



EA - 111384  
111383

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: 2013 3.1.B )

Numero: Number:	Pagina/Page:
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Vendido a: Sold to:	PLESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No: Customers Order No:	26804 - 27241 -	Lista de Empaque: Packing List:	17782	Fecha/Date:	1 de octubre de 2018
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 WPB-18e	ASME B 16.9 - 2012						
Conform to ASME II Ed. 2017, ASME SA-234 Grade WPB							


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	T94028	40	CODO 8 X 45° CED-STD	296	443	30	137					
2	T93864	48	CODO 10 X 90° R.L. CED-STD	296	489	33	142					
3	T94250	32	CODO 10 X 90° R.L. CED-STD	315	491	37	124					
4	T94027	120	CODO 8 X 90° R.L. CED-STD	298	480	38	116					
5	T93683	4	CODO 4 X 90° R.L. CED-XS	410	472	30	146					
6	T93218	6	CODO 16 X 90° R.L. CED-STD	276	435	34	140					
7	T88129	30	CODO 8 X 90° R.C. CED-STD	316	465	32	137					
8	S48147	60	CODO 2 X 45° CED-XS	324	491	31	118					
9	T90843	100	CODO 2 1/2 X 90° R.C. CED-XS	347	497	37	122					

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	T94028	94028	0.320	0.180	0.670	0.010	0.001	0.280	0.070	0.055	0.020	0.030	0.003	0.000
HF	T93864	93864	0.310	0.180	0.670	0.007	0.001	0.280	0.040	0.077	0.018	0.040	0.002	0.000
HF	T94250	94250	0.320	0.180	0.680	0.007	0.003	0.290	0.060	0.064	0.019	0.030	0.002	0.000
HF	T94027	94027	0.300	0.170	0.680	0.006	0.001	0.270	0.050	0.065	0.020	0.030	0.002	0.000
HF	T93683	93683	0.310	0.180	0.680	0.006	0.001	0.270	0.040	0.057	0.018	0.030	0.002	0.000
HF	T93218	93218	0.320	0.190	0.680	0.006	0.002	0.270	0.040	0.062	0.011	0.030	0.002	0.000
HF	T88129	88129	0.330	0.190	0.740	0.011	0.001	0.300	0.030	0.074	0.017	0.030	0.000	0.000
HF	S48147	48147	0.320	0.170	0.740	0.007	0.001	0.270	0.040	0.040	0.020	0.018	0.002	0.001
HF	T90843	90843	0.320	0.170	0.720	0.010	0.003	0.280	0.060	0.071	0.039	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°:  
18039972 18041349 18041349 18039972 18045899 18047044 17045058 18040875 18018111  
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. ALFONSO ORTEGA GARCIA**

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, 2015 AND NACE MR0103, 2015 ONLY HARDNESS

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