Tubos de Acero de México, S.A.
Carr. Mty-Laredo Km. 24.2
Apartado Postal 43
(65550) C. de Flores, N.L. Méx.
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Tenaris

CERTIFICADO DE CALIDAD
INSPECTION CERTIFICATE
(DIN EN 10204:2004E - ISO 10474: 2013 3.1.B)

Numero: Number:	Pagina/Page:
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Vendido a: Sold to: PLESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No: Customers Order No: 28216 - 28909 - 27931 - 27241 -	Lista de Empaque: Packing List: 18433	Fecha/Date: 2 de diciembre de 2019
Especificaciones y Grados / Standard or Specification and Steel Grade **Seamless Fittings according to ASTM A 234 WPB-18e** **Conform to ASME II Ed. 2019, ASME SA-234 Grade WPB**	Dimensiones y tolerancias / Dimension and tolerances **ASME B 16.9 - 2018**	**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	T31508	2	CODO 16 X 90° R.L. CED-XS	310	480	43	120					
2	T13584	160	TEE 4 CED-XS	302	471	39	139					
3	T13586	60	CODO 6 X 90° R.L. CED-XS	366	496	34	149					
4	T31148	5	RED. CONC. 10 X 8 CED-XS	404	532	30	147					
5	S46124	30	CODO 1 1/2 X 45° CED-XS	356	541	50	126					
6	S56204	100	CODO 1 X 45° CED-STD	280	449	34	128					

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	T31508	31508	0.300	0.170	0.660	0.007	0.001	0.260	0.050	0.060	0.020	0.030	0.001	0.000
HF	T13584	13584	0.310	0.170	0.770	0.005	0.003	0.280	0.020	0.050	0.000	0.020	0.003	0.000
HF	T13586	13586	0.320	0.180	0.780	0.006	0.002	0.290	0.010	0.050	0.000	0.020	0.003	0.000
CF	T31148	31148	0.320	0.180	0.660	0.008	0.001	0.260	0.080	0.080	0.040	0.040	0.002	0.000
HF	S46124	46124	0.360	0.200	0.770	0.013	0.002	0.280	0.050	0.080	0.010	0.030	0.005	0.001
HF	S56204	56204	0.280	0.180	0.430	0.008	0.002	0.250	0.050	0.120	0.020	0.056	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:

19048867 19053580 19052124 19050979 18008870 19048173

"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. ALFONSO ORTEGA GARCIA

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.

MATERIAL ACCORDING TO NACE MR0175/ISO 15156, 2015 AND NACE MR0103,2015 ONLY HARDNESS

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