



CERTIFICADO DE CALIDAD
INSPECTION CERTIFICATE
(DIN EN 10204:2004E - ISO 10474.3.1.B)

Tubos de Acero de México, S.A.
Carr. Mty-Laredo Km 24.2
Apartado Postal 43
(65550) C. de Flores, N.L. Méx.
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Vendido a:	PIESA ANAHUAC Y CIA. S. A. DE C. V.	Pedido del Cliente No:	4107	Lista de Empaque:	1 0 1 7 4	Fecha/Date:	7 de Febrero de 2008
Sold to:		Customers Order No:		Packing List:			
Specifications y Grados / Standard or Specification and Steel Grade	ASME B 16.9 - 2003 and ASME B 16.28 - 1994	Dimensiones y tolerancias / Dimension and tolerances		Factura/Invoice:	Bocas / Ends Biselado / Bevelled ends		
Seamless Fittings according to ASTM A 234 "W", WPB-97, A234 "W", WPB-05a, NACE MR 01-75-2003							
Conform to ASME II Ed. 2001 ASME SA-234 "W", Grade WPB.							

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 HARDNESS HBW	DIMENSIONES SAMPLE DIM mm	1 Joules	2 Joules	3 Joules
1	S21043	228	CODO 4 X 90° R. I. CED-STD	353	488	36	115				
2	S21712	40	CODO 4 X 45° CED-STD	301	466	32	110				
3	S22312	50	CODO 3 X 45° CED-STD	356	491	38	114				
4	S21394	48	CODO 2 X 45° CED-STD	302	472	28	133				
5	S45663	75	CODO 2 X 90° R. I. CED-NS	309	496	34	120				
6	S21394	100	CODO 2 X 90° R. I. CED-STD	302	472	28	133				
7	S22312	68	CODO 2 X 90° R. I. CED-STD	324	498	30	123				
8	S22096	15	CODO 5 X 45° CED-STD	336	494	37	106				
9	S21045	5	CODO 5 X 45° CED-STD	285	468	37	142				
10	S22585	24	CODO 2 1/2 X 45° CED-STD	331	485	30	125				
11	S28130	40	CODO 1 1/4 X 90° R. I. CED-NS	347	489	39	116				

PROCESO PROCESS	COLADA HEAT CODE	COLADA/HEAT M.P. ANOTHER PIPE	ANALISIS QUIMICO / CHEMICAL ANALYSIS												
			%C.E.	%C	%Mn	%P	%S	%SI	%Cr	%Cu	%Mo	%Ni	%V	%Nb	
HF	S21043	21043	0.330	0.190	0.730	0.009	0.001	0.260	0.040	0.028	0.030	0.028	0.001	0.001	0.001
HF	S21712	21712	0.330	0.190	0.710	0.012	0.001	0.270	0.050	0.045	0.010	0.023	0.001	0.002	0.002
HF	S22312	22312	0.320	0.190	0.740	0.010	0.001	0.290	0.030	0.019	0.010	0.010	0.001	0.001	0.001
HF	S21394	21394	0.310	0.180	0.720	0.011	0.001	0.260	0.030	0.036	0.010	0.021	0.001	0.001	0.001
HF	S45663	45663	0.310	0.180	0.730	0.009	0.001	0.300	0.030	0.022	0.020	0.017	0.001	0.002	0.002
HF	S21394	21394	0.310	0.180	0.720	0.011	0.001	0.260	0.030	0.036	0.010	0.021	0.001	0.001	0.001
HF	S22312	22312	0.320	0.180	0.750	0.011	0.001	0.300	0.030	0.019	0.010	0.011	0.001	0.002	0.002
HF	S22096	22096	0.320	0.180	0.780	0.008	0.001	0.300	0.040	0.022	0.010	0.019	0.001	0.001	0.001
HF	S21045	21045	0.320	0.170	0.770	0.010	0.002	0.270	0.040	0.029	0.030	0.030	0.001	0.001	0.001
HF	S22585	22585	0.310	0.170	0.760	0.012	0.001	0.270	0.040	0.026	0.010	0.022	0.001	0.002	0.002
HF	S28130	28130	0.313	0.180	0.710	0.009	0.001	0.280	0.030	0.043	0.020	0.022	0.001	0.001	0.001

Notes:
Hot formed fittings in a range from 620°C to 980°C, cooled in still air.
Cold formed normalized at 940°C max.
Holding time 10'.
Visual dimensional check: Satisfactory

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

Jefe de Calidad:

ING. JOSE MARTINEZ MACIAS
Quality Manager: