Tenaris

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
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CERTIFICADO DE CALIDAD
INSPECTION CERTIFICATE
(DIN EN 10204:2004E - ISO 10474 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: 18096 - 18308	Lista de Empaque: Packing List: 14960	Fecha/Date: 15 de julio de 2014
Especificaciones y Grados / Standard or Specification and Steel Grade **Seamless Fittings according to ASTM A 234 WPB-13e** **Conform to ASME II Ed. 2001 ASME SA-234,Grade WPB**	Dimensiones y tolerancias / Dimension and tolerances **ASME B 16.9 - 2007**	**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	T8105	151	CODO 3 X 90° R.L. CED-STD	332	481	42	147					
2	T5925	113	CODO 3 X 90° R.L. CED-STD	346	497	31	150					
3	T7193	80	CODO 4 X 45° CED-STD	278	479	36	146					
4	S21359	50	CODO 2 X 45° CED-STD	348	496	30	130					
5	T70959	10	RED. CONC. 8 X 6 CED-STD	329	503	43	150					
6	T65039	50	RED. CONC. 8 X 6 CED-STD	260	454	71	155					
7	T70154	40	CODO 10 X 90° R.L. CED-STD	250	452	38	142					
8	T5967	15	CODO 8 X 90° R.L. CED-STD	301	484	32	146					
9	T7191	400	CODO 4 X 90° R.L. CED-XS	270	463	35	144					
10	T7193	60	CODO 4 X 90° R.C. CED-STD	274	479	35	142					
11	T64661	48	CODO 2 1/2 X 45° CED-STD	359	502	37	163					

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	T8105	8105	0.310	0.180	0.720	0.006	0.002	0.300	0.030	0.038	0.009	0.020	0.000	0.000
HF	T5925	5925	0.330	0.190	0.780	0.006	0.001	0.310	0.040	0.036	0.006	0.020	0.000	0.000
HF	T7193	7193	0.310	0.180	0.730	0.007	0.001	0.270	0.020	0.034	0.009	0.020	0.000	0.000
HF	S21359	21359	0.310	0.180	0.720	0.011	0.001	0.270	0.020	0.020	0.010	0.019	0.002	0.002
CF	T70959	70959	0.320	0.170	0.770	0.007	0.000	0.270	0.030	0.074	0.017	0.040	0.000	0.000
CF	T65039	65039	0.300	0.170	0.650	0.012	0.002	0.250	0.050	0.049	0.027	0.030	0.000	0.000
HF	T70154	70154	0.310	0.170	0.670	0.011	0.001	0.310	0.060	0.061	0.029	0.040	0.000	0.000
HF	T5967	5967	0.320	0.180	0.760	0.005	0.001	0.310	0.020	0.047	0.006	0.020	0.000	0.000
HF	T7191	7191	0.300	0.170	0.710	0.006	0.001	0.270	0.030	0.033	0.013	0.020	0.000	0.000
HF	T7193	7193	0.310	0.180	0.720	0.007	0.002	0.280	0.020	0.034	0.008	0.020	0.000	0.000
HF	T64661	64661	0.310	0.180	0.680	0.015	0.001	0.290	0.030	0.040	0.017	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 Nº:
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 suplier Raw material (Seamless Pipe) certs conform to ASTM A106 Grade B Nº:

14028027 13040140 14022646 12048849 14022439 13029591
14012788 13025208 14019828 14012610 13025344

"Este material cumple con los requerimientos especificados en la orden".
"The material of this certificate heat number mentioned above is in compilance 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 nomalized 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

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

Numero: / Number: 28737

Pagina/Page: 2

Vendido a: / Sold to: PLESA ANAHUAC Y CIA. S.A. DE C.V.

Pedido del Cliente No: / Customers Order No: 18096 - 18308

Lista de Empaque: / Packing List: 14960

Fecha/Date: 15 de julio de 2014

Especificaciones y Grados / Standard or Specification and Steel Grade
Seamless Fittings according to ASTM A 234 WPB-13e
Conform to ASME II Ed. 2001 ASME SA-234,Grade WPB

Dimensiones y tolerancias / Dimension and tolerances
ASME B 16.9 - 2007

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	T65578	10	RED. CONC. 14 X 10 CED-STD	350	486	30	152					
13	S28476	60	CODO 1 1/2 X 45° CED-XS	343	485	47	135					
14	T7533	40	CODO 6 X 90° R.C. CED-XS	299	481	30	146					
15	T5013	1	CODO 4 X 90° R.C. CED-XS	316	497	32	142					
16	T4888	6	CODO 4 X 90° R.C. CED-XS	276	485	33	158					
17	T4465	10	CODO 4 X 90° R.C. CED-XS	292	495	33	153					
18	S46803	3	CODO 4 X 90° R.C. CED-XS	316	490	32	111					
19	T70640	5	RED. CONC. 16 X 14 CED-STD	322	493	30	142					
20	T71010	20	RED. CONC. 12 X 10 CED-STD	325	486	32	133					
21	T70959	50	TEE 6 CED-STD	319	473	30	145					
22	T69560	2	CODO 10 X 90° R.L. CED-80	379	500	34	146					

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
CF	T65578	65578	0.290	0.160	0.650	0.014	0.002	0.280	0.050	0.062	0.015	0.030	0.000	0.000
HF	S28476	28476	0.340	0.190	0.770	0.014	0.002	0.280	0.050	0.050	0.030	0.084	0.001	0.002
HF	T7533	7533	0.300	0.170	0.720	0.006	0.001	0.270	0.020	0.036	0.008	0.020	0.000	0.000
HF	T5013	5013	0.320	0.180	0.820	0.004	0.002	0.330	0.010	0.038	0.006	0.020	0.000	0.000
HF	T4888	4888	0.300	0.170	0.760	0.004	0.001	0.320	0.010	0.019	0.004	0.010	0.000	0.000
HF	T4465	4465	0.320	0.180	0.790	0.004	0.000	0.320	0.010	0.030	0.004	0.010	0.000	0.000
HF	S46803	46803	0.330	0.180	0.780	0.008	0.001	0.290	0.040	0.046	0.020	0.060	0.002	0.002
CF	T70640	70640	0.320	0.180	0.670	0.006	0.001	0.260	0.060	0.068	0.027	0.040	0.000	0.000
CF	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	T70959	70959	0.320	0.170	0.770	0.007	0.001	0.270	0.030	0.075	0.017	0.040	0.000	0.000
HF	T69560	69560	0.300	0.170	0.680	0.007	0.001	0.270	0.050	0.059	0.016	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 Nº:
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 suplier Raw material (Seamless Pipe) certs conform to ASTM A106 Grade B Nº:

13047010 13041532 14021704 12069256 12069314 12069256
11046236 14021651 14022388 14021697 14004270

"Este material cumple con los requerimientos especificados en la orden".
"The material of this certificate heat number mentioned above is in compilance 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 nomalized 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

Tenaris

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

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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: 18308 - 18096

Lista de Empaque: Packing List: 14960

Fecha/Date: 15 de julio de 2014

Especificaciones y Grados / Standard or Specification and Steel Grade
Seamless Fittings according to ASTM A 234 WPB-13e
Conform to ASME II Ed. 2001 ASME SA-234,Grade WPB

Dimensiones y tolerancias / Dimension and tolerances
ASME B 16.9 - 2007

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
23	T68667	8	CODO 10 X 90° R.L. CED-80	307	474	40	146					
24	T69687	9	CODO 12 X 45° SHC-80	273	469	39	144					
25	S44801	72	CODO 1 1/2 X 45° CED-STD	381	516	48	116					
26	T7195	50	CODO 2 1/2 X 90° R.L. CED-XS	319	483	42	142					
27	T5007	70	CODO 3 X 90° R.C. CED-STD	362	518	39	154					
28	T71010	20	RED. CONC. 12 X 6 CED-STD	325	486	32	133					
29	T71010	17	RED. CONC. 12 X 8 CED-STD	325	486	32	133					
30	T65548	3	RED. CONC. 12 X 8 CED-STD	318	482	30	143					
31	T5013	2	CODO 3 X 90° R.L. CED-160	351	513	41	176					
32	T5290	18	CODO 3 X 90° R.L. CED-160	328	511	36	155					
33	T69687	24	CODO 12 X 90° R.L. CED-80	273	469	39	144					

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	T68667	68667	0.300	0.170	0.680	0.007	0.001	0.260	0.040	0.062	0.013	0.030	0.000	0.000
HF	T69687	69687	0.290	0.170	0.660	0.009	0.001	0.270	0.030	0.054	0.010	0.030	0.000	0.000
HF	S44801	44801	0.310	0.160	0.830	0.012	0.001	0.280	0.040	0.050	0.010	0.035	0.001	0.002
HF	T7195	7195	0.310	0.180	0.720	0.005	0.001	0.270	0.040	0.031	0.006	0.020	0.000	0.000
HF	T5007	5007	0.320	0.180	0.780	0.005	0.002	0.310	0.020	0.042	0.004	0.020	0.000	0.000
CF	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
CF	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
CF	T65548	65548	0.310	0.180	0.670	0.012	0.001	0.280	0.040	0.058	0.011	0.030	0.000	0.000
HF	T5013	5013	0.320	0.180	0.800	0.003	0.001	0.310	0.010	0.035	0.005	0.020	0.000	0.000
HF	T5290	5290	0.310	0.170	0.770	0.004	0.002	0.340	0.020	0.032	0.007	0.020	0.000	0.000
HF	T69687	69687	0.290	0.170	0.660	0.009	0.001	0.270	0.030	0.054	0.010	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 Nº:
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 suplier Raw material (Seamless Pipe) certs conform to ASTM A106 Grade B Nº:

14001015 14008038 13025325 14020453 12084850 14022388 14022388 13047573 12081751 13008674 14008038

"Este material cumple con los requerimientos especificados en la orden".
"The material of this certificate heat number mentioned above is in compilance 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 nomalized 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

5OR03161

Tenaris

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

Tubos de Acero de México, S.A.
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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: 18096 -	Lista de Empaque: Packing List: 14960	Fecha/Date: 15 de julio de 2014
Especificaciones y Grados / Standard or Specification and Steel Grade **Seamless Fittings according to ASTM A 234 WPB-13e** **Conform to ASME II Ed. 2001 ASME SA-234,Grade WPB**	Dimensiones y tolerancias / Dimension and tolerances **ASME B 16.9 - 2007**	**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
34	T6972	20	CODO 8 X 90° R.C. CED-XS	277	469	36	143					
35	S28476	50	CODO 1 1/4 X 45° CED-XS	343	485	47	135					
36	T70959	10	RED. CONC. 8 X 3 CED-STD	329	503	43	150					
37	T7195	30	CODO 2 1/2 X 45° CED-XS	319	483	42	142					
38	T8112	10	CODO 5 X 90° R.C. CED-XS	312	473	35	143					

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	T6972	6972	0.290	0.160	0.700	0.005	0.002	0.280	0.020	0.032	0.007	0.020	0.000	0.000
HF	S28476	28476	0.340	0.190	0.770	0.014	0.002	0.280	0.050	0.050	0.030	0.084	0.001	0.002
CF	T70959	70959	0.320	0.170	0.770	0.007	0.000	0.270	0.030	0.074	0.017	0.040	0.000	0.000
HF	T7195	7195	0.310	0.180	0.720	0.005	0.001	0.270	0.040	0.031	0.006	0.020	0.000	0.000
HF	T8112	8112	0.310	0.180	0.710	0.007	0.002	0.280	0.020	0.045	0.008	0.020	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 Nº:
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 suplier Raw material (Seamless Pipe) certs conform to ASTM A106 Grade B Nº:
14002655 13041532 14022439 14020453 14030914

"Este material cumple con los requerimientos especificados en la orden".
"The material of this certificate heat number mentioned above is in compilance 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 nomalized 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