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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Número: Number:	Página/Page:
22606	1 DE 1

Vendido a: Sold to: PLESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No: Customers Order No: 6636 - 6676 - 6635	Lista de Empaque: Packing List: 11518	Fecha/Date: 9 de Julio de 2009
Especificaciones y Grados / Standard or Specification and Steel Grade **Seamless Fittings according to ASTM A 234M WPB-07, NACE MR 01.75-2003** **Conform to ASME II Ed. 2001 ASME SA-234M Grade WPB, NACE MR0103-2003**	Dimensiones y tolerancias / Dimension and tolerances **ASME B 16.9 - 2007 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	T36427	3	CODO 6 X 90° R.L. CED-STD.	327	474	38	87					
2	T34258	49	CODO 6 X 90° R.L. CED-STD.	329	479	37	94					
3	T42773	26	CODO 6 X 90° R.L. CED-STD.	354	517	42	122					
4	T42101	20	CODO 6 X 90° R.L. CED-STD.	263	504	33	107					
5	T42774	2	CODO 6 X 90° R.L. CED-STD.	328	499	39	126					
6	T42416	1	CODO 6 X 90° R.L. CED-STD.	250	440	38	103					
7	T42339	7	TEE 8 CED-STD	308	480	34	102					
8	T42699	28	TEE 8 CED-STD	331	522	32	123					
9	T40156	7	TEE 8 CED-XS	260	464	34	116					
10	T41223	13	CODO 8 X 90° R.L. CED-XS	271	463	38	120					
11	T42773	15	CODO 8 X 45° CED-STD	365	494	34	106					

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	T36427	36427	0.310	0.180	0.670	0.013	0.002	0.300	0.050	0.080	0.026	0.030	0.000	0.000
HF	T34258	34258	0.320	0.180	0.650	0.009	0.001	0.280	0.070	0.077	0.044	0.040	0.000	0.000
HF	T42773	42773	0.310	0.180	0.660	0.015	0.001	0.270	0.040	0.073	0.025	0.030	0.000	0.000
HF	T42101	42101	0.290	0.160	0.680	0.008	0.001	0.280	0.050	0.045	0.015	0.030	0.000	0.000
HF	T42774	42774	0.310	0.180	0.670	0.015	0.003	0.260	0.040	0.068	0.022	0.030	0.000	0.000
HF	T42416	42416	0.300	0.170	0.670	0.012	0.001	0.300	0.040	0.054	0.022	0.030	0.000	0.000
HF	T42339	42339	0.300	0.170	0.670	0.010	0.003	0.280	0.050	0.070	0.008	0.030	0.000	0.000
HF	T42699	42699	0.340	0.190	0.810	0.018	0.001	0.290	0.040	0.066	0.022	0.030	0.000	0.000
HF	T40156	40156	0.310	0.180	0.690	0.010	0.001	0.290	0.040	0.049	0.006	0.030	0.000	0.000
HF	T41223	41223	0.310	0.180	0.650	0.012	0.002	0.270	0.050	0.070	0.009	0.030	0.000	0.000
HF	T42773	42773	0.310	0.180	0.670	0.016	0.001	0.260	0.040	0.071	0.023	0.030	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:

7048639 9010384 9010384 8057758 9001510 8065017 9002220 9007701 8054201 8055239 9002651

"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.