Tubos de Acero de México
Carr. Mty-Laredo Km 24.2
Apartado Postal 43
(65550) C. de Flores, N.L.
(52) 81 8305 9600 tel.
(52) 81 8305 9630 fax.

Tenaris

CERTIFICADO DE CALIDAD
INSPECTION CERTIFICATE

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

Numero: Number:	Pagina/Page:
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Vendido a: Sold to: PROVEEDORA DE MATERIALES ANCER, S.A. DE C.V.	Pedido del Cliente No: Customers Order No: 7514 - 7622 - 7555 -	Lista de Empaque: Packing List: 15763	Fecha/Date: 12 de Marzo de 2016

Especificaciones y Grados / Standard or Specification and Steel Grade **Seamless Fittings according to ASTM A 234 WPB-13e** **Conform to ASME II Ed. 2013 ASME SA-234,Grade WPB**	Dimensiones y tolerancias / Dimension and tolerances **ASME B 16.9 - 2012**	**Factura/Invoice:** **Bocas / Ends** 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
1	T80563	300	CODO 6 X 90° R.L. CED-STD.	253	415	33	146					
2	T74607	6	RED. CONC. 10 X 8 CED-STD	315	491	41	145					
3	S36054	300	CODO 2 X 45° CED-STD	337	502	32	122					
4	T71197	4	RED. CONC. 8 X 6 CED-STD	306	467	30	157					
5	T80639	1	RED. CONC. 8 X 6 CED-STD	356	521	40	138					
6	T65039	1	RED. CONC. 8 X 6 CED-STD	260	454	71	155					
7	T80639	200	CODO 10 X 90° R.L. CED-STD	309	481	39	138					
8	T79783	5	CODO 12 X 90° R.L. CED-40	240	415	35	143					

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	T80563	80563	0.310	0.180	0.680	0.009	0.001	0.290	0.050	0.055	0.018	0.030	0.000	0.000
CF	T74607	74607	0.320	0.180	0.690	0.006	0.002	0.290	0.050	0.067	0.034	0.040	0.000	0.000
HF	S36054	36054	0.330	0.190	0.760	0.010	0.003	0.280	0.040	0.070	0.020	0.028	0.002	0.001
CF	T71197	71197	0.350	0.190	0.810	0.007	0.002	0.290	0.060	0.074	0.023	0.040	0.000	0.000
CF	T80639	80639	0.310	0.180	0.670	0.005	0.002	0.270	0.040	0.067	0.018	0.030	0.000	0.000
CF	T65039	65039	0.300	0.170	0.650	0.012	0.002	0.250	0.050	0.049	0.027	0.030	0.000	0.000
HF	T80639	80639	0.310	0.180	0.660	0.005	0.002	0.260	0.040	0.069	0.018	0.030	0.000	0.000
HF	T79783	79783	0.310	0.170	0.670	0.007	0.002	0.260	0.060	0.066	0.031	0.040	0.000	0.000

Certificamos que los resultados de los Análisis Químicos y Pruebas Mecánicas 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:

16008178 15007938 16004590 14022382 16007963 13029591 16007225 16000852

"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 CF: FORMADO EN FRIO/COLD 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

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.
MATERIAL ACCORDING TO NACE MR0175 / ISO 15156-1, 2009 AND NACE MR0103, 2012 ONLY HARDNESS