



Tenaris

CERTIFICADO DE CALIDAD INSPECTION CERTIFICATE

(DIN EN 10204:2004E - ISO 10474 3.1.B)

Numero:
Number:
20171

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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 9620 fax

Vendido a: Sold to:	PLESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No: Customers Order No:	4507 - 4482 -	Fecha/Date:	24 de Abril de 2008
Especificaciones y Grados / Standard or Specification and Steel Grade		Dimensiones y tolerancias / Dimension and tolerances		Factura/Invoice:	
Seamless Fittings according to ASTM A 234" W" WPB-97, A234" W" WPB-08a, NACE MR 01.75-2003		ASME B 16.9 - 2003 and ASME B 16.28 - 1994		Bocas / Ends	
Conform to ASME II Ed. 2001 ASME SA-234" W" Grade WPB, NACE MRO 103-2003				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	T36223	1	CODO 12 X 90° R.L. CED-80	281	482	42	85					
13	T36927	6	CODO 12 X 90° R.L. CED-80	278	468	47	100					
14	T35324	5	TEE RED. 12 X 6 CED-STD	297	470	32	99					

ANALISIS QUIMICO / CHEMICAL ANALYSIS													
PROCESO PROCESS	COLADA HEAT CODE	COLADA/HEAT M.P./MOTHER PIPE	%C	%Mn	%P	%S	%Si	%Cr	%Cu	%Mo	%Ni	%V	%Nb
HF	T36223	36223	0.310	0.170	0.013	0.001	0.270	0.060	0.079	0.019	0.030	0.000	0.000
HF	T36927	36927	0.310	0.180	0.009	0.001	0.270	0.040	0.049	0.033	0.030	0.000	0.000
HF	T35324	35324	0.320	0.180	0.010	0.003	0.280	0.050	0.077	0.027	0.050	0.000	0.000

Notas:
 Formado en caliente a 620°C-900°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

Notas:
 Hot formed fittings in a range from 620°C to 900°C, cooled in still air.
 Cold formed normalized at 940°C max.
 Holding time 10'.
 Visual dimensional check: Satisfactory
 CF: FORMADO EN FRIJO/COLD FORMED

The Products described herein were produced in accordance with the above referenced specification and are identified with the "R" which is prominently marked on each fitting.

Jefe de Calidad:
Quality Manager:

INC. WILFIDO GALLEGOS GALVAN

CC-008

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 (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°. 7048265 7054703 7050521

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.