

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

Número:
Number: 24405
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Vendido a: **PROVEEDORA DE MATERIALES ANGER, S.A.**
Sold to: **DE C.V.**
Pedido del Cliente No: **5960**
Customers Order No: **5960**
Lista de Empaque: **12558**
Packing List: **12558**
Fecha/Date: **11 de Marzo de 201**

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, Grado 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
Biseado / 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 Di x mm	1 Joules	2 Joules	3 Joules	PROMEDIO AVERAGE Joules
1	T50879	1	CODO 8 X 90° R.L. CED-XS	285	473	44	91					
2	T40745	1	CODO 8 X 90° R.L. CED-XS	318	458	39	147					
3	T41468	3	CODO 8 X 90° R.L. CED-XS	316	492	44	109					
4	T41223	5	CODO 8 X 90° R.L. CED-XS	271	463	38	120					
5	T50508	43	CODO 8 X 90° R.L. CED-XS	294	482	44	109					
6	T50952	79	CODO 6 X 90° R.L. CED-XS	310	490	42	106					
7	T52744	85	CODO 6 X 90° R.L. CED-XS	331	497	41	122					
8	T43376	2	CODO 12 X 90° R.L. CED-40	343	503	33	105					
9	T41315	1	CODO 12 X 90° R.L. CED-40	341	519	43	122					
10	T39854	2	CODO 12 X 90° R.L. CED-40	345	501	34	102					
11	T42339	6	CODO 12 X 90° R.L. CED-40	323	482	33	109					

ANALISIS QUIMICO / CHEMICAL ANALYSIS														
PROCESO PROCESS	COLADA HEAT CODE	COLADA/HEAT MP/MOTHER PIPE	%C.E.	%C	%Mn	%P	%S	%Si	%Cr	%Cu	%Mo	%Ni	%V	%Nb
HF	T50879	50879	0.310	0.180	0.670	0.015	0.001	0.290	0.040	0.049	0.015	0.030	0.000	0.000
HF	T40745	40745	0.290	0.170	0.670	0.009	0.001	0.280	0.030	0.042	0.005	0.020	0.000	0.000
HF	T41468	41468	0.340	0.180	0.850	0.008	0.001	0.270	0.040	0.061	0.006	0.030	0.000	0.000
HF	T41223	41223	0.310	0.180	0.650	0.012	0.002	0.270	0.050	0.070	0.009	0.030	0.000	0.000
HF	T50508	50508	0.310	0.170	0.690	0.010	0.002	0.260	0.060	0.072	0.023	0.030	0.000	0.000
HF	T50952	50952	0.310	0.180	0.670	0.013	0.000	0.300	0.040	0.076	0.035	0.030	0.000	0.000
HF	T52744	52744	0.340	0.190	0.770	0.010	0.000	0.300	0.040	0.067	0.035	0.040	0.000	0.000
HF	T43376	43376	0.320	0.180	0.700	0.016	0.005	0.280	0.050	0.064	0.013	0.030	0.000	0.000
HF	T41315	41315	0.350	0.190	0.840	0.011	0.002	0.280	0.040	0.055	0.008	0.030	0.000	0.000
HF	T39854	39854	0.320	0.190	0.720	0.012	0.002	0.290	0.040	0.054	0.006	0.030	0.000	0.000
HF	T42339	42339	0.300	0.170	0.650	0.010	0.002	0.280	0.050	0.068	0.009	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°: 10037214 8047684 9002032 8054913 10040917 1004876 11001297 9055324 8050722 8043683 8063615

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) certifi conform to ASTM A106 Grade B N°: 10037214 8047684 9002032 8054913 10040917 1004876 11001297 9055324 8050722 8043683 8063615

"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".

Notes:
Formado en caliente a 620°C-860°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 CP: FORMADO EN FRIO/COLD FORMED

Notes:
Hot formed fittings in a range from 620°C to 860°C, cooled in still air.
Cold formed normalized at 940°C max.
Holding time 10'.
Visual dimensional check: Satisfactory

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 menor, se obtienen de la conversión de dureza Rockwell B a dureza Brinell HBW mediante la tabla WILSON DESK CHART 60.