Tubacero
Ave. Guerrero
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Col. Del Norte
Monterrey N.L. México
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CERTIFICADO DE TUBERIA

PIPE CERTIFICATE

No.CERTIFICADO(certificate No.): **080505**

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 MEXICO. 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)
23132	24.000"	0.500"	X42/5LB/A53B	API 5L 43 ED/A.S.T.M.	DSAW	4819	TB-138-2008	AHMSA	09/07/2008

TUBO (pipe) O SERIE (SERIAL)	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
			6		63900				
141	167796	H	7	54200	67500	35	0.80		
			6		74400				
20	171979	H	7	52700	69500	37	0.75		
			6		78600				
23	171977	H	7	53900	73200	31	0.73		
			6		69900				
85	271924	H	7	42200	64100	29	0.65		
87	171977		6					OK	
112	171977		6					OK	

TUBO (pipe) O SERIE (SERIAL)	PRUEBA DE IMPACTO (impact test) °C ORIENTACION °F (orientation) ENERGY (lbs/ft) 1	2	3	AVG	SHEAR AREA TAMAÑO: (size) 1	2	3	AVG	DWTT SHEAR AREA 1	2	AVG	GRAIN SIZE
141												
20												
23												
85												
87												
112												

(%)ANALISIS QUIMICO / chemical analysis (%)

TUBO (pipe) O SERIE (SERIAL)	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	0.58	0.013	0.005	0.113	0.043	0.020	0.020	0.030	0.006	0.003	0.001	-	0.005	-	-	-	-	-
141	P	7	0.19	0.57	0.015	0.007	0.138	0.056	0.012	0.022	0.013	0.001	0.003	0.002	0.0002	0.001	-	-	0.001	0.23	0.29
	P	7	0.20	0.57	0.014	0.009	0.134	0.046	0.013	0.018	0.012	0.001	0.002	0.002	0.0002	0.001	-	-	0.001	0.24	0.30
	H	7	0.16	0.58	0.010	0.009	0.123	0.037	0.020	0.020	0.020	0.004	0.002	0.001	-	0.003	-	-	-	-	-
20	P	7	0.17	0.58	0.012	0.009	0.125	0.049	0.020	0.016	0.015	0.001	0.004	0.002	0.0002	0.001	-	-	0.001	0.22	0.30
	P	7	0.18	0.58	0.011	0.008	0.128	0.060	0.019	0.017	0.017	0.001	0.003	0.002	0.0002	0.001	-	-	0.001	0.23	0.32
	H	7	0.16	0.58	0.014	0.010	0.127	0.039	0.030	0.020	0.030	0.004	0.002	0.001	-	0.002	-	-	-	-	-
23	P	7	0.18	0.58	0.015	0.010	0.145	0.058	0.026	0.018	0.016	0.001	0.003	0.002	0.0002	0.001	-	-	0.002	0.22	0.29
	P	7	0.17	0.58	0.015	0.011	0.141	0.051	0.024	0.017	0.016	0.001	0.003	0.002	0.0002	0.001	-	-	0.002	0.21	0.27
	H	7	0.16	0.56	0.012	0.010	0.100	0.038	0.020	0.020	0.020	0.004	0.002	0.001	-	0.002	-	-	-	-	-
85	P	7	0.17	0.56	0.013	0.010	0.120	0.042	0.020	0.027	0.014	0.001	0.001	0.001	0.0002	0.001	-	-	0.001	0.20	0.27
	P	7	0.14	0.57	0.012	0.011	0.116	0.045	0.016	0.027	0.015	0.001	0.002	0.001	0.0002	0.001	-	-	0.001	0.18	0.24

PRUEBA HIDROSTATICA: (hidrostatic test) — PRESION: (pressure) 1580 Psi — TIEMPO: (time) 10 sec

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

RAYOS-X (RT): (x-ray) — PENETROMETRO (penetrometer): N° 15 A.S.T.M.

NORMALIZADO DE SOLDADURA: (heat treatment weld) — TEMPERATURA (temperature): N/A

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 N-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 RESULTS ARE AS THEY APPER IN RECORDS OF THE COMPANY)

P.A.

Control de Calidad (Quality Control)

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