

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

Numero:
Number: 30587
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Vendido a: Sold to: PLESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No: Customers Order No: 24390	Lista de Empaque: Packing List: 16006	Fecha/Date: 27 de octubre 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	T8766	228	CODO 4 X 90° R.L. CED-STD	327	491	39	157					
2	T80806	18	CODO 16 X 45° CED-STD	337	492	41	135					
3	T75114	10	CODO 8 X 45° CED-XS	302	501	36	141					
4	T80981	22	TEE 4 CED-STD	335	515	39	144					
5	T80870	30	CODO 6 X 45° CED-STD	311	479	41	143					
6	T77766	30	TEE 6 CED-XS	287	486	45	150					
7	T80490	12	CODO 14 X 45° CED-STD	280	486	46	120					
8	T77187	60	CODO 6 X 90° R.L. CED-XS	261	455	37	149					
9	T70959	1	CODO 10 X 45° CED-STD	380	526	30	143					
10	T80679	11	CODO 10 X 45° CED-STD	322	501	40	141					
11	T77918	155	CODO 4 X 90° R.L. CED-XS	301	462	33	149					

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	T8766	8766	0.310	0.190	0.690	0.012	0.002	0.270	0.020	0.037	0.006	0.020	0.000	0.000
HF	T80806	80806	0.300	0.170	0.680	0.004	0.001	0.270	0.020	0.060	0.012	0.030	0.000	0.000
HF	T75114	75114	0.360	0.190	0.840	0.006	0.002	0.280	0.060	0.069	0.032	0.060	0.000	0.000
HF	T80981	80981	0.340	0.180	0.830	0.008	0.002	0.300	0.060	0.056	0.022	0.040	0.000	0.000
HF	T80870	80870	0.310	0.180	0.680	0.007	0.002	0.280	0.050	0.058	0.022	0.030	0.000	0.000
HF	T77766	77766	0.320	0.190	0.680	0.005	0.003	0.260	0.040	0.058	0.015	0.030	0.000	0.000
HF	T80490	80490	0.300	0.170	0.680	0.006	0.001	0.270	0.030	0.067	0.020	0.030	0.000	0.000
HF	T77187	77187	0.310	0.180	0.700	0.006	0.002	0.300	0.040	0.068	0.015	0.040	0.000	0.000
HF	T70959	70959	0.320	0.170	0.760	0.007	0.001	0.270	0.040	0.075	0.017	0.040	0.000	0.000
HF	T80679	80679	0.330	0.180	0.800	0.006	0.002	0.290	0.040	0.054	0.025	0.030	0.000	0.000
HF	T77918	77918	0.300	0.170	0.670	0.006	0.001	0.270	0.040	0.053	0.015	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°: 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°: 15038065 16011801 15001644 16019902 16011736 15026387 16008853 15027958 14025264 16011481 15034301

"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 15156-1,2009 AND NACE MR0103,2012 ONLY HARDNESS