



22832-1

Tubbs 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

**CERTIFICADO DE CALIDAD
INSPECTION CERTIFICATE**
(DIN EN 10204:2004E - ISO 10474 3.1.B)

Número:
Number:

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Vendido a: Sold to:	PROVEEDORA DE MATERIALES ANGER, S.A. DE C.V.	Pedido del Cliente No: Customers Order No:	5510 -	Lista de Empaque: Packing List:	11633	Fecha/Date:	1 de Octubre de 2009
Especificaciones y Grados / Standard or Specification and Steel Grade Seamless Fittings according to ASTM A 234M WPB-07, NACE MR 01.75-2003 Conform to ASME II Ed. 2001 ASME SA-234M Grade WPB, NACE MR0103-2003		Dimensiones y tolerancias / Dimension and tolerances ASME B 16.9 - 2007 and ASME B 16.28 - 1994		Factura/Invoice: 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. %"	DUREZA HARDNESS HBW	DIMENSIONES SAMPLE DIM mm	1 Joules	2 Joules	3 Joules	PROMEDIO AVERAGE Joules
1	T42633	6	RED. CONC. 8 X 4 CED-STD	318	482	30	121					
2	S32307	100	CODO 2 1/2 X 90° R.L. CED-STD	314	486	31	122					
3	T42699	22	TEE RED. 8 X 6 CED-STD	331	522	32	123					
4	T41975	9	RED. CONC. 10 X 6 CED-STD	347	501	30	102					
5	T40516	1	RED. CONC. 10 X 6 CED-STD	320	490	31	113					
6	T39854	6	RED. CONC. 10 X 6 CED-STD	290	470	43	101					
7	T43376	2	CODO 12 X 90° R.L. CED-40	343	503	33	105					
8	T42339	4	CODO 12 X 90° R.L. CED-40	323	482	33	109					
9	T43376	4	CODO 12 X 45° CED-40	343	503	33	105					
10	T17005	12	RED. CONC. 12 X 8 CED-40	293	471	34	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
CF	T42633	42633	0.300	0.170	0.670	0.011	0.002	0.270	0.050	0.055	0.018	0.030	0.000	0.000
HF	S32307	32307	0.330	0.190	0.710	0.012	0.002	0.260	0.050	0.039	0.010	0.028	0.001	0.001
HF	T42699	42699	0.350	0.190	0.840	0.018	0.001	0.320	0.040	0.062	0.023	0.020	0.000	0.000
CF	T41975	41975	0.300	0.170	0.680	0.008	0.002	0.270	0.050	0.069	0.019	0.030	0.000	0.000
CF	T40516	40516	0.290	0.160	0.680	0.009	0.001	0.270	0.050	0.065	0.008	0.030	0.000	0.000
CF	T39854	39854	0.310	0.180	0.690	0.013	0.002	0.290	0.040	0.056	0.008	0.030	0.000	0.000
HF	T43376	43376	0.320	0.180	0.700	0.016	0.005	0.280	0.050	0.064	0.013	0.030	0.000	0.000
HF	T42339	42339	0.300	0.170	0.660	0.010	0.002	0.280	0.050	0.068	0.009	0.030	0.000	0.000
HF	T43376	43376	0.320	0.180	0.700	0.016	0.005	0.280	0.050	0.064	0.013	0.030	0.000	0.000
CF	T17005	17005	0.300	0.170	0.650	0.014	0.003	0.250	0.040	0.063	0.025	0.030	0.000	0.000


Certificamos que los resultados de los Análisis Químicos y Pruebas Mecánicas son verdaderos o una copia fiel de los certificados enviados por el Fabricante y/o el proveedor de Materia Prima (Tubería Sin Costura) conforme ASTM A106 Grado B con N°: 9001713 468319 9007734 8063658 8044010 8037442 9022180 8063615 9022180 4014463

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 (Seamless Pipe) certs conform to ASTM A106 Grade B N°: 9001713 468319 9007734 8063658 8044010 8037442 9022180 8063615 9022180 4014463

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 620°C-980°C, enfriado al aire; Formado en frío normalizado a 940°C max.
Tiempo de permanencia 10'.
Inspección Dimensional: Satisfactoria.
HF: FORMADO EN CALIENTE/HOT FORMED

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
CF: FORMADO EN FRIO/COLD FORMED


Quality Manager / Jefe de Calidad:
ING. WALDO GALLEGOS GALVAN

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. / The values of hardness for fittings NPS 2 1/2" and smaller ones obtain from the conversion of hardness Rockwell B to hardness Brinell HBW by means of table WILSON DESK CHART 60.
Los valores de dureza para conexiones de NPS de 2 1/2" y menores, se obtienen de la conversión de dureza Rockwell B a dureza Brinell HBW mediante la tabla WILSON DESK CHART 60.