



Tubos de Acero de México, S.A.
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Numero: 21690
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Fecha/Date: 28 de Noviembre de 2008
Factura/Invoice: Bocas / Ends
Biselado / Bevelled ends

Vendido a: PLESA ANAHUAC Y CIA. S.A. DE C.V.
Pedido del Cliente No: 5345 - 5406 -
Lista de Empaque: 11078
Packing List:
Dimensiones y tolerancias / Dimension and tolerances

Descripción 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. RUPтура TENSILE STRENGTH (Mpa)	ELONG. %2" %2"	DUREZA HARDNESS HBW	DIMENSIONES SAMPLE DIM mm	1 Joules	2 Joules	3 Joules	PROMEDIO AVERAGE Joules
1	S30232	228	CODO 4 X 90° R. I. CED-STD	241	449	34	130					
2	T42080	250	CODO 6 X 90° R. I. CED-STD	328	484	37	122					
3	S27221	15	CODO 4 X 45° CED-STD	364	509	27	119					
4	S27377	25	CODO 4 X 45° CED-STD	328	500	32	128					
5	T40156	4	TEE RED. 8 X 4 CED-STD	304	465	42	104					
6	T40516	16	TEE RED. 8 X 4 CED-STD	313	492	40	120					

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	S30232	30232	0.350	0.200	0.780	0.014	0.001	0.270	0.050	0.049	0.010	0.010	0.001	0.000
HF	T42080	42080	0.310	0.180	0.670	0.009	0.001	0.250	0.060	0.061	0.020	0.030	0.000	0.000
HF	S27221	27221	0.320	0.180	0.770	0.011	0.001	0.290	0.040	0.050	0.010	0.027	0.001	0.002
HF	S27377	27377	0.350	0.200	0.790	0.015	0.000	0.270	0.040	0.035	0.020	0.025	0.001	0.001
HF	T40156	40156	0.310	0.170	0.730	0.010	0.002	0.280	0.040	0.050	0.006	0.030	0.000	0.000
HF	T40516	40516	0.290	0.160	0.680	0.009	0.001	0.270	0.050	0.065	0.008	0.030	0.000	0.000

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°:
4572227 8057766 433886 427997 8041349 8039769
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.

Certificamos que los resultados de los Analisis Químicos y Pruebas Mecánicas son

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 obtained 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.

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".
Inspección Dimensional: Satisfactoria.
Visual dimensional check: Satisfactory.
CF: FORMADO EN CALIENTE/HOT FORMED
HF: FORMADO EN FRIO/COLD FORMED

ING. WALDO GALLEGOS GALVAN
Quality Manager/gerente de Calidad