

CERTIFICADO DE CALIDAD INSPECTION CERTIFICATE (DIN EN 10204:2004E - ISO 10474: 2013 3.1.B)		Numero: Number: 32408	Pagina/Page: 1
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Vendido a: Sold to: PLESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No: Customers Order No: 27931 - 27241	Lista de Empaque: Packing List: 18066	Fecha/Date: 1 de abril de 2019
Especificaciones y Grados / Standard or Specification and Steel Grade Seamless Fittings according to ASTM A 234 WPB-18e Conform to ASME II Ed. 2017, ASME SA-234 Grade WPB	Dimensiones y tolerancias / Dimension and tolerances ASME B 16.9 - 2018		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	T94105	32	TEE 8 CED-STD	296	451	36	143					
2	T96380	15	RED. CONC. 10 X 8 CED-STD	330	479	42	126					
3	T93683	43	CODO 4 X 45° CED-STD	285	475	33	146					
4	T94027	6	CODO 4 X 45° CED-STD	295	451	31	149					
5	T91329	10	CODO 4 X 45° CED-STD	295	461	30	150					
6	T95811	9	CODO 4 X 45° CED-STD	435	504	30	155					
7	T96571	12	CODO 4 X 45° CED-STD	261	435	33	143					
8	T96572	100	CODO 3 X 45° CED-STD	345	491	39	140					
9	T8432	1	CODO 3 X 90° R.C. CED-XS	312	480	39	146					
10	T88854	34	CODO 3 X 90° R.C. CED-XS	336	487	36	145					
11	T96570	82	CODO 8 X 90° R.C. CED-STD	303	415	31	135					

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	T94105	94105	0.320	0.180	0.710	0.007	0.001	0.270	0.040	0.058	0.024	0.030	0.002	0.000
CF	T96380	96380	0.290	0.160	0.670	0.011	0.002	0.270	0.050	0.067	0.025	0.030	0.002	0.000
HF	T93683	93683	0.310	0.180	0.680	0.006	0.001	0.270	0.030	0.057	0.018	0.030	0.002	0.000
HF	T94027	94027	0.300	0.170	0.680	0.006	0.001	0.270	0.050	0.066	0.020	0.030	0.002	0.000
HF	T91329	91329	0.330	0.180	0.800	0.011	0.001	0.300	0.030	0.067	0.020	0.030	0.000	0.000
HF	T95811	95811	0.300	0.160	0.670	0.007	0.001	0.280	0.060	0.064	0.027	0.030	0.003	0.000
HF	T96571	96571	0.300	0.170	0.660	0.010	0.002	0.270	0.040	0.058	0.025	0.030	0.002	0.000
HF	T96572	96572	0.300	0.170	0.660	0.010	0.002	0.270	0.060	0.055	0.028	0.030	0.002	0.000
HF	T8432	8432	0.310	0.180	0.700	0.006	0.002	0.290	0.030	0.024	0.008	0.010	0.000	0.000
HF	T88854	88854	0.320	0.180	0.730	0.012	0.002	0.290	0.040	0.064	0.017	0.020	0.000	0.000
HF	T96570	96570	0.300	0.170	0.670	0.013	0.001	0.260	0.060	0.060	0.020	0.030	0.001	0.000

<p>Notas:</p> <p>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</p>	<p>Notas:</p> <p>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>	 Quality Manager/Jefe de Calidad: ING. ALFONSO ORTEGA GARCIA	<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, 2015 AND NACE MR0103,2015 ONLY HARDNESS</p>	<p>FOR03161</p>
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CERTIFICADO DE CALIDAD INSPECTION CERTIFICATE (DIN EN 10204:2004E - ISO 10474: 2013 3.1.B)		Numero: Number:	Pagina/Page:
		32409	2

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Especificaciones y Grados / Standard or Specification and Steel Grade Seamless Fittings according to ASTM A 234 WPB-18e Conform to ASME II Ed. 2017, ASME SA-234 Grade WPB		Dimensiones y tolerancias / Dimension and tolerances ASME B 16.9 - 2018			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	T91360	20	RED. CONC. 12 X 10 CED-STD	299	455	35	142					
13	T93864	10	RED. CONC. 8 X 6 CED-XS	303	485	44	131					
14	T74341	4	TEE RED. 10 X 8 CED-80	255	440	39	145					
15	T96572	35	CODO 3 X 90° R.C. CED-STD	344	488	38	149					
16	T92938	4	TEE RED. 12 X 10 CED-STD	259	417	36	137					
17	S41922	40	CODO 2 1/2 X 90° R.C. CED-STD	305	470	33	146					
18	T87037	19	CODO 8 X 90° R.C. CED-XS	311	431	35	134					

ANALISIS QUIMICO / CHEMICAL ANALYSIS														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°: 18032866 18034879 14058027 19007458 18049972 17012259 17034027 "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	
CF	T91360	91360	0.320	0.180	0.720	0.007	0.003	0.280	0.040	0.068	0.014	0.040	0.002	0.000
CF	T93864	93864	0.310	0.180	0.680	0.007	0.002	0.280	0.040	0.079	0.018	0.040	0.002	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	T96572	96572	0.310	0.170	0.670	0.010	0.002	0.270	0.060	0.054	0.028	0.030	0.002	0.000
HF	T92938	92938	0.300	0.170	0.660	0.009	0.001	0.310	0.050	0.066	0.012	0.030	0.003	0.000
HF	S41922	41922	0.320	0.190	0.740	0.008	0.001	0.300	0.020	0.020	0.010	0.015	0.002	0.002
HF	T87037	87037	0.330	0.180	0.800	0.011	0.001	0.310	0.040	0.048	0.015	0.020	0.000	0.000

Notas:
Formado en caliente a 620°C-980°C, enriado 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