



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

Número:
Number:

22677

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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

Vendido a: Sold to:	PROVEEDORA DE MATERIALES AN CER, S.A. DE C.V.	Pedido del Cliente No: Customers Order No:	5463	Lista de Empaque: Packing List:	11558	Fecha/Date:	4 de Agosto 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. %2"	DUREZA HARDNESS HBW	DIMENSIONES SAMPLE DIM mm	1 Joules	2 Joules	3 Joules	PROMEDIO AVERAGE Joules
1	S28891	264	CODO 3 X 90° R.L. CED-STD	293	455	31	110					
2	T42416	19	CODO 6 X 45° CED-STD	250	440	38	103					
3	T42101	41	CODO 6 X 45° CED-STD	263	504	33	107					
4	T42633	15	RED. CONC. 8 X 4 CED-STD	318	482	30	121					
5	T41975	4	RED. CONC. 10 X 8 CED-STD	347	501	30	102					
6	S28891	60	CODO 4 X 45° CED-STD	495	762	32	117					
7	S28891	80	CODO 3 X 45° CED-STD	293	455	31	110					
8	S21394	28	CODO 2 X 90° R.L. CED-STD	321	478	29	133					
9	S31051	172	CODO 2 X 90° R.L. CED-STD	333	501	30	114					
10	S32859	38	CODO 6 X 90° R.L. CED-YS	332	480	38	102					
11	T42416	22	CODO 6 X 90° R.L. CED-YS	306	470	38	116					

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	S28891	28891	0.340	0.200	0.750	0.010	0.002	0.280	0.030	0.029	0.010	0.033	0.001	0.000
HF	T42416	42416	0.300	0.170	0.670	0.012	0.001	0.300	0.040	0.054	0.022	0.030	0.000	0.000
HF	T42101	42101	0.290	0.160	0.680	0.008	0.001	0.280	0.050	0.045	0.015	0.030	0.000	0.000
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
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
HF	S28891	28891	0.320	0.180	0.730	0.011	0.003	0.260	0.040	0.024	0.010	0.028	0.001	0.000
HF	S28891	28891	0.340	0.200	0.750	0.010	0.002	0.280	0.030	0.029	0.010	0.033	0.001	0.000
HF	S21394	21394	0.310	0.180	0.720	0.011	0.001	0.260	0.030	0.035	0.010	0.021	0.001	0.001
HF	S31051	31051	0.320	0.190	0.730	0.009	0.001	0.260	0.030	0.025	0.010	0.012	0.001	0.001
HF	S32859	32859	0.340	0.200	0.760	0.011	0.002	0.280	0.040	0.063	0.010	0.035	0.001	0.001
HF	T42416	42416	0.310	0.170	0.700	0.012	0.001	0.280	0.040	0.060	0.023	0.040	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°: 440948 8065017 8057845 9001713 8070097 443255 440948 371740 458002 479806 8068557

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°: 440948 8065017 8057845 9001713 8070097 443255 440948 371740 458002 479806 8068557

"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.
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