Tubacero
Ave. Guerrero
No. 3729 nte.
Col. Del Norte
Monterrey N.L. México
CP.64500
TEL:3055555
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CONSTANCIA DE INSPECCION

INSPECTION CONSTANCY

No. CONSTANCIA (constancy No.): **101498**

CLIENTE(customer): PLESA ANAHUAC Y CIAS., S.A. DE C.V.

DIRECCION(address): AV. VALLE DE LAS ALAMEDAS # 66 - O COL. SAN FCO. CHILPAN TULTITLAN, 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)
33488	12.750"	0.375"	X42/5LB PSL1/A53B	API SPEC 5L 44TH ED.	HFW	9495	B-165-2010	TERNIUM	13/12/2010

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) -10 °C °F ORIENTACION (orientation) ENERGY (lbs/ft) 1	2	3	AVG	TAMAÑO (size) 1:1 SHEAR AREA 1	2	3	AVG	DWTT -10 SHEAR AREA 1	2	AVG	GRAIN SIZE
			6		74900																
37	0822875	H	7	53300	67100	43	0.79														
			6		75600																
83	0812441	H	7	52200	66900	42	0.78														
			6		74100																
359	0832956	H	7	54300	67400	40	0.80														
			6		75600																
58	0812864	H	7	52400	65100	42	0.80														
			6		71000																
203	0812861	H	7	49000	67400	33	0.72														
			6		77000																
281	0812862	H	7	52100	66200	39	0.78														
			6		76900																
238	0842929	H	7	52600	66800	39	0.78														
15	0812864		6																		9
110	0812861		6																		9
214	0812860		6																		9
294	0812862		6																		9
CRITERIOS DE ACEPTACION: (Acceptance criteria) MIN:				42100	60200	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8
MAX:				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
PROMEDIO (AVG.)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

TUBO (pipe) O SERIE (SERIAL)	TYPE	LOC	(%)ANALISIS QUIMICO / chemical analysis (%) C	Mn	P	S	Si	Al	Cu	Cr	Ni	Mo	Ti	Nb	B	V	N	Als	Ca	PCM	CE
	H	7	0.18	0.69	0.009	0.003	0.152	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.0000	0.000	-	-	0.000	-	-
37	P	7	0.17	0.73	0.012	0.002	0.170	0.029	0.006	0.001	0.001	0.001	0.001	0.002	0.0003	0.001	-	-	0.002	0.22	0.30
	P	7	0.16	0.72	0.012	0.002	0.172	0.029	0.008	0.001	0.001	0.001	0.001	0.002	0.0003	0.001	-	-	0.002	0.20	0.28
	H	7	0.17	0.67	0.008	0.005	0.154	0.034	0.006	0.012	0.003	0.001	0.001	0.001	0.0000	0.001	-	-	0.002	-	-
83	P	7	0.21	0.69	0.012	0.003	0.170	0.026	0.011	0.001	0.001	0.001	0.001	0.008	0.0003	0.001	-	-	0.001	0.25	0.33
	P	7	0.21	0.69	0.012	0.003	0.170	0.026	0.008	0.001	0.001	0.001	0.001	0.001	0.0003	0.001	-	-	0.001	0.26	0.33
	H	7	0.17	0.71	0.011	0.002	0.180	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.0000	0.000	-	-	0.000	-	-
359	P	7	0.16	0.72	0.013	0.001	0.191	0.027	0.011	0.001	0.001	0.001	0.001	0.002	0.0002	0.001	-	-	0.001	0.20	0.28
	P	7	0.15	0.71	0.013	0.002	0.196	0.027	0.012	0.001	0.001	0.001	0.001	0.002	0.0002	0.001	-	-	0.001	0.20	0.27
	H	7	0.19	0.70	0.011	0.003	0.185	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.0000	0.000	-	-	0.000	-	-
58	P	7	0.17	0.72	0.013	0.002	0.191	0.027	0.009	0.001	0.001	0.001	0.002	0.002	0.0002	0.002	-	-	0.002	0.22	0.29
	P	7	0.19	0.70	0.013	0.001	0.189	0.026	0.007	0.001	0.001	0.001	0.001	0.002	0.0003	0.002	-	-	0.001	0.23	0.31
	H	7	0.19	0.68	0.011	0.003	0.185	0.042	0.000	0.000	0.000	0.000	0.000	0.000	0.0000	0.000	-	-	0.000	-	-
203	P	7	0.17	0.69	0.014	0.002	0.191	0.035	0.014	0.001	0.001	0.001	0.001	0.002	0.0003	0.001	-	-	0.001	0.21	0.28
	P	7	0.12	0.69	0.014	0.002	0.192	0.034	0.010	0.001	0.001	0.001	0.001	0.002	0.0002	0.001	-	-	0.001	0.17	0.24
	H	7	0.20	0.71	0.010	0.002	0.188	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.0000	0.000	-	-	0.000	-	-
281	P	7	0.19	0.72	0.013	0.001	0.197	0.020	0.012	0.001	0.001	0.001	0.001	0.002	0.0002	0.001	-	-	0.001	0.24	0.31
	P	7	0.13	0.73	0.013	0.001	0.194	0.020	0.010	0.001	0.001	0.001	0.001	0.002	0.0002	0.001	-	-	0.001	0.17	0.25
	H	7	0.18	0.75	0.011	0.001	0.188	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.0000	0.000	-	-	0.000	-	-
238	P	7	0.19	0.77	0.013	0.001	0.193	0.027	0.011	0.001	0.001	0.001	0.001	0.003	0.0003	0.001	-	-	0.001	0.24	0.32
	P	7	0.19	0.75	0.013	0.001	0.194	0.026	0.011	0.001	0.001	0.001	0.001	0.001	0.0002	0.001	-	-	0.001	0.24	0.32
CRITERIOS DE ACEPTACION: (Acceptance criteria) MIN:			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAX:			0.26	1.20	0.030	0.030	-	-	0.500	0.400	0.400	0.150	-	-	-	0.080	-	-	-	-	-
PROMEDIO (AVG.)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

PRUEBA HIDROSTATICA: (hidrostatic test) PRESION: (pressure) 2105 Psi TIEMPO: (time) 10 sec

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

PRUEBA DE APLASTAMIENTO: (flattening test) 0° OK 90° OK

NORMALIZADO DE SOLDADURA: (heat treatment weld) TEMPERATURA (temperature): 1600° F MIN (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 RESULTS ARE AS THEY APPEAR IN THE RECORDS OF THE COMPANY)

TUBACERO, S.A. DE C.V.

Control de Calidad (Quality Control)

Ing. Samuel Montoya Laguna.

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