



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

CERTIFICADO DE CALIDAD INSPECTION CERTIFICATE (DIN EN 10204:2004E - ISO 10474 3.1.B)		Numero: Number: 25923	Pagina/Page: 1
Vendido a: Sold to:	PROVEEDORA DE MATERIALES ANGER, S.A. DE C.V.	Pedido del Cliente No: Customers Order No:	6206 - 6246
Especificaciones y Grados / Standard or Specification and Steel Grade Seamless Fittings according to ASTM A 234 WPB-07, NACE MR 01.75-2003 Conform to ASME II Ed. 2001 ASME SA-234, Grade WPB, NACE MR0103-2003		Lista de Empaque: Packing List:	13442
		Fecha/Date:	19 de Junio de 2012
Dimensiones y tolerancias / Dimension and tolerances ASME B 16.9 - 2007		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	T59630	2	CODO 16 X 45° CED-STD	253	471	39	138					
2	T56000	4	CODO 16 X 45° CED-STD	316	472	36	141					
3	T61275	14	CODO 16 X 45° CED-STD	282	464	35	150					
4	T51306	24	CODO 14 X 90° R.L. CED-STD	320	484	37	105					
5	T59442	150	CODO 3 X 45° CED-STD	370	510	39	145					
6	T55926	50	RED. CONC. 8 X 6 CED-STD	311	487	43	101					
7	T51306	20	CODO 14 X 45° CED-STD	320	484	37	105					
8	T60105	50	CODO 10 X 45° CED-STD	289	489	37	151					
9	T58293	10	CODO 12 X 45° CED-STD	279	460	36	95					
10	T60717	40	CODO 12 X 45° CED-STD	332	487	37	140					
11	T60105	80	CODO 10 X 90° R.L. CED-STD	289	489	37	151					

ANALISIS QUIMICO / CHEMICAL ANALYSIS														Certificamos que los resultados de los Analisis 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° 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° 12026132 11033332 12038244 10041124 12029361 11044304 10041124 12027519 12008350 12034881 12027519 "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".
PROCESO PROCESS	COLADA HEAT CODE	COLADA/HEAT M.P./MOTHER PIPE	%C.E.	%C	%Mn	%P	%S	%Si	%Cr	%Cu	%Mo	%Ni	%V	
HF	T59630	59630	0.330	0.190	0.690	0.010	0.001	0.270	0.050	0.058	0.023	0.040	0.000	0.000
HF	T56000	56000	0.320	0.190	0.710	0.011	0.001	0.290	0.040	0.071	0.020	0.030	0.000	0.000
HF	T61275	61275	0.300	0.170	0.680	0.018	0.002	0.310	0.040	0.072	0.034	0.030	0.000	0.000
HF	T51306	51306	0.310	0.180	0.660	0.011	0.001	0.260	0.040	0.050	0.022	0.030	0.000	0.000
HF	T59442	59442	0.320	0.180	0.670	0.019	0.002	0.310	0.080	0.062	0.023	0.040	0.000	0.000
CF	T55926	55926	0.310	0.170	0.680	0.012	0.001	0.290	0.060	0.067	0.021	0.030	0.000	0.000
HF	T51306	51306	0.310	0.180	0.660	0.011	0.001	0.260	0.040	0.050	0.022	0.030	0.000	0.000
HF	T60105	60105	0.310	0.180	0.670	0.015	0.001	0.290	0.050	0.080	0.014	0.030	0.000	0.000
HF	T58293	58293	0.320	0.190	0.670	0.007	0.003	0.290	0.060	0.053	0.016	0.030	0.000	0.000
HF	T60717	60717	0.310	0.180	0.670	0.011	0.004	0.290	0.040	0.067	0.022	0.030	0.000	0.000
HF	T60105	60105	0.310	0.180	0.670	0.015	0.001	0.290	0.050	0.080	0.014	0.030	0.000	0.000

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.
---	--	--	--

FOR03161