



Tubos de Acero de México, S.A.
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**CERTIFICADO DE CALIDAD
INSPECTION CERTIFICATE**

(DIN EN 10204:2004E - ISO 10474.3.1.B)

Numero: Number: 20088	Página/Page: 1 DE 1
Lista de Empaque: Packing List: 10374	Fecha/Date: 10 de Abril de 2008
Factura/Invoice: Bocas / Ends Biselado / Bevelled ends	
Pedido del Cliente No: Customers Order No: 4386 - 4216 - 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. 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	T36861	1	CODO 8 X 90° R. I. CED-XS	339	476	40	85					
2	T37920	14	CODO 8 X 90° R. I. CED-XS	243	454	34	89					
3	T36431	10	CODO 8 X 90° R. I. CED-XS	313	487	42	89					
4	T34690	5	CODO 8 X 90° R. I. CED-XS	295	476	42	87					
5	T38242	30	TEE RED. 10 X 6 CED-STD	322	488	42	122					

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	T36861	36861	0.320	0.180	0.680	0.007	0.001	0.290	0.050	0.039	0.044	0.030	0.000	0.000
HF	T37920	37920	0.310	0.180	0.670	0.008	0.001	0.270	0.040	0.054	0.022	0.030	0.000	0.000
HF	T36431	36431	0.310	0.170	0.690	0.010	0.002	0.290	0.050	0.067	0.022	0.030	0.000	0.000
HF	T34690	34690	0.320	0.180	0.670	0.010	0.002	0.270	0.060	0.091	0.034	0.040	0.000	0.000
HF	T38242	38242	0.300	0.170	0.670	0.014	0.002	0.270	0.050	0.057	0.014	0.030	0.000	0.000

Notas:
Formado en caliente a 620°C-980°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 980°C, cooled in still air.
Cold formed normalized at 940°C max.
Holding time 10'.
Visual dimensional check: Satisfactory.
CF: FORMADO EN FRIOCOLD FORMED

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° 8006044 8005916 8002472 7034833 8015881

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.

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:
[Signature]
ING. WILDO GALLEGOS GALVAN