

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

Numero:  
Number:  
24790

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Vendido a: Sold to:	PROVEEDORA DE MATERIALES ANGER, S.A. DE C.V.	Pedido del Cliente No: Customers Order No:	6000 - 5996 - 6023 -	Lista de Empaque: Packing List:	12785	Fecha/Date:	29 de Julio de 2011
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 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	S42775	200	CODO 4 X 45° CED-STD	333	489	31	140					
2	T52828	14	CODO 12 X 90° R.L. CED-STD	327	490	43	122					
3	T54971	36	CODO 12 X 90° R.L. CED-STD	318	486	43	128					
4	T52829	7	CODO 14 X 90° R.L. CED-40	305	468	31	126					

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	S42775	42775	0.300	0.170	0.730	0.010	0.001	0.300	0.030	0.029	0.010	0.020	0.002	0.002
HF	T52828	52828	0.310	0.180	0.670	0.013	0.002	0.290	0.030	0.080	0.021	0.040	0.000	0.000
HF	T54971	54971	0.310	0.180	0.670	0.007	0.003	0.270	0.060	0.048	0.023	0.030	0.000	0.000
HF	T52829	52829	0.310	0.180	0.680	0.012	0.001	0.280	0.040	0.057	0.022	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 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 A106 Grade B N°:  
11001303 11006328 11021788 11029399

"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 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 normalized at 940°C max.  
Holding time 10'.  
Visual dimensional check: Satisfactory  
CF: FORMADO EN FRIO/COLD FORMED

*Waldo Gallegos*  
**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.