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**CERTIFICADO DE CALIDAD**  
**INSPECTION CERTIFICATE**

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

Vendido a: TUCOTA  
Pedido del Cliente No: 7731, 7905  
Customers Order No: 6709  
Fecha/Date: 30 de Abril de 2004

Especificaciones y Grados / Standard or Specification and Steel Grade  
Dimensiones y tolerancias / Dimension and tolerances  
ASME B 16.9 and ASME B 16.28 edition 2001

Seamless Fittings according to ASTM/ASME A/SA 234 WPB - NACE MR  
ASME B 16.9 and ASME B 16.28 edition 2001

Factura/Invoice: Bocas / Ends  
Biselado / Bevelled ends

Numero: 12016  
Pagina/Page: 1 DE 1

Lista de Empaque: 6709  
Packing List:

ART. ITEM	COLADA HEAT CODE	CANTIDA 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	TEB6	50	RED CONC 10 X 6 CED STD	331	502	44	104					
2	LL5	10	RED CONC 6 X 4 CED XS	296	482	40	137					
3	TYM5	15	RED CONC 6 X 5 CED STD	330	487	39	131					
4	SCM6	15	RED CONC 4 X 2 1/2 CED STD	344	487	35	140					
5	SZY5	50	CODO 2 1/2 X 90 R.L. CED STD	331	492	35	129					
6	SMS5	50	CODO 2 1/2 X 90 R.L. CED STD	343	487	37	131					
7	SJY5	50	RED CONC 3 X 2 CED STD	337	491	34	141					
8	SAG6	20	RED CONC 4 X 2 CED XS	307	467	41	138					
9	TSP5	15	RED CONC 12 X 8 CED STD	319	476	35	137					
10	TSP5	10	TEE RED 10 X 4 CED STD	319	476	35	137					

**ANALISIS QUIMICO / CHEMICAL ANALYSIS**

PROCESO PROCESS	COLADA HEAT CODE	COLADA/HEAT M.P./OTHER PIPE	%C.E.	%C	%Mn	%P	%S	%SI	%Cr	%Cu	%Mo	%Ni	%V	%Nb
CF	TEB6	154955	0.315	0.180	0.670	0.008	0.003	0.290	0.040	0.092	0.034	0.040	0.000	0.000
CF	LL5	97449	0.345	0.180	0.840	0.006	0.001	0.260	0.050	0.067	0.035	0.050	0.000	0.000
CF	TYM5	11584	0.301	0.170	0.670	0.008	0.004	0.260	0.040	0.069	0.021	0.040	0.000	0.000
CF	SCM6	54888	0.327	0.180	0.790	0.008	0.001	0.310	0.030	0.050	0.020	0.030	0.001	0.001
HF	SZY5	26122	0.307	0.180	0.720	0.009	0.001	0.030	0.010	0.030	0.010	0.010	0.001	0.001
HF	SMS5	26121	0.329	0.190	0.780	0.009	0.001	0.310	0.020	0.030	0.010	0.010	0.001	0.001
CF	SJY5	22138	0.315	0.180	0.730	0.010	0.001	0.310	0.030	0.050	0.010	0.020	0.001	0.001
CF	SAG6	26222	0.301	0.170	0.730	0.007	0.001	0.270	0.020	0.030	0.010	0.020	0.001	0.001
CF	TSP5	10025	0.328	0.180	0.740	0.007	0.003	0.280	0.060	0.092	0.024	0.030	0.000	0.000
CF	TSP5	10025	0.328	0.180	0.740	0.007	0.003	0.280	0.060	0.092	0.024	0.030	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 FRIO/COLD FORMED

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 certs N°  
04004746 02013191 03008479  
80219 165679 165679  
152476 165684 03004947  
3004947

Este material cumple con los requerimientos especificados en la orden  
The material of this certificate heat number mentioned above is in compliance with the requirements specified in the order"