

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.
(52) 81 8305 9630 fax.

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

Número:
Number:

24417

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Vendido a: Sold to:	PROVEEDORA DE MATERIALES ANCR. S.A. DE C.V.	Pedido del Cliente No: Customers Order No:	5960 -	Lista de Empaque: Packing List:	12568	Fecha/Date:	15 de Marzo de 2011
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 and ASME B 16.28 - 1994			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	S42895	36	CODO 3 X 90° R.L. CED-XS	314	485	34	128					
2	T50463	27	CODO 16 X 90° R.L. CED-STD	319	494	33	96					
3	T50768	9	CODO 16 X 90° R.L. CED-STD	336	499	41	122					
4	S31050	102	CODO 1 1/2 X 90° R.L. CED-STD.	367	534	32	130					
5	S38130	12	CODO 1 1/2 X 45° CED-XS	358	524	34	130					
6	S42183	200	CODO 2 X 45° CED-XS	311	482	30	83					
7	T50768	26	RED. CONC. 12 X 6 CED-STD	306	481	32	92					
8	T51525	4	RED. CONC. 12 X 6 CED-STD	322	483	31	112					

ANALISIS QUIMICO / CHEMICAL ANALYSIS															Certificamos que los resultados de los Analisis Quimicos y Pruebas Mecanicas son verdaderos o una copia fiel de los certificados enviados por el Fabricante y/o el proveedor de Materia Prima (Tuberia 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°: 10060214 10053787 10053761 457348 258860 10058938 10053790 10057669 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	%Nb	
HF	S42895	42895	0.320	0.190	0.730	0.012	0.002	0.300	0.030	0.016	0.010	0.015	0.003	0.002	
HF	T50463	50463	0.320	0.180	0.700	0.010	0.002	0.280	0.060	0.054	0.022	0.030	0.000	0.000	
HF	T50768	50768	0.320	0.190	0.680	0.013	0.001	0.290	0.050	0.046	0.010	0.030	0.000	0.000	
HF	S31050	31050	0.330	0.190	0.760	0.007	0.002	0.270	0.030	0.023	0.010	0.013	0.001	0.000	
HF	S38130	38130	0.313	0.180	0.710	0.009	0.001	0.280	0.030	0.043	0.020	0.022	0.001	0.001	
HF	S42183	42183	0.330	0.190	0.760	0.010	0.002	0.290	0.030	0.022	0.010	0.013	0.001	0.002	
CF	T50768	50768	0.310	0.180	0.660	0.013	0.001	0.280	0.050	0.044	0.018	0.030	0.000	0.000	
CF	T51525	51525	0.310	0.180	0.670	0.013	0.002	0.270	0.040	0.057	0.015	0.030	0.000	0.000	

Notes:
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 air.
Cold formed normalized at 940°C max.
Holding time 10'.
Visual dimensional check: Satisfactory
CF: FORMADO EN FRIO/COLD FORMED

Waldo Gallegos Galvan
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.