Tenaris

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

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Tubrivalco, S.A. de C.V.
Av. 100 Metros #1057-A
Col. Nueva Industrial Vallejo
México, D.F. CP 07700

Vendido a: / Sold to:	Pedido del Cliente No: / Customers Order No: 11828 -	Lista de Empaque: / Packing List: 13185	Fecha/Date: 8 de Marzo de 2012
Especificaciones y Grados / Standard or Specification and Steel Grade Seamless Fittings according to ASTM A 234 WPB-07, NACE MR 01-75-2003 Conform to: ASME II Ed. 2001 ASME SA-234,Grade WPB, NACE MR0103-2003	Dimensiones y tolerancias / Dimension and tolerances ASME B 16.9 - 2007	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	T57396	144	CODO 6 X 45° CED-XS	321	479	44	102					
2	T57980	108	CODO 8 X 45° CED-XS	286	474	44	123					
3	T55508	116	TEE 12 CED-STD	321	470	35	99					
4	T57065	28	CODO 10 X 90° R.L. CED-20	303	467	38	120					
5	T55926	7	CODO 10 X 90° R.L. CED-20	337	486	37	147					
6	T51153	16	TEE 12 CED-XS	342	475	48	120					
7	T55579	40	CODO 10 X 90° R.C. CED-XS	332	478	34	98					
8	T55926	100	TEE RED. 6 X 4 CED-STD	331	467	43	101					

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
BF	T57396	S7355	0.310	0.170	0.700	0.009	0.002	0.270	0.040	0.067	0.021	0.030	0.000	0.000
BF	T57980	S7980	0.309	0.170	0.670	0.012	0.001	0.270	0.040	0.059	0.015	0.040	0.000	0.000
BF	T55508	S5508	0.320	0.190	0.690	0.012	0.002	0.290	0.050	0.050	0.017	0.030	0.000	0.000
BF	T57065	S7065	0.320	0.180	0.680	0.013	0.002	0.290	0.070	0.066	0.017	0.040	0.000	0.000
BF	T55926	S5926	0.310	0.170	0.680	0.013	0.001	0.290	0.060	0.067	0.022	0.030	0.000	0.000
BF	T51153	S1153	0.310	0.180	0.650	0.009	0.003	0.270	0.050	0.058	0.031	0.040	0.000	0.000
BF	T55579	S5579	0.310	0.180	0.660	0.008	0.002	0.280	0.040	0.030	0.023	0.050	0.000	0.000
BF	T55926	S5926	0.310	0.170	0.680	0.012	0.001	0.290	0.060	0.067	0.021	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 al 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 supplier Raw material (Seamless Pipe) certs conform to ASTM A106 Grade B Nº:
11047201 11057971 11061786 21044293 11055965 10049532 11044321 21044304

"Este material cumple con los requerimientos especificados en la orden".
"The material of this certificate heat number mentioned above is in compliance with the requirements specified in the order".

Notas:
Tratamiento térmico a 870°C-885°C, enfriado al aire.* Enfriado en ventilador a 540°C max.
Tiempo de permanencia 10'.
Inspección Dimensional Satisfactoria.
HF: FORJADO EN CALIENTE/HOT FORMED

Notas:
Hot formed fittings in a range from 830°C to 845°C, cooled in still air.
Cold formed normalized at 540°C max.
Holding time 10'.
Visual dimensional check: Satisfactory
CF: FORJADO 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 were obtain from the conversion of hardness Rockwell B to hardness Brinell HBW by means of table WILSON DESK CHART 00.
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 00.

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