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 9630 fax.

Tenaris

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

Número: Number:	Página/Page:
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Vendido a: Sold to:	Pedido del Cliente No: Customers Order No:	Lista de Empaque: Packing List:	Fecha/Date:
PLESA ANAHUAC Y CIA. S.A. DE C.V.	9335 - 9257 - 8701	12359	29 de Noviembre de 2010

Especificaciones y Grados / Standard or Specification and Steel Grade	Dimensiones y tolerancias / Dimension and tolerances	Factura/Invoice:
Seamless Fittings according to ASTM A 234M WPB-07, NACE MR 01.75-2003		**Bocas / Ends**
Conform to ASME II Ed. 2001 ASME SA-234M Grade WPB, NACE MR0103-2003	**ASME B 16.9 - 2007 and ASME B 16.28 - 1994**	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	T48552	3	CODO 16 X 45° CED-STD	321	493	32	104					
2	T49702	1	CODO 16 X 45° CED-STD	335	507	32	132					
3	T50768	1	CODO 16 X 90° R.L. CED-XS	315	480	44	122					
4	T51345	55	TEE 4 CED-STD	349	499	30	104					
5	T51653	40	CODO 4 X 45° CED-STD	354	502	34	116					
6	T50825	4	RED. CONC. 8 X 6 CED-STD	314	487	42	120					
7	S32307	68	CODO 2 1/2 X 90° R.L. CED-STD	314	486	31	122					
8	T50463	5	CODO 16 X 90° R.L. CED-STD	319	494	33	96					
9	T46857	7	TEE RED. 8 X 4 CED-STD	327	499	41	134					
10	T49582	2	TEE RED. 8 X 4 CED-STD	311	492	43	120					
11	T49309	2	TEE 12 CED-40	295	470	31	110					

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	T48552	48552	0.330	0.180	0.750	0.012	0.002	0.280	0.050	0.068	0.038	0.030	0.000	0.000
HF	T49702	49702	0.300	0.170	0.690	0.011	0.002	0.280	0.030	0.051	0.022	0.030	0.000	0.000
HF	T50768	50768	0.310	0.180	0.660	0.012	0.001	0.280	0.050	0.044	0.018	0.020	0.000	0.000
HF	T51345	51345	0.310	0.170	0.720	0.012	0.002	0.290	0.060	0.063	0.017	0.030	0.000	0.000
HF	T51653	51653	0.320	0.180	0.750	0.008	0.002	0.280	0.050	0.052	0.017	0.030	0.000	0.000
CF	T50825	50825	0.310	0.180	0.660	0.011	0.001	0.270	0.050	0.049	0.012	0.020	0.000	0.000
HF	S32307	32307	0.330	0.190	0.710	0.012	0.002	0.260	0.050	0.039	0.010	0.028	0.001	0.001
HF	T50463	50463	0.320	0.180	0.700	0.010	0.002	0.280	0.060	0.054	0.022	0.030	0.000	0.000
HF	T46857	46857	0.310	0.180	0.660	0.012	0.004	0.290	0.050	0.080	0.029	0.040	0.000	0.000
HF	T49582	49582	0.310	0.190	0.660	0.012	0.002	0.280	0.010	0.061	0.030	0.030	0.000	0.000
HF	T49309	49309	0.320	0.190	0.680	0.013	0.003	0.290	0.020	0.046	0.018	0.020	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:
10020072 10032879 10053788 10049766 10048783 10040918 468319 10053787 9063904 10036243 10051533

"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 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.

CC-008