

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

Numero:
Number:

29376

Pagina/Page:

1

Vendido a: Sold to:	PLESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No: Customers Order No:	20114 - 19849	Lista de Empaque: Packing List:	15267	Fecha/Date:	30 de enero de 2015
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	T8434	228	CODO 4 X 90° R.L. CED-STD	252	437	33	145					
2	T71985	12	CODO 14 X 90° R.L. CED-STD	281	474	32	151					
3	T8767	40	TEE 4 CED-XS	262	437	34	147					
4	T7533	36	CODO 8 X 90° R.L. CED-XS	305	468	39	156					
5	T8114	40	CODO 6 X 90° R.L. CED-XS	315	466	37	144					
6	S29337	17	CODO 1 1/2 X 45° CED-XS	318	473	38	109					
7	T69908	6	TEE 16 CED-STD	292	436	40	135					
8	T6971	30	CODO 5 X 90° R.L. CED-XS	288	479	42	120					
9	T72779	50	TEE 6 CED-STD	300	472	31	149					
10	T71010	10	TEE RED. 10 X 6 CED-STD	325	486	32	144					
11	T75262	20	CODO 10 X 90° R.L. CED-80	319	482	36	140					

ANALISIS QUIMICO / CHEMICAL ANALYSIS														
PROCESO PROCÉS	COLADA HEAT CODE	COLADA/HEAT M.P./MOTHER PIPE	%C.E.	%C	%Mn	%P	%S	%Si	%Cr	%Cu	%Mo	%Ni	%V	%Nb
HF	T8434	8434	0.310	0.180	0.700	0.007	0.002	0.290	0.040	0.033	0.010	0.020	0.000	0.000
HF	T71985	71985	0.320	0.180	0.680	0.008	0.002	0.280	0.070	0.074	0.020	0.050	0.000	0.000
HF	T8767	8767	0.310	0.190	0.680	0.014	0.001	0.270	0.020	0.022	0.005	0.010	0.000	0.000
HF	T7533	7533	0.300	0.180	0.690	0.006	0.003	0.260	0.020	0.037	0.007	0.020	0.000	0.000
HF	T8114	8114	0.310	0.180	0.710	0.005	0.001	0.280	0.030	0.048	0.008	0.020	0.000	0.000
HF	S29337	29337	0.320	0.180	0.730	0.013	0.001	0.290	0.050	0.040	0.020	0.027	0.002	0.001
HF	T69908	69908	0.300	0.170	0.650	0.005	0.003	0.280	0.060	0.064	0.016	0.030	0.000	0.000
HF	T6971	6971	0.310	0.180	0.700	0.005	0.002	0.300	0.020	0.041	0.010	0.020	0.000	0.000
HF	T72779	72779	0.300	0.170	0.670	0.005	0.001	0.270	0.040	0.066	0.024	0.040	0.000	0.000
HF	T71010	71010	0.310	0.180	0.680	0.007	0.001	0.290	0.040	0.062	0.013	0.030	0.000	0.000
HF	T75262	75262	0.320	0.180	0.660	0.006	0.001	0.280	0.070	0.080	0.029	0.070	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°:
15000969 14054862 14052515 14028268 14040215 14015052
14020736 14044789 14039911 14022388 14067511
"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	<p><i>Waldo Gallegos</i></p> <p>Quality Manager/Jefe de Calidad: ING. WALDO GALLEGOS GALVAN</p>	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
---	--	---	--	-----------------



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: 29377	Pagina/Page: 2
Vendido a: Sold to: PLESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No: Customers Order No: 20114 -	Lista de Empaque: Packing List: 15267	Fecha/Date: 30 de enero de 2015
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
12	T69686	10	TEE RED. 8 X 6 CED-XS	289	472	45	149					
13	T74341	10	TEE 10 CED-80	347	483	38	134					
14	T73977	10	TEE RED. 8 X 4 CED-XS	269	439	38	143					
15	T71985	24	CODO 12 X 90° R.L. CED-80	277	461	36	131					
16	T72649	6	TEE 12 CED-40	268	419	30	152					

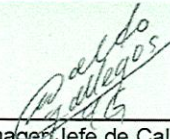
ANALISIS QUIMICO / CHEMICAL ANALYSIS														
PROCESO PROCÉS	COLADA HEAT CODE	COLADA/HEAT M.P./MOTHER PIPE	%C.E.	%C	%Mn	%P	%S	%Si	%Cr	%Cu	%Mo	%Ni	%V	%Nb
HF	T69686	69686	0.310	0.180	0.680	0.010	0.001	0.280	0.040	0.057	0.011	0.030	0.000	0.000
HF	T74341	74341	0.310	0.170	0.680	0.005	0.002	0.280	0.070	0.071	0.023	0.060	0.000	0.000
HF	T73977	73977	0.310	0.180	0.660	0.013	0.002	0.280	0.070	0.058	0.013	0.040	0.000	0.000
HF	T71985	71985	0.320	0.180	0.670	0.007	0.001	0.280	0.070	0.073	0.020	0.050	0.000	0.000
HF	T72649	72649	0.310	0.180	0.660	0.006	0.001	0.280	0.070	0.069	0.015	0.050	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°: 14004996 14059247 14055063 14044494 14044748

"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