Tenaris

CERTIFICADO DE CALIDAD
INSPECTION CERTIFICATE
(DIN EN 10204:2004E - ISO 10474 3.1.B)

Tubos de Acero de México, S.A.
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Vendido a: Sold to: PLESA ANAHUAC Y CIA. S.A. DE C.V.

Pedido del Cliente No: Customers Order No: 5088 -

Lista de Empaque: Packing List: 10837

Fecha/Date: 17 de Septiembre de 2008

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 / 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	S28475	171	CODO 4 X 90° R.L. CED-STD	322	498	32	105					
2	S27721	57	CODO 4 X 90° R.L. CED-STD	364	509	27	119					
3	T40745	100	CODO 6 X 90° R.L. CED-STD	285	473	33	100					
4	S21394	25	CODO 2 X 45° CED-STD	458	679	29	133					
5	S22585	25	RED. CONC. 2 1/2 X 2 CED-STD	339	499	32	109					
6	T38466	8	CODO 8 X 90° R.C. CED-STD	315	467	38	107					
7	T39854	5	TEE RED. 8 X 4 CED-STD	290	470	43	102					
8	S69900	10	CODO 2 1/2 X 90° R.C. CED-STD	318	485	33	142					

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	S28475	28475	0.340	0.180	0.830	0.008	0.001	0.310	0.050	0.056	0.030	0.040	0.001	0.000
HF	S27721	27721	0.320	0.180	0.770	0.011	0.001	0.290	0.040	0.050	0.010	0.027	0.001	0.002
HF	T40745	40745	0.300	0.170	0.670	0.009	0.002	0.280	0.040	0.044	0.006	0.020	0.000	0.000
HF	S21394	21394	0.310	0.180	0.720	0.011	0.001	0.260	0.030	0.035	0.010	0.021	0.001	0.001
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	T38466	38466	0.300	0.170	0.650	0.009	0.001	0.270	0.050	0.071	0.019	0.040	0.000	0.000
HF	T39854	39854	0.310	0.180	0.690	0.013	0.002	0.290	0.040	0.056	0.008	0.030	0.000	0.000
HF	S69900	69900	0.329	0.180	0.770	0.014	0.002	0.290	0.050	0.062	0.020	0.029	0.001	0.001

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:
437451 433886 8049294 371740 383521 8039246 8037442 257125

"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 frio 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.

CC-008