Tenaris

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

Numero: / Number:	Pagina/Page:
25895	1

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

Pedido del Cliente No / Customers Order No: 12701 - 12812 - 12854 - 12885 - 13097

Lista de Empaque / Packing List: 13423

Fecha/Date: 8 de Junio de 2012

Especificaciones y Grados / Standard or Specification and Steel Grade

Seamless Fittings according to ASTM A 234 WPB-07, NACE MR 01.75-2003

Conform to ASME II Ed. 2001 ASME SA-234,Grade WPB, NACE MR0103-2003

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	T59118	53	TEE 4 CED-STD	305	480	36	161					
2	T54399	48	TEE 4 CED-STD	311	479	40	126					
3	T51982	1	TEE 6 CED-XS	278	463	40	106					
4	T50825	2	TEE 6 CED-XS	288	477	33	102					
5	T59442	60	CODO 8 X 90° R.L. CED-STD	330	488	35	152					
6	S42828	7	CODO 5 X 45° CED-STD	307	473	36	101					
7	S38904	2	CODO 4 X 90° R.C. CED-XS	290	477	37	113					
8	T54071	48	CODO 4 X 90° R.C. CED-XS	337	495	40	124					
9	T58936	20	TEE 10 CED-STD	322	472	33	138					
10	T51581	10	TEE 10 CED-80	306	495	48	120					
11	T32354	5	RED. CONC. 12 X 10 CED-40	346	481	37	84					

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	T59118	59118	0.330	0.180	0.820	0.015	0.000	0.340	0.050	0.045	0.010	0.030	0.000	0.000
HF	T54399	54399	0.300	0.170	0.680	0.010	0.001	0.280	0.050	0.064	0.015	0.030	0.000	0.000
HF	T51982	51982	0.340	0.180	0.840	0.011	0.001	0.260	0.040	0.078	0.042	0.040	0.000	0.000
HF	T50825	50825	0.290	0.170	0.650	0.011	0.001	0.270	0.040	0.048	0.011	0.020	0.000	0.000
HF	T59442	59442	0.300	0.170	0.650	0.018	0.003	0.290	0.050	0.071	0.020	0.030	0.000	0.000
HF	S42828	42828	0.330	0 190	0.760	0.012	0.001	0.330	0.030	0.038	0.020	0.020	0.003	0.002
HF	S38904	38904	0.313	0.170	0.780	0.009	0.002	0.280	0.030	0.024	0.020	0.021	0.001	0.001
HF	T54071	54071	0.000	0.170	0.670	0.009	0.002	0.280	0.060	0.162	0 027	0.070	0.000	0.000
HF	T58936	58936	0.300	0.170	0.670	0.012	0.003	0.280	0.040	0.061	0.014	0.040	0.000	0.000
HF	T51581	51581	0.350	0.190	0.850	0.009	0.001	0.300	0.050	0.066	0.016	0.040	0.000	0.000
CF	T32354	32354	0.310	0.180	0.670	0.008	0.001	0.270	0.050	0.059	0.021	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:

12010850 11028774 11044090 10047125 12029272 11033050 261678 11037968 12009046 10050026 7002947

"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 frio 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.