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.	8776 - 8945 - 8701	12207	20 de Septiembre 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	T47231	55	TEE 4 CED-STD	322	493	39	122					
2	T47708	1	CODO 10 X 45° CED-STD	317	485	40	120					
3	T50824	3	CODO 10 X 45° CED-STD	350	518	40	96					
4	T49654	6	CODO 10 X 45° CED-STD	306	480	41	120					
5	T48739	1	CODO 10 X 45° CED-STD	313	480	41	98					
6	T49869	1	CODO 10 X 45° CED-STD	306	479	40	118					
7	T49259	4	CODO 12 X 45° CED-STD	334	500	42	123					
8	T50961	4	CODO 12 X 45° CED-STD	322	492	42	122					
9	T49583	4	CODO 12 X 45° CED-STD	320	492	43	120					
10	T48110	12	RED. CONC. 10 X 6 CED-XS	303	482	45	106					
11	S31050	36	CODO 1 1/2 X 45° CED-STD	367	534	32	130					

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	T47231	47231	0.300	0.170	0.660	0.013	0.001	0.280	0.040	0.055	0.024	0.030	0.000	0.000
HF	T47708	47708	0.300	0.170	0.670	0.012	0.002	0.300	0.040	0.078	0.014	0.030	0.000	0.000
HF	T50824	50824	0.310	0.180	0.680	0.012	0.001	0.280	0.040	0.052	0.013	0.030	0.000	0.000
HF	T49654	49654	0.320	0.190	0.660	0.013	0.001	0.280	0.030	0.062	0.025	0.030	0.000	0.000
HF	T48739	48739	0.300	0.180	0.650	0.012	0.002	0.290	0.030	0.062	0.020	0.030	0.000	0.000
HF	T49869	49869	0.300	0.180	0.660	0.014	0.002	0.270	0.020	0.064	0.020	0.030	0.000	0.000
HF	T49259	49259	0.310	0.180	0.680	0.011	0.003	0.270	0.040	0.073	0.023	0.030	0.000	0.000
HF	T50961	50961	0.310	0.180	0.660	0.011	0.003	0.270	0.030	0.056	0.027	0.040	0.000	0.000
HF	T49583	49583	0.310	0.190	0.650	0.017	0.005	0.290	0.020	0.057	0.024	0.030	0.000	0.000
CF	T48110	48110	0.310	0.180	0.680	0.009	0.003	0.280	0.040	0.068	0.022	0.030	0.000	0.000
HF	S31050	31050	0.330	0.190	0.760	0.007	0.002	0.270	0.030	0.023	0.010	0.013	0.001	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:

10007063 10003397 10037392 10026150 10027761 10040852
10021328 10039276 10025807 10017090 457348

"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.

CC-008