 Joules
1	JPS	54	ELLS 6 X 45 SCH STD	319	478	43	136	N/A	N/A	N/A	N/A
2	NGS	90	ELLS 6 X 45 SCH STD	320	474	46	134	N/A	N/A	N/A	N/A
3	QSS	27	ELLS 10 X 90 L.R. SCH STD	360	501	30	140	N/A	N/A	N/A	N/A
4	RJS	73	ELLS 10 X 90 L.R. SHC STD	318	491	39	140	N/A	N/A	N/A	N/A
5	JXS	300	ELLS 1 1/2 X 90 L.R. SCH STD	390	536	54	128	N/A	N/A	N/A	N/A
6	BNS	300	ELLS 1 1/4 X 90 L.R. SCH STD	334	514	50	124	N/A	N/A	N/A	N/A
7	LZS	7	ELLS 12 X 90 L.R. SCH STD	328	485	42	143	N/A	N/A	N/A	N/A
8	PAS	4	ELLS 12 X 90 L.R. SCH STD	323	474	44	140	N/A	N/A	N/A	N/A
9	SBS	25	ELLS 12 X 90 L.R. SCH STD	344	509	42	140	N/A	N/A	N/A	N/A

PROCESO PROCESS	COLADA HEAT CODE	COLADA/HEAT M.P.MOTHER PIPE	ANALISIS QUIMICO / CHEMICAL ANALYSIS											
			%C.E.	%C	%Mn	%P	%S	%Si	%Cr	%Cu	%Mo	%Ni	%V	%Nb
HF	JPS	97447	0.3210	1.80	0.680	0.006	0.001	0.260	0.060	0.077	0.040	0.040	0.000	0.000
HF	NGS	98562	0.3080	1.80	0.670	0.007	0.002	0.280	0.020	0.075	0.029	0.030	0.000	0.000
HF	QSS	99646	0.3190	1.80	0.710	0.006	0.004	0.250	0.040	0.080	0.025	0.040	0.000	0.000
HF	RJS	99647	0.3110	1.70	0.670	0.013	0.001	0.260	0.070	0.071	0.033	0.060	0.000	0.000
HF	JXS	21962	0.3340	1.80	0.810	0.010	0.001	0.290	0.040	0.040	0.030	0.030	0.001	0.001
HF	BNS	43300	0.3250	1.80	0.770	0.010	0.000	0.300	0.040	0.040	0.020	0.020	0.001	0.001
HF	LZS	98081	0.3220	1.90	0.650	0.007	0.003	0.280	0.050	0.078	0.027	0.040	0.000	0.000
HF	PAS	99317	0.2990	1.70	0.650	0.007	0.003	0.270	0.040	0.076	0.027	0.040	0.000	0.000
HF	SBS	10188	0.3560	1.90	0.790	0.007	0.002	0.270	0.060	0.088	0.071	0.040	0.000	0.000

Notes: 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.
CF: FORMADO EN FRIOCOLD FORMED

Formado en caliente a 780°C-940°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

Gerente de Aseguramiento de Calidad:
Quality Assurance Manager:

ING. JOSÉ MARTÍNEZ MACÍAS

CC-008