

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

Numero: Number:	Pagina/Page:	Fecha/Date:
21912	1 DE 1	9 de Enero de 2009
Lista de Empaque: Packing List:	11172	

Vendido a: Sold to:	Pedido del Cliente No: Customers Order No:	4671 -
Especificaciones y Grados / Standard or Specification and Steel Grade Seamless Fittings according to ASTM A 234"M" WPB-07, A234"M" WPB-05a, NACE MR 01.75-2003 Conform to ASME II Ed. 2001 ASME SA-234"M", 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	S29506	450	CODO 2 X 45° CED-STD	293	467	30	140					
2	T41827	48	CODO 10 X 45° CED-STD	337	502	40	122					
3	S69900	268	CODO 2 1/2 X 90° R.C. CED-STD	318	485	33	142					

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	S29506	29506	0.320	0.160	0.730	0.008	0.002	0.300	0.040	0.051	0.030	0.030	0.003	0.001
HF	T41827	41827	0.300	0.160	0.670	0.011	0.001	0.270	0.060	0.063	0.031	0.040	0.000	0.000
HF	S69900	69900	0.329	0.160	0.770	0.014	0.002	0.290	0.050	0.062	0.020	0.029	0.001	0.001

Certificamos que los resultados de los Analisis Quimicos y Pruebas Mecanicas son verdaderos o una copia fiel de los certificados enviados por el Fabricante y/o el proveedor de Materia Prima (Tuberia Sin Costura) conforme ASTM A108 Grado B con N°: 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 A108 Grade B N°: 458124 8065051 257125

"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: 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	Notes: Hot formed fittings in a range from 620°C to 980°C, cooled in still air. Cold formed normalized 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.
---	---	--	---