



# Tenaris

## CERTIFICADO DE CALIDAD INSPECTION CERTIFICATE

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

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

Numero: Number: 19164	Pagina/Page: 1 DE 1
Lista de Empaque: Packing List: 3645 -	Fecha/Date: 12 de Noviembre de 2007
Factura/Invoice: Bocas / Ends Biselado / Bevelled ends	

Pedido del Cliente No: 3645 -  
Customers Order No:  
Dimensiones y tolerancias / Dimension and tolerances  
ASME B 16.9 - 2003 and ASME B 16.28 - 1994

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. CEDECENCIA 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	T36140	22	CODO 8 X 90° R.L. CED-XS	310	468	42	88					
2	T36485	50	CODO 8 X 90° R.L. CED-XS	306	496	40	89					
3	S22135	30	CODO 3 X 45° CED-XS	312	480	37	120					

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	T36140	36140	0.310	0.170	0.670	0.006	0.001	0.270	0.050	0.088	0.039	0.040	0.000	0.000
HF	T36485	36485	0.320	0.180	0.760	0.011	0.002	0.290	0.030	0.063	0.019	0.030	0.000	0.000
HF	S22135	22135	0.320	0.170	0.800	0.012	0.001	0.280	0.040	0.025	0.010	0.018	0.001	0.001

**Notes:**  
 Formado en caliente a 620°C-960°C, enfriado al aire; Formado en frío normalizado a 940°C max.  
 Tiempo de permanencia 10'.  
 Inspección Dimensional: Satisfactoria.  
 MF: FORMADO EN CALIENTE/HOT FORMED  
 CF: FORMADO EN FRIOCOLD FORMED

**Notes:**  
 Hot formed fittings in a range from 620°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 FRIOCOLD FORMED

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.

Jefe de Calidad:  
Quality Manager:  
  
ING. JOSE MARTINEZ MACIAS

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 (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°:  
 7043952 7049560 385335

\*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\*.