

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

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Vendido A: TUBOS CONEXIONES Y TANQUES, S.A. DE C.V.	Pedido del cliente No: 5601, 5614, 5690	Lista de empaque: 5824	Fecha/Date: MARZO 10 de 2003
Sold to: Especificaciones y Grados / Standard or Specification and Steel Grade Seamless Fittings according to ASTM/ASME A5A 234 WPB - NACE MR 01.75 ed. 02 - Conform to ASME II Ed. 2001	Customers Order No: Dimensiones y tolerancias / Dimension and tolerances ASME B 16.9 and ASME B 16.28 edition 2001	Packing List: 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	DZ5	3	ELLS 6 X 90 L.R. SCH XH	320	478	40	140	N/A	N/A	N/A	N/A	N/A
2	QES	27	ELLS 6 X 90 L.R. SCH XH	336	497	43	140	N/A	N/A	N/A	N/A	N/A
3	QR5	180	ELLS 8 X 90 L.R. SCH STD	338	504	40	137	N/A	N/A	N/A	N/A	N/A
4	OYS	30	CONC. RED. 10 X 8 SCH STD	335	502	44	144	N/A	N/A	N/A	N/A	N/A
5	CY5	8	CONC. RED. 12 X 6 SCH STD	337	505	33	140	N/A	N/A	N/A	N/A	N/A
6	NK5	7	CONC. RED. 12 X 6 SCH STD	319	490	43	139	N/A	N/A	N/A	N/A	N/A
7	KAS	15	CONC. RED. 12 X 8 SCH STD	324	487	40	123	N/A	N/A	N/A	N/A	N/A
8	BES	5	CONC. RED. 14 X 12 SCH STD	305	511	30	143	N/A	N/A	N/A	N/A	N/A
9	NZ5	6	CONC. RED. 16 X 10 SCH STD	355	492	46	144	N/A	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	DZ5	96341	0.3230	1.80	0.690	0.007	0.003	0.280	0.050	0.078	0.049	0.040	0.000	0.000
HF	QES	99245	0.3230	1.70	0.790	0.010	0.002	0.270	0.050	0.057	0.026	0.030	0.000	0.000
HF	QR5	99520	0.3180	1.70	0.720	0.010	0.003	0.280	0.070	0.065	0.035	0.040	0.000	0.000
CF	OYS	99155	0.3250	1.80	0.720	0.007	0.002	0.260	0.060	0.059	0.035	0.030	0.000	0.000
CF	CY5	95862	0.3100	1.80	0.660	0.009	0.001	0.270	0.050	0.057	0.019	0.030	0.000	0.000
CF	NK5	97736	0.3150	1.80	0.660	0.010	0.001	0.290	0.060	0.068	0.028	0.040	0.000	0.000
CF	KAS	97341	0.3230	1.90	0.650	0.008	0.003	0.280	0.050	0.064	0.037	0.040	0.000	0.000
CF	BES	95080	0.3370	1.90	0.710	0.017	0.002	0.290	0.070	0.074	0.032	0.050	0.000	0.000
CF	NZ5	98847	0.3070	1.70	0.650	0.010	0.002	0.270	0.070	0.064	0.040	0.030	0.000	0.000

Notes:
Formado en caliente a 780°C-940°C, enfriado al aire / Formado en frío normalizado a 940°C max. / Time of permanance 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'.
Inspección 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