

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

Numero: 24433
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Vendido a: **PROVEEDORA DE MATERIALES ANKER, S.A.**
Sold to: **DE C.V.**
Pedido del Cliente No: 5960 -
Customers Order No:
Lista de Empaque: 12576
Packing List:
Fecha/Date: 22 de Marzo 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	T49583	1	CODO 12 X 45° CED-XS	301	492	45	118					
2	T52003	4	CODO 12 X 45° CED-XS	302	484	45	118					
3	T48705	1	CODO 12 X 45° CED-XS	303	485	40	120					
4	T51307	4	CODO 12 X 45° CED-XS	307	492	45	122					
5	S42235	600	CODO 4 X 45° CED-STD	331	508	32	137					
6	T49435	36	TEE 10 CED-STD	335	503	40	116					
7	T50380	30	TEE RED. 6 X 4 CED-XS	314	488	44	128					
8	T51542	5	CODO 12 X 45° SHC-80	284	480	46	114					
9	S42183	200	CODO 3 X 45° CED-XS	312	477	35	135					
10	T42699	5	CODO 14 X 45 CED-XS	328	517	35	102					

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	T49583	49583	0.319	0.190	0.660	0.015	0.004	0.280	0.020	0.058	0.025	0.030	0.000	0.000
HF	T52003	52003	0.330	0.190	0.690	0.018	0.002	0.280	0.050	0.061	0.027	0.040	0.000	0.000
HF	T48705	48705	0.320	0.190	0.670	0.010	0.003	0.280	0.040	0.057	0.020	0.030	0.000	0.000
HF	T51307	51307	0.320	0.190	0.660	0.010	0.001	0.280	0.040	0.047	0.019	0.030	0.000	0.000
HF	S42235	42235	0.330	0.190	0.770	0.012	0.001	0.330	0.030	0.026	0.020	0.034	0.002	0.001
HF	T49435	49435	0.320	0.190	0.670	0.009	0.001	0.290	0.020	0.063	0.022	0.030	0.000	0.000
HF	T50380	50380	0.320	0.180	0.690	0.011	0.001	0.280	0.060	0.063	0.023	0.030	0.000	0.000
HF	T51542	51542	0.320	0.180	0.710	0.011	0.002	0.270	0.040	0.061	0.018	0.030	0.000	0.000
HF	S42183	42183	0.330	0.190	0.760	0.010	0.001	0.280	0.030	0.022	0.010	0.014	0.003	0.002
HF	T42699	42699	0.330	0.180	0.800	0.019	0.001	0.290	0.040	0.066	0.023	0.030	0.000	0.000

Certificamos que los resultados de los Analisis 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°:

10028883 10053612 10022275 10042608 10053806 10027173
10049560 10053621 10058191 9003834

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. OF: FORMADO EN FRÍO/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.

CC-008