



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:	Pagina/Page:
		30426	1

Vendido a: Sold to:	PROVEEDORA DE MATERIALES ANKER, S.A. DE C.V.	Pedido del Cliente No: Customers Order No:	7716 - 7706 - 7652	Lista de Empaque: Packing List:	15905	Fecha/Date:	30 de junio de 2016
Especificaciones y Grados / Standard or Specification and Steel Grade Seamless Fittings according to ASTM A 234 WPB-13e Conform to ASME II Ed. 2013 ASME SA-234, Grade WPB		Dimensiones y tolerancias / Dimension and tolerances ASME B 16.9 - 2012			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	T79728	10	CODO 16 X 45° CED-STD	318	460	37	139					
2	T79785	2	TEE RED. 8 X 6 CED-STD	271	419	36	134					
3	T79129	129	RED. CONC. 2 1/2 X 2 CED-STD	344	496	36	121					
4	T77187	10	RED. CONC. 3 X 1 1/2 CED-STD	377	515	37	149					
5	T77075	1	RED. CONC. 16 X 14 CED-STD	318	480	31	137					
6	T81604	22	CODO 12 X 90° R.L. CED-40	312	493	33	142					
7	S74455	100	CODO 1 1/2 X 45° CED-STD	300	465	31	116					
8	T6969	5	CODO 3 X 90° R.C. CED-STD	323	500	37	157					
9	T79129	16	RED. CONC. 2 1/2 X 1 1/2 CED-STD	344	496	36	121					
10	T80869	40	RED. CONC. 5 X 4 CED-STD	349	510	38	150					
11	T23030	25	CODO 1 X 180° R.L. CED-STD	310	449	49	151					

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	T79728	79728	0.320	0.180	0.680	0.008	0.002	0.280	0.060	0.059	0.024	0.040	0.000	0.000
HF	T79785	79785	0.320	0.170	0.770	0.007	0.001	0.250	0.050	0.051	0.024	0.030	0.000	0.000
CF	T79129	79129	0.300	0.170	0.670	0.007	0.001	0.270	0.030	0.057	0.030	0.030	0.000	0.000
CF	T77187	77187	0.310	0.180	0.670	0.007	0.002	0.300	0.040	0.066	0.014	0.030	0.000	0.000
CF	T77075	77075	0.320	0.170	0.670	0.006	0.001	0.280	0.050	0.074	0.027	0.040	0.000	0.000
HF	T81604	81604	0.340	0.190	0.790	0.010	0.002	0.300	0.060	0.049	0.021	0.030	0.000	0.000
HF	S74455	74455	0.320	0.180	0.740	0.018	0.001	0.270	0.050	0.050	0.020	0.026	0.001	0.001
HF	T6969	6969	0.320	0.190	0.710	0.005	0.002	0.300	0.020	0.045	0.011	0.020	0.000	0.000
CF	T79129	79129	0.300	0.170	0.670	0.007	0.001	0.270	0.030	0.057	0.030	0.030	0.000	0.000
CF	T80869	80869	0.320	0.180	0.690	0.006	0.002	0.290	0.060	0.060	0.027	0.030	0.000	0.000
HF	T23030	23030	0.310	0.150	0.550	0.009	0.000	0.180	0.080	0.080	0.043	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°:
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°:
16000848 16001547 15047436 15020927 15019045 16016440 16011034 15011710 15047436 16016448 12792
"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.
MATERIAL ACCORDING TO NACE MR0175 / ISO 15156-1, 2009 AND NACE MR0103, 2012 ONLY HARDNESS

FOR03161