Tubacero
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No. 3729 nte.
Col. Del Norte
Monterrey N.L. México
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CERTIFICADO DE TUBERIA

PIPE CERTIFICATE

No.CERTIFICADO(certificate No.): **070239**

CLIENTE(customer): PLESA ANÁHUAC Y CÍAS., S.A. DE C.V.

DIRECCION(address): AV. VALLE DE LAS ALAMEDAS # 66 O COL. SAN FCO. CHILPAN TULTITLÁN, EDO. DE MÉXICO. C.P. 54940.

O.T. (order no.)	DIAMETRO (outside diam.)	ESPESOR (thickness)	GRADO (grade)	ESPECIFICACION (specification)	PROCESO (process)	PEDIDO (contract)	O. PREPARACION (preparation order)	PROVEEDOR (supplier)	FECHA (date)
33437	14.000"	0.375"	X-42/5LB/ A53B	API 5L 43 ED/A.S.T.M.	ERW	2667	B-060-2007	APM	03/03/2007

TUBO (pipe)	COLADA (heat)	TYPE	LOC	PRUEBA DE TENSION(tensile test) UNIDADES (units) PSI (Y.S.)	ORIENTACION: (orientation) 1 (T.S.)	TAMAÑO: (size) 3 % EL.	Y.S/T.S.	BEND	HARDNESS	PRUEBA DE IMPACTO (impact test) °C °F ORIENTACION (orientation) ENERGY (lbs/ft) 1	2	3	AVG	TAMAÑO: (size) SHEAR AREA 1	2	3	AVG	DWTT SHEAR AREA 1	2	AVG	GRAIN SIZE
			6		80200																
100	265906	H	7	60900	71500	35	0.85														
			6		74400																
171	462163	H	7	52200	67400	38	0.77														
			6		80300																
135	265905	H	7	59700	72500	37	0.82														
			6		78400																
51	166188	H	7	59200	69700	36	0.85														
			6		80600																
34	166189	H	7	63100	74300	36	0.85														

(%)ANALISIS QUIMICO / chemical analysis (%)

TYPE	LOC	C	Mn	P	S	Si	Al	Cu	Cr	Ni	Mo	Ti	Nb	B	V	N	Als	Ca	PCM	CE
H	7	0.17	0.49	0.010	0.015	0.110	0.032	0.020	0.020	0.030	0.003	-	-	-	-	-	-	-	-	0.26
P	7	0.13	0.51	0.011	0.005	0.262	0.024	0.013	0.019	0.030	0.004	0.006	0.001	0.0002	0.001	-	-	0.005	0.17	0.22
P	7	0.13	0.52	0.011	0.005	0.272	0.024	0.013	0.019	0.020	0.004	0.006	0.001	0.0002	0.001	-	-	0.009	0.17	0.24
H	7	0.17	0.59	0.010	0.008	0.107	0.035	0.020	0.020	0.030	0.003	-	-	-	-	-	-	-	-	0.28
P	7	0.13	0.49	0.011	0.005	0.272	0.024	0.013	0.019	0.020	0.004	0.006	0.001	0.0002	0.001	-	-	0.009	0.17	0.22
P	7	0.13	0.56	0.011	0.005	0.272	0.024	0.013	0.019	0.020	0.004	0.006	0.001	0.0002	0.001	-	-	0.009	0.17	0.23
H	7	0.20	0.51	0.015	0.011	0.024	0.028	0.020	0.020	0.030	0.003	-	-	-	-	-	-	-	-	0.29
P	7	0.26	0.62	0.003	0.001	0.121	0.046	0.016	0.021	0.014	0.001	0.002	0.002	0.0003	0.002	-	-	0.002	0.30	0.37
P	7	0.26	0.62	0.005	0.001	0.122	0.053	0.015	0.021	0.016	0.001	0.002	0.002	0.0004	0.003	-	-	0.002	0.30	0.37
H	7	0.15	0.62	0.023	0.012	0.104	0.034	0.030	0.030	0.030	0.013	-	-	-	-	-	-	-	-	0.27
P	7	0.15	0.65	0.010	0.008	0.262	0.018	0.012	0.028	0.010	0.006	0.008	0.001	0.0002	0.001	-	-	0.005	0.19	0.27
P	7	0.15	0.64	0.001	0.009	0.262	0.019	0.012	0.029	0.020	0.006	0.008	0.001	0.0002	0.001	-	-	0.005	0.19	0.27
H	7	0.18	0.59	0.017	0.009	0.120	0.033	0.020	0.020	0.020	0.009	-	-	-	-	-	-	-	-	0.28
P	7	0.12	0.60	0.005	0.003	0.136	0.063	0.014	0.015	0.012	0.001	0.003	0.003	0.0003	0.003	-	-	0.003	0.29	0.36
P	7	0.14	0.60	0.009	0.004	0.251	0.014	0.011	0.037	0.020	0.007	0.007	0.002	0.0020	0.001	-	-	0.008	0.29	0.36

PRUEBA HIDROSTATICA: (hidrostatic test) PRESION: (pressure) 1910 Psi TIEMPO: (time) 10 sec

ULTRASONIDO(U.T.): (ultrasonic) STANDARD DE REFERENCIA: REFERENCE STANDARD J

RAYOS-X (RT): (x-ray) PENETROMETRO (penetrometer): N/A

NORMALIZADO DE SOLDADURA: (heat treatment weld) TEMPERATURA (temperature): 1600° F. MIN.

REFERENCE STANDARD F: U.T. DRILLED HOLE 1/16", G: U.T. DRILLED HOLE 1/8", I: U.T. NOTCH N-5, J: U.T. NOTCH V-10 L: RT HOLE 1/16", N: RT HOLE 2-2T O: RT HOLE 2-4T

ORIENTACION(orientation):
1. TRANSVERSAL (transverse)
2. LONGITUDINAL (longitudinal)

TAMAÑO (size)
3.RECTANGULAR(rectangular)
4.CILINDRICA(round bar) 0.500"
5.CILINDRICA(round bar) 0.350"

LOCALIZACION (location)
6. SOLDADURA (weld)
7. METAL BASE (base metal)
8. ZONA AFECTADA (h.a.z.)
9. LINEA DE FUSION (fusion line)

TIPO DE PRUEBA (type)
H: COLADA (heat)
P: PRODUCTO (product)
R: REMUESTREO (recheck)

CERTIFICAMOS QUE EL MATERIAL DESCRITO HA SIDO HECHO DE ACUERDO CON LA ESPECIFICACION MENCIONADA, Y QUE LOS RESULTADOS SON COMO APARECEN EN LOS REGISTROS DE LA COMPAÑIA
(WE HEREBY CERTIFY THAT MATERIAL DESCRIBED HEREIN HAS BEEN MADE IN ACCORDANCE WITH THE SPECIFICATION MENTIONED AND THAT THESE TEST RESULT ARE AS THEY APPEAR IN RECORDS OF THE COMPANY).

Control de Calidad (Quality Control)

CONTROL DE CALIDAD TUBACERO, S.A. DE C.V. 04

REV.1 Sep-99

F-TUME-013