

**CERTIFICADO DE CALIDAD
INSPECTION CERTIFICATE**

(DIN EN 10204:2004E - ISO 10474 3.1.B)

Numero:
17173

Tubos de Acero de México, S.A.
Carr. Mty-Laredo Km 24.2
Apartado Postal 43
(65550) C. de Flores, N.L. Méx.
(52) 81 8305 9600 tel
(52) 81 8305 9620 fax

Vendido a: PLESA ANAHUAC Y CIA. S.A. DE C.V.
Sold to:

Pedido del Cliente No: 2390 - 2327 -
Customers Order No:

Lista de Empaque: 8774
Packing List:

Fecha/Date: 4 de Enero de 2007

Especificaciones y Grados / Standard or Specification and Steel Grade

Dimensiones y tolerancias / Dimension and tolerances

Factura/Invoice:
Bocas / Ends

Biselado / Bevelled ends

Seamless Fittings according to ASTM A 234-97, A 234-08a, NACE MR 01.75-2003
Conform to ASME II Ed. 2001 ASME SA-234, Grade WPB

ASME B 16.9 - 2003 and ASME B 16.28 - 1994

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 HB	DIMENSIONES SAMPLE DIM mm	1 Joules	2 Joules	3 Joules	PROMEDIO AVERAGE Joules		
12	S33538	1	CODO 4 X 90° R.I. CED-XS	300	480	51	115							
13	S32237	1	CODO 4 X 90° R.I. CED-XS	339	509	50	126							
14	S35969	42	CODO 4 X 90° R.I. CED-XS	329	476	39	119							
15	S48650	56	CODO 4 X 90° R.I. CED-XS	332	478	36	107							
16	S46694	60	CODO 4 X 90° R.C. CED-STD	331	483	34	119							
17	S46693	48	CODO 2 1/2 X 45° CED-STD	308	495	32	133							
18	S33990	20	CODO 2 1/2 X 90° R.C. CED-STD	344	487	51	126							

ANALISIS QUIMICO / CHEMICAL ANALYSIS

PROCESO PROCESS	COLADA HEAT CODE	COLADA/HEAT M.P./MOTHER PIPE	%C.E.	%C	%Mn	%P	%S	%SI	%Cr	%Cu	%Mo	%Ni	%V	%Nb
HF	S33538	33538	0.305	0.170	0.720	0.012	0.002	0.280	0.040	0.046	0.010	0.021	0.001	0.001
HF	S32237	32237	0.341	0.190	0.810	0.010	0.001	0.300	0.030	0.056	0.020	0.021	0.002	0.001
HF	S35969	35969	0.323	0.190	0.720	0.009	0.001	0.290	0.030	0.025	0.020	0.014	0.001	0.000
HF	S48650	48650	0.332	0.190	0.750	0.010	0.001	0.300	0.050	0.040	0.010	0.028	0.001	0.001
HF	S46694	46694	0.324	0.190	0.750	0.008	0.001	0.270	0.030	0.023	0.001	0.017	0.001	0.001
HF	S46693	46693	0.313	0.180	0.700	0.012	0.001	0.270	0.050	0.034	0.010	0.021	0.001	0.002
HF	S33990	33990	0.314	0.180	0.720	0.012	0.001	0.300	0.030	0.037	0.020	0.019	0.001	0.001

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.

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.

Notas:
Formado en caliente a 820°C-880°C, enfriado al aire.
Formed in hot normalized at 940°C max.
Tiempo de permanencia 10'.
Holding time 10'.
Inspección Dimensional Satisfactoria.
Visual dimensional check Satisfactory.
HF: FORMADO EN CALIENTE/NOT FORMED.
CF: FORMADO EN FRIJO/COLD FORMED.

Jefe de Calidad:
Quality Manager:

ING. JOSE MARTINEZ MACIAS

CC-008