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:	20830	Pagina/Page:	1 DE 1

Vendido a: PROVEEDORA DE MATERIALES ANCER, S.A. DE C.V.
Sold to:

Pedido del Cliente No: 5256 - 5240 - 5254 - 5238 - 5260 -
Customers Order No:

Lista de Empaque: 10731
Packing List:

Fecha/Date: 14 de Agosto de 200

Especificaciones y Grados / Standard or Specification and Steel Grade
Seamless Fittings according to ASTM A 234"M" WPB-97, A234"M" WPB-05a, NACE MR 01.75-2003
Conform to ASME II Ed. 2001 ASME SA-234"M",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
12	T40182	20	CODO 8 X 45° CED-STD
13	S21171	120	CODO 2 1/2 X 45° CED-STD
14	S22620	46	CODO 1 1/4 X 90° R.L. CED-STD
15	T40571	10	RED. CONC. 8 X 4 CED-XS
16	T39736	24	TEE 10 CED-STD
17	S27721	50	RED. CONC. 4 X 2 CED-STD
18	S22585	50	RED. CONC. 2 1/2 X 1 1/2 CED-STD
19	T37155	19	TEE RED. 6 X 2 CED-STD

PRUEBAS MECANICAS / MECHANICAL TEST

ESF. CEDENCIA YIELD STRENGTH (Mpa)	ESF. RUPTURA TENSILE STRENGTH (Mpa)	ELONG. %2"	DUREZA HARDNESS HBW
340	481	31	95
327	500	31	122
325	530	45	137
306	481	44	111
311	476	45	118
288	473	33	105
339	499	32	109
327	471	37	96

PRUEBA DE IMPACTO 0°C / IMPACT TEST 0°C

DIMENSIONES SAMPLE DIM mm	1 Joules	2 Joules	3 Joules	PROMEDIO AVERAGE Joules

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	T40182	40182	0.310	0.170	0.680	0.013	0.002	0.270	0.070	0.063	0.009	0.030	0.000	0.000
HF	S21171	21171	0.310	0.180	0.740	0.010	0.001	0.290	0.010	0.018	0.010	0.010	0.001	0.002
HF	S22620	22620	0.320	0.180	0.770	0.013	0.001	0.250	0.050	0.021	0.010	0.022	0.001	0.001
CF	T40571	40571	0.300	0.170	0.690	0.009	0.004	0.280	0.040	0.057	0.009	0.030	0.000	0.000
HF	T39736	39736	0.290	0.160	0.680	0.008	0.001	0.260	0.040	0.049	0.010	0.020	0.000	0.000
CF	S27721	27721	0.340	0.200	0.740	0.011	0.001	0.290	0.040	0.050	0.010	0.027	0.001	0.002
CF	S22585	22585	0.310	0.170	0.760	0.011	0.001	0.270	0.040	0.027	0.010	0.022	0.001	0.002
HF	T37155	37155	0.300	0.170	0.680	0.011	0.002	0.290	0.060	0.039	0.015	0.020	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 (Tubería Sin Costura) conforme ASTM A106 Grado B con Nº:
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 suplier Raw material (Seamless Pipe) certs conform to ASTM A106 Grade B Nº:
8043135 369597 7043236 8039770 8037858 434116 383521 7058617

"Este material cumple con los requerimientos especificados en la orden".
"The material of this certificate heat number mentioned above is in compilance with the requirements specified in the order".

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

Notes:
Hot formed fittings in a range from 620°C to 980°C, cooled in still air,
Cold formed nomalized 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.