

Tenaris

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

Número:
Number:
24424

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Vendido a: Sold to:	PROVEEDORA DE MATERIALES ANCER, S.A. DE C.V.	Pedido del Cliente No: Customers Order No:	5960 -	Lista de Empaque: Packing List:	12572	Fecha/Date:	16 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	T51525	37	RED. CONC. 12 X 10 CED-STD	322	483	31	112					
2	T50768	1	RED. CONC. 12 X 10 CED-STD	306	481	32	92					
3	T50825	143	TEE 6 CED-STD	327	487	31	115					
4	T52235	157	TEE 6 CED-STD	315	494	33	104					
5	T49961	29	CODO 3 X 90° R.I. CED-160	321	468	45	118					

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°: 10053790 10053790 10048778 10053599 10041121
PROCESO PROCESS	COLADA HEAT CODE	COLADA/HEAT M.P./MOTHER PIPE	%C.E.	%C	%Mn	%P	%S	%Si	%Cr	%Cu	%Mo	%Ni	%V	
CF	T51525	51525	0.310	0.180	0.670	0.014	0.003	0.270	0.040	0.058	0.015	0.030	0.000	0.000
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
HF	T50825	50825	0.290	0.170	0.650	0.011	0.001	0.270	0.040	0.049	0.011	0.020	0.000	0.000
HF	T52235	52235	0.320	0.180	0.730	0.015	0.002	0.280	0.040	0.062	0.022	0.040	0.000	0.000
HF	T49961	49961	0.310	0.180	0.660	0.008	0.001	0.280	0.050	0.059	0.022	0.030	0.000	0.000

Notes: Formado en caliente a 520°C-960°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 520°C to 960°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. 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.

CC-008