



Tubos de Acero de México, S.A.  
 Carr. Mty-Laredo, Km 24.2  
 Acarado Postal 43  
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**CERTIFICADO DE CALIDAD  
 INSPECTION CERTIFICATE**  
 (DIN EN 10204 3.1 B - ISO 10474 3.1 B)

Vendido a: **PIESA ANAHUAC**  
 Sold to: **PIESA ANAHUAC**  
 Especificaciones y Grados / Standard or Specification and Steel Grade  
 Seamless Fittings according to ASTM A 23497 / ASME SA 234 97 -  
 NACE MR 01 75-2003 - Conform to ASME II Ed. 2001

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

Numero: **15928**  
 Pagina/Page: **1 DE 1**  
 Pedido del Cliente No: **1322**  
 Customers Order No:  
 Listado de Empaque: **8161**  
 Packing List:  
 Factura/Invoice: **Bocas / Ends**  
 Biselado / Beveled ends  
 Fecha/Date: **20 de Abril de 2006**

ART ITEM	COLADA HEAT CODE	CANTIDA QUANTITY	DESCRIPCION / DESCRIPTION	PRUEBAS MECANICAS / MECHANICAL TEST	PRUEBA DE IMPACTO 0°C / IMPACT TEST 0°C
1	T27497	20	ELLS 10 X 90 L.R. SCH-XH	ESF. CEDENCIA YIELD STRENGTH (Mpa) 300	DIMENSIONES SAMPLE DIM mm 1
2	T27437	18	ELLS 12 X 45 SCH-45 SCH-STD	ESF. RUPRTURA TENSILE STRENGTH (Mpa) 471	2
3	S33411	364	ELLS 3 X 90 L.R. SCH-STD	471	3
4	T24282	456	ELLS 4 X 90 L.R. SCH-STD	495	4
5	T26889	100	ELLS 6 X 90 L.R. SCH-STD	480	5
6	T25752	20	ELLS 8 X 45 SCH-STD	441	6
7	KW5	1	RED. TEE 4 X 2 SCH-STD	478	7
8	SCS	9	RED. TEE 4 X 2 SCH-STD	462	8
				461	9

**ANALISIS QUIMICO / CHEMICAL ANALYSIS**

PROCESO PROCESS	COLADA HEAT CODE	COLADO/HEAT M.P. MOTHER PIPE	%C E	%C	%Mn	%P	%S	%Si	%Cr	%Cu	%Mo	%Ni	%V	%Nb
HF	T27497	27497	0.300	0.170	0.660	0.011	0.002	0.300	0.050	0.071	0.017	0.030	0.000	0.000
HF	T27437	27437	0.311	0.170	0.690	0.013	0.001	0.280	0.060	0.078	0.036	0.030	0.000	0.000
HF	S33411	33411	0.324	0.180	0.730	0.011	0.002	0.300	0.080	0.034	0.010	0.024	0.001	0.001
HF	T24282	24282	0.301	0.170	0.660	0.008	0.001	0.280	0.050	0.060	0.027	0.030	0.000	0.000
HF	T26889	26889	0.313	0.170	0.680	0.010	0.001	0.280	0.060	0.079	0.043	0.050	0.000	0.000
HF	T25752	25752	0.315	0.180	0.680	0.008	0.002	0.280	0.050	0.077	0.021	0.030	0.000	0.000
CF	KW5	45137	0.321	0.180	0.650	0.008	0.002	0.230	0.070	0.120	0.030	0.060	0.001	0.001
CF	SCS	45137	0.321	0.180	0.650	0.008	0.002	0.230	0.070	0.120	0.030	0.060	0.001	0.001

**Notes:**  
 Formado en caliente a 780°C/1440°C, enfriado al  
 aire. Formado en frío normalizado a 840°C max.  
 Tiempo de permanencia 10'  
 Hefolding time 10'  
 Visual dimensional Satisfaction  
 Visual dimensional Satisfaction  
 Inspeccion Dimensional Satisfactoria  
 Inspeccion Dimensional Satisfactoria  
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 Visual dimensional Satisfaction  
 Visual dimensional Satisfaction  
 Inspeccion Dimensional Satisfactoria  
 Inspeccion Dimensional Satisfactoria

The Products described herein were produced in accordance with the above referenced specification and are identified with the "X" which is permanently marked on each fitting.

Jefe de Aseguramiento de Calidad:  
 Quality Assurance Coordinator  
 ING. JOSE MARTINEZ MACIAS  
 CC-008