Tubacero

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CONSTANCIA DE INSPECCION

INSPECTION CONSTANCY

No. CONSTANCIA (constancy No.): **131930**

CLIENTE(customer): PLESA ANÁHUAC Y CIAS., 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)
13309	24.000"	0.688"	X-52 PSL1	API SPEC 5L 44TH ED.	SAWL	16584	SB-166-2013	AHMSA	27/09/2013

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	PRUEBA DE IMPACTO (impact test) °C ORIENTACION (orientation) ENERGY (lbs/ft) 1	2	3	AVG	TAMAÑO. (size) 1:1 SHEAR AREA 1	2	3	AVG	DWTT SHEAR AREA 1	2	AVG	GRAIN SIZE
18	122238	T	6	67200	81800	40	0.92														9
			7		73300																
39	222018	T	6	72200	90100	41	0.93														9
			7		77400																
121	222019	T	6	68100	81600	32	0.93														9
			7		73400																
107	222020	T	6	65700	84500	38	0.92														9
			7		71600																

(%)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	0.07	0.99	0.020	0.003	0.191	-	0.224	0.031	0.016	0.016	0.005	0.027	0.0003	0.005	0.004	0.047	0.002	0.14	0.26
P	7	0.07	0.97	0.018	0.004	0.170	-	0.240	0.026	0.020	0.006	0.003	0.024	0.0002	0.004	0.005	0.037	0.002	0.14	0.26
P	7	0.08	0.99	0.018	0.003	0.190	-	0.230	0.029	0.019	0.007	0.004	0.027	0.0003	0.005	0.004	0.040	0.002	0.15	0.27
H	7	0.07	1.00	0.014	0.005	0.199	-	0.245	0.026	0.022	0.011	0.003	0.032	0.0002	0.004	0.004	0.035	0.001	0.14	0.26
P	7	0.07	0.97	0.016	0.004	0.180	-	0.240	0.026	0.022	0.005	0.002	0.027	0.0002	0.004	0.004	0.031	0.001	0.14	0.26
P	7	0.07	0.97	0.016	0.004	0.180	-	0.240	0.026	0.022	0.005	0.002	0.027	0.0002	0.004	0.004	0.031	0.001	0.14	0.26
H	7	0.06	0.99	0.015	0.004	0.189	-	0.243	0.025	0.019	0.013	0.004	0.027	0.0003	0.004	0.005	0.045	0.001	0.13	0.25
P	7	0.06	0.99	0.016	0.003	0.190	-	0.250	0.023	0.021	0.005	0.003	0.027	0.0001	0.004	0.005	0.043	0.003	0.13	0.25
P	7	0.06	0.99	0.016	0.003	0.190	-	0.250	0.023	0.021	0.005	0.003	0.027	0.0001	0.004	0.005	0.043	0.003	0.13	0.25
H	7	0.06	0.98	0.015	0.004	0.211	-	0.238	0.024	0.019	0.014	0.003	0.028	0.0003	0.004	0.004	0.036	0.002	0.13	0.25
P	7	0.06	0.97	0.015	0.003	0.210	-	0.240	0.023	0.022	0.005	0.003	0.027	0.0002	0.004	0.004	0.030	0.002	0.13	0.25
P	7	0.06	0.96	0.015	0.003	0.200	-	0.240	0.023	0.022	0.005	0.002	0.025	0.0002	0.003	0.004	0.030	0.002	0.13	0.24

CRITERIOS DE ACEPTACION: (Acceptance criteria)		TENSION (tensile test)				BEND	HARDNESS	IMPACTO (impact test)								DWTT			GRAIN SIZE	TYPE	LOC	C	Mn	P	S	Si	Al	Cu	Cr	Ni	Mo	Ti	Nb	B	V	N	Als	Ca	PCM	CE
	MIN:	52200	66700	20	-	*	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MAX:	-	-	-	-	*	-	-	-	-	-	-	-	-	-	-	-	-	-			0.26	1.40	0.030	0.030	-	-	0.500	0.500	0.500	0.015	-	-	0.001	-	-	-	-	-	-	-
	PROMEDIO (AVG.)	-	-	-	*No se Aceptan Grietas >1/8"			-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

PRUEBA HIDROSTATICA: (hidrostatic test) — PRESION: (pressure) 2690 Psi — TIEMPO: (time) 10 sec

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

RAYOS-X (RT): (x-ray) — PENETROMETRO (penetrometer): 10-ISO-16

NORMALIZADO DE SOLDADURA: (heat treatment weld) — TEMPERATURA (temperature): N/A (NO UNTEMPERED MARTENSITE REMAINS)

ESTANDAR DE REFERENCIA (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
Barreno (Drilled Hole)=H Muesca (Notch)=N

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)
T: UNIDAD DE PRUEBA (Test unit)

HACEMOS CONSTAR QUE EL MATERIAL DESCRITO HA SIDO FABRICADO, MUESTREADO, PROBADO E INSPECCIONADO DE ACUERDO CON LA ESPECIFICACION MENCIONADA, Y QUE LOS RESULTADOS SON COMO APARECEN EN LOS REGISTROS DE LA COMPAÑIA
(WE HEREBY VERIFY THAT MATERIAL DESCRIBED HEREIN HAS BEEN MANUFACTURED, SAMPLED, TESTED AND INSPECTED IN ACCORDANCE WITH THE SPECIFICATION MENTIONED AND THAT THESE TEST RESULT ARE AS THEY APPER IN RECORDS OF THE COMPANY).

Control de Calidad (Quality Control)
Ing. Samuel Montoya Laguna.