



Indos de Acero de Mexico S.A.
Car. Interlago No. 1002
Aeropuerto Terminal
069000 - Cuernavaca, MEXICO
(52) 77 6109 0000 ext.
(52) 77 6109 0000 ext.

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

Numero: 29678
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Vendido a: **PROVEEDORA DE MATERIALES ANKER, S.A.**
Sold to: **DE C.V.**
Pedido del Cliente No: **7129 - 7088**
Customers Order No:
Lista de Empaque: **15468**
Packing List:
Fecha/Date: **27 de mayo de 2015**

Especificaciones y Grados / Standard or Specification and Steel Grade
Seamless Fittings according to ASTM A 234 WPB-13e
Conform to ASME II Ed. 2013 ASME SA-234, Grade WPB
Dimensiones y tolerancias / Dimension and tolerances
ASME B 16.9 - 2012
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
23	T77075	8	RED. CONC. 16 X 12 CED-STD	282	434	31	137					
24	T73773	4	TEE 16 CED-XS	342	480	45	120					
25	T65888	1	TEE 16 CED-XS	310	467	39	145					
26	T70009	4	TEE RED. 10 X 8 CED-80	323	471	39	143					
27	T74341	3	TEE 10 CED-80	347	483	38	134					
28	T77016	64	CODO 5 X 90° R.L. CED-STD	322	491	38	118					
29	T65856	2	TEE 12 CED-80	263	457	43	141					
29	S34705	168	CODO 2 X 180° R.L. CED-STD	398	518	36	120					
31	T72649	1	TEE RED. 12 X 6 C-80	260	451	41	135					
32	T77075	8	RED. CONC. 16 X 10 CED-STD	282	434	31	137					
33	T75262	10	RED. CONC. 6 X 5 CED-STD	319	486	43	143					

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
CF	T77075	77075	0.320	0.170	0.670	0.006	0.001	0.280	0.050	0.074	0.027	0.040	0.000	0.000
HF	T73773	73773	0.320	0.180	0.680	0.007	0.002	0.270	0.060	0.080	0.028	0.060	0.000	0.000
HF	T65888	65888	0.310	0.180	0.670	0.007	0.002	0.280	0.030	0.050	0.011	0.030	0.000	0.000
HF	T70009	70009	0.310	0.180	0.670	0.010	0.001	0.260	0.070	0.057	0.014	0.030	0.000	0.000
HF	T74341	74341	0.310	0.170	0.680	0.005	0.002	0.280	0.070	0.071	0.023	0.060	0.000	0.000
HF	T77016	77016	0.310	0.170	0.690	0.008	0.000	0.310	0.050	0.063	0.023	0.030	0.000	0.000
HF	T65856	65856	0.330	0.170	0.850	0.006	0.001	0.270	0.040	0.075	0.032	0.040	0.000	0.000
HF	S34705	34705	0.340	0.190	0.780	0.011	0.001	0.260	0.050	0.070	0.010	0.035	0.001	0.001
HF	T72649	72649	0.300	0.170	0.660	0.006	0.001	0.280	0.070	0.068	0.015	0.050	0.000	0.000
CF	T77075	77075	0.320	0.170	0.670	0.006	0.001	0.280	0.050	0.074	0.027	0.040	0.000	0.000
CF	T75262	75262	0.320	0.180	0.660	0.006	0.001	0.280	0.070	0.060	0.028	0.070	0.000	0.000

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 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°
15019045 15010355 13069013 14026493 14059247 15018209 14036882 14065674 14062778 15019045 15001732
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'.
Inspeccion 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.
MATERIAL ACCORDING TO NACE MR0175 / ISO 15156-1, 2009 AND NACE MR0103, 2012 ONLY HARDNESS

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