



Tubos de Acero de México, S.A.  
Carr. Méty-Laredo Km 24.2  
Apartado Postal 43  
(65550) C. de Flores, N.L. Méx.  
(52) 81 8305 9600 tel  
(52) 81 8305 9620 fax

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

Numero:  
Number:  
29578

Página/Page:  
1

Vendido a:  
Sold to: PLESA ANAHUAC Y CIA. S.A. DE C.V.

Pedido del Cliente No:  
Customers Order No: 16560

Lista de Empaque:  
Packing List: 15850

Fecha/Date:  
30 de Septiembre de 2013

Especificaciones y Grados / Standard or Specification and Steel Grade  
Seamless Fittings according to ASTM A 234 WPB-10, NACE MR 0176-2003  
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	T74660	32	CODO 4 X 45° CED-STD	346	488	30	152					
2	T7084	48	CODO 4 X 45° CED-STD	340	485	30	148					
3	T75030	6	CODO 14 X 45° CED-STD	277	471	68	146					
4	T76095	32	CODO 10 X 90° R.L. CED-STD	339	485	37	155					
5	T75451	8	CODO 10 X 90° R.L. CED-STD	332	483	37	146					

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	T74660	74660	0.320	0.180	0.780	0.005	0.001	0.320	0.020	0.023	0.007	0.020	0.000	0.000
HF	T7084	7084	0.310	0.180	0.660	0.015	0.003	0.280	0.060	0.061	0.015	0.030	0.000	0.000
HF	T75030	75030	0.328	0.170	0.780	0.014	0.001	0.270	0.050	0.065	0.028	0.030	0.000	0.000
HF	T76095	76095	0.300	0.170	0.710	0.004	0.001	0.260	0.020	0.037	0.016	0.020	0.000	0.000
HF	T75451	75451	0.310	0.180	0.670	0.008	0.001	0.310	0.050	0.065	0.017	0.040	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 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) certis conform to ASTM A108 Grade B N°:  
13024731 13064753 13029801 13048502 13041523 13023841  
13029442 13031804 13032042 13047576 13041523

"Esta 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".

Notes:  
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: Satisfactorio.  
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 FRIJO/COLD FORMED

*Waldo Gallegos Galvan*  
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.