Tenaris

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

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Tubos de Acero de México
Carr. Mty-Laredo Km 24.2
Apartado Postal 43
(65550) C. de Flores, N.L.
(52) 81 8305 9600 tel.
(52) 81 8305 9630 fax.

Vendido a: / Sold to: PLESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No: / Customers Order No: 12812 - 12170 - 12701 - 12885	Lista de Empaque: / Packing List: 13335	Fecha/Date: 17 de Mayo 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	S48018	264	CODO 3 X 90° R.L. CED-STD	312	485	30	96					
2	T56078	40	CODO 6 X 90° R.C. CED-STD	304	458	41	116					
3	S48019	66	CODO 4 X 45° CED-STD	315	485	31	103					
4	S48021	37	CODO 4 X 45° CED-STD	325	478	30	104					
5	S46665	27	CODO 4 X 45° CED-STD	305	481	30	140					
6	T56077	30	CODO 4 X 90° R.C. CED-STD	336	480	38	156					
7	S31802	20	CODO 1 1/4 X 90° R.L. CED-STD	369	523	50	133					
8	S48307	30	CODO 1 1/2 X 90° R.L. CED-XS	313	486	34	121					
9	T58016	4	RED. CONC. 14 X 12 CED-STD	313	470	34	100					
10	T54644	10	CODO 14 X 90° R.L. CED-40	244	432	33	111					
11	T56077	20	CODO 4 X 45° CED-XS	295	465	33	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
HF	S48018	48018	0.330	0.190	0.740	0.010	0.001	0.280	0.050	0.057	0.020	0.020	0.001	0.002
HF	T56087	56087	0.300	0.170	0.680	0.013	0.001	0.270	0.050	0.046	0.011	0.030	0.000	0.000
HF	S48019	48019	0.340	0.200	0.770	0.011	0.001	0.330	0.040	0.027	0.010	0.013	0.003	0.002
HF	S48021	48021	0.320	0.180	0.730	0.012	0.001	0.290	0.040	0.027	0.040	0.013	0.002	0.002
HF	S46665	46665	0.340	0.200	0.740	0.009	0.001	0.290	0.050	0.053	0.010	0.025	0.001	0.002
HF	T56077	56077	0.300	0.170	0.690	0.013	0.002	0.280	0.050	0.047	0.011	0.030	0.000	0.000
HF	S31802	31802	0.320	0.180	0.770	0.009	0.002	0.330	0.030	0.034	0.010	0.014	0.001	0.001
HF	S48307	48307	0.317	0.180	0.720	0.010	0.001	0.290	0.040	0.029	0.020	0.036	0.001	0.001
CF	T58016	58016	0.000	0.180	0.680	0.013	0.001	0.290	0.040	0.058	0.021	0.030	0.000	0.000
HF	T54644	54644	0.310	0.180	0.670	0.006	0.003	0.270	0.050	0.070	0.022	0.050	0.000	0.000
HF	T56077	56077	0.300	0.170	0.680	0.013	0.001	0.270	0.040	0.044	0.009	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:

11058109 11034435 11058468 11058354 12002319
11038735 207944 344862 12016804 11042278 11037966

"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.

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