



# Tenaris

## CERTIFICADO DE CALIDAD INSPECTION CERTIFICATE (DIN EN 10204:2004E - ISO 10474.3.1.B)

Tubos de Acero de México, S.A.  
Carretera Mex-Tlaxcala 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: **PROVEEDORA DE MATERIALES ANGER, S.A.**  
DE C.V.

Pedido del Cliente No: **5281 - 5274 - 5288 -**  
Customers Order No: **5281 - 5274 - 5288 -**

Lista de Empaque: **1 0980**  
Fecha/Date: **3 de Noviembre de 2008**

Especificaciones y Grados / Standard or Specification and Steel Grade  
Seamless Fittings according to ASTM A 234 "W" WPS-97, A234 "W" WPS-05a, NACE MR 0175-2003  
Conform to ASME II Ed. 2001 ASME SA-234 "W", Grade WPB, NACE MR0103-2003

Dimensiones y tolerancias / Dimension and tolerances  
**ASME B 16.9 - 2003 and ASME B 16.28 - 1994**

Factura/Invoice: **Bocas / Ends**  
Biselado / Bevelled ends

### DESCRIPCION DE MATERIAL / MATERIAL DESCRIPTION

ART. ITEM	COLADA HEAT CODE	CANTIDAD QUANTITY	DESCRIPCION / DESCRIPTION	ESF. CEDENCIA YIELD STRENGTH (Mpa)	ESF. RUPATURA TENSILE STRENGTH (Mpa)	ELONG. %2"	DUREZA HARDNESS HBW	DIMENSIONES SAMPLE DIM mm	1 Joules	2 Joules	3 Joules	PROMEDIO AVERAGE Joules
1	T41140	12	CODO 16 X 90° R. I. CED-3S	245	481	37	115					
2	T40822	9	TEE 12 CED-STD	284	460	40	100					
3	T41272	50	RED. CONC. 10 X 6 CED-STD	338	509	42	105					
4	T37204	8	CODO 12 X 90° R. I. CED-40	363	508	34	87					

### ANALISIS QUIMICO / CHEMICAL ANALYSIS

PROCESO PROCESS	COLADA HEAT CODE	COLADA/HEAT M.P./MOTHER PIPE	%C	%E	%Mn	%P	%S	%Si	%Cr	%Cu	%Mo	%Ni	%V	%Nb
HF	T41140	41140	0.320	0.180	0.730	0.010	0.002	0.290	0.030	0.044	0.005	0.020	0.000	0.000
HF	T40822	40822	0.290	0.170	0.650	0.008	0.001	0.270	0.040	0.048	0.006	0.030	0.000	0.000
CF	T41272	41272	0.340	0.190	0.820	0.017	0.002	0.310	0.050	0.040	0.010	0.030	0.000	0.000
HF	T37204	37204	0.310	0.170	0.680	0.008	0.002	0.270	0.050	0.075	0.050	0.040	0.000	0.000

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°: 8053371 8051398 8054914 7056416

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.

Notes: Formado en caliente a 620°C-980°C, enfriado al aire. Formado en frío normalizado a 940°C max. Hot formed fittings in a range from 620°C to 980°C, cooled in still air. Cold formed normalized at 940°C max.

Time of permanence 10'. Holding time 10'. Visual dimensional check: Satisfactory. Inspección Dimensional: Satisfactoria.

Quality Manager: *[Signature]*  
ING. WALDO GALLEGOS GALVAN

CC-008