Tubacero

Ave. Guerrero N° 3729 Nte.
Col. Del Norte
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CONSTANCIA DE INSPECCION
INSPECTION CONSTANCY

N° CONSTANCIA (CONSTANCY N°)	151880
CLIENTE (CUSTOMER):	PLESA ANÁHUAC Y CÍAS., S.A. DE C.V.
ORDEN DE COMPRA (PURCHASE ORDER):	22452
DIRECCION (ADDRESS):	AV. VALLE DE LAS ALAMEDAS # 66-O COL. SAN FCO. CHILPAN TULTITLÁN, EDO. DE MÉXICO. C.P. 54940.

ORDEN DE PREPARACION (PREPARATION ORDER)	ORDEN DE TRABAJO (JOB ORDER)	DIAMETRO (SPECIFIED OUTSIDE DIAMETER)	ESPESOR (SPECIFIED WALL THICKNESS)	ESPECIFICACION (SPECIFICATION)	GRADO (PIPE GRADE)	CONDICION DE ENTREGA (DELIVERY CONDITION)	PSL (PSL)	TIPO DE TUBO (TYPE OF PIPE)	PROVEEDOR (SUPPLIER)	FECHA (DATE)
TB-191-2015	33348	16.000"	0.500"	A.S.T.M.	A 53 B	-	-	HFW/ERW	AHMSA	23/11/15

N° DE TUBO / N° DE SERIE / QUALIFICATION (PIPE NUMBER)	NUMERO COLADA (NUMBER) (HEAT)	A	B	C	D	ENSAYO DE TENSION (TENSILE TEST) UNIDADES (UNITS) PSI (YS)	(TS)	TAMAÑO (SIZE): 14 % E	YS/TS	ENSAYO DOBLEZ GUIADO (GUIDED BEND TEST) D	°	ENSAYO DE IMPACTO CHARPY (CHARPY IMPACT TEST)	ENSAYO DWT (DWT TEST)	C	G	ENSAYO DE DUREZA (HARDNESS TEST)	TAMAÑO DE GRANO (GRAIN SIZE)
477	247861	-	1	H	4 / 5	62190	82178 / 67919	36	0.91	-	-	-	-	-	-	-	-
1604	247895	-	1	H	4 / 5	65650	83670 / 71620	39	0.91	-	-	-	-	-	-	-	-
591	247850	-	1	H	4 / 5	64227	83665 / 68988	37	0.93	-	-	-	-	-	-	-	-
1037	247851	-	1	H	4 / 5	66445	80858 / 72409	41	0.91	-	-	-	-	-	-	-	-
1045	247852	-	1	H	4 / 5	63636	78032 / 70000	37	0.90	-	-	-	-	-	-	-	-
589	247854	-	1	H	4 / 5	65942	76974 / 70768	39	0.93	-	-	-	-	-	-	-	-
988	247855	-	1	H	4 / 5	65125	82545 / 71981	38	0.90	-	-	-	-	-	-	-	-
86	247170	-	1	H	4 / 5	66190	80780 / 69995	35	0.93	-	-	-	-	-	-	-	-
1394	247893	-	1	H	4 / 5	62298	79609 / 67281	42	0.92	-	-	-	-	-	-	-	-
CRITERIO DE ACEPTACION (ACCEPTANCE CRITERIA) * MIN					-	35000	60000	27	-	-	-	-	-	-	-	-	-
** MAX					-	-	-	-	-	-	-	-	-	-	-	-	-
***					-	-	-	-	-	-	-	-	-	-	-	-	-

ANALISIS QUIMICO (%) / CHEMICAL ANALYSIS (%)

Heat	C	C	Mn	P	S	Si	Al	Cu	Cr	Ni	Mo	Ti	Nb	B	V	N	Als	Ca	Pcm	CE	Nb+V	V+Nb+Ti
247861	H	0.06	0.71	0.008	0.005	0.180	0.05	0.29	0.022	0.037	0.009	0.002	0.029	-	0.001	0.004	-	0.004	-	0.20	-	0.03
	P	0.06	0.71	0.012	0.005	0.170	0.04	0.27	0.026	0.036	0.006	0.002	0.031	-	0.002	0.006	-	0.002	-	0.20	-	0.04
	P	0.06	0.71	0.012	0.005	0.170	0.04	0.27	0.026	0.038	0.006	0.002	0.031	-	0.002	0.006	-	0.002	-	0.20	-	0.04
247895	H	0.06	0.70	0.008	0.005	0.18	0.05	0.27	0.025	0.037	0.006	0.002	0.033	-	0.001	0.008	-	0.004	-	0.21	-	0.04
	P	0.05	0.70	0.008	0.005	0.18	0.05	0.27	0.025	0.037	0.006	0.002	0.033	-	0.001	0.008	-	0.004	-	0.21	-	0.04
	P	0.06	0.70	0.008	0.005	0.18	0.05	0.27	0.024	0.036	0.006	0.002	0.032	-	0.001	0.006	-	0.004	-	0.20	-	0.04
247850	H	0.06	0.68	0.008	0.004	0.17	0.04	0.27	0.022	0.029	0.003	0.002	0.029	-	0.001	0.005	-	0.003	-	0.20	-	0.03
	P	0.06	0.68	0.008	0.004	0.17	0.04	0.27	0.022	0.029	0.003	0.002	0.029	-	0.001	0.005	-	0.003	-	0.20	-	0.03
	P	0.06	0.70	0.008	0.004	0.17	0.04	0.26	0.021	0.027	0.004	0.002	0.030	-	0.001	0.005	-	0.003	-	0.20	-	0.03
247851	H	0.06	0.71	0.008	0.003	0.17	0.04	0.28	0.015	0.037	0.009	0.002	0.034	-	0.002	0.006	-	0.004	-	0.22	-	0.04
	P	0.06	0.71	0.008	0.003	0.17	0.04	0.28	0.015	0.037	0.009	0.002	0.034	-	0.002	0.006	-	0.004	-	0.22	-	0.04
	P	0.06	0.70	0.008	0.004	0.17	0.04	0.28	0.022	0.036	0.007	0.003	0.034	-	0.002	0.006	-	0.002	-	0.20	-	0.04
247852	H	0.07	0.71	0.011	0.005	0.21	0.03	0.29	0.035	0.033	0.007	0.001	0.034	-	0.002	0.004	-	0.003	-	0.21	-	0.04
	P	0.07	0.71	0.011	0.005	0.21	0.03	0.29	0.035	0.033	0.007	0.001	0.034	-	0.002	0.004	-	0.003	-	0.21	-	0.04
	P	0.07	0.72	0.011	0.005	0.19	0.03	0.30	0.024	0.033	0.010	0.001	0.036	-	0.001	0.004	-	0.003	-	0.22	-	0.04
247854	H	0.07	0.71	0.009	0.004	0.17	0.03	0.28	0.020	0.035	0.008	0.003	0.031	-	0.002	0.006	-	0.002	-	0.21	-	0.04
	P	0.07	0.71	0.009	0.004	0.17	0.03	0.28	0.020	0.035	0.008	0.003	0.031	-	0.002	0.006	-	0.002	-	0.21	-	0.04
	P	0.07	0.72	0.009	0.004	0.17	0.03	0.29	0.019	0.036	0.008	0.003	0.031	-	0.003	0.005	-	0.002	-	0.22	-	0.04
247855	H	0.07	0.69	0.010	0.004	0.22	0.03	0.28	0.019	0.038	0.006	0.004	0.032	-	0.003	0.006	-	0.002	-	0.21	-	0.04
	P	0.07	0.69	0.010	0.004	0.22	0.03	0.28	0.019	0.038	0.006	0.004	0.032	-	0.003	0.006	-	0.002	-	0.21	-	0.04
	P	0.07	0.69	0.011	0.004	0.22	0.03	0.28	0.019	0.037	0.006	0.004	0.032	-	0.002	0.005	-	0.002	-	0.21	-	0.04
247170	H	0.06	0.70	0.012	0.003	0.19	0.04	0.28	0.020	0.025	0.004	0.003	0.033	-	0.003	0.007	-	0.004	-	0.21	-	0.04
	P	0.06	0.70	0.012	0.003	0.19	0.04	0.28	0.020	0.025	0.004	0.003	0.033	-	0.003	0.007	-	0.004	-	0.21	-	0.04
	P	0.06	0.70	0.011	0.004	0.18	0.04	0.28	0.022	0.024	0.003	0.003	0.032	-	0.003	0.007	-	0.003	-	0.21	-	0.04
247893	H	0.09	0.69	0.008	0.005	0.17	0.03	0.28	0.018	0.036	0.003	0.003	0.032	-	0.002	0.006	-	0.002	-	0.23	-	0.04
	P	0.09	0.69	0.008	0.005	0.17	0.03	0.28	0.018	0.036	0.003	0.003	0.032	-	0.002	0.006	-	0.002	-	0.23	-	0.04
	P	0.07	0.71	0.090	0.005	0.17	0.04	0.30	0.023	0.034	0.008	0.003	0.030	-	0.002	0.005	-	0.004	-	0.21	-	0.04
* MIN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
** MAX		0.30	1.20	0.050	0.045	-	-	0.400	0.400	0.400	0.150	-	-	-	0.080	-	-	-	-	-	-	-
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PRUEBA HIDROSTATICA (HYDROSTATIC TEST)	PRESION (PRESSURE): 2760 Psi; TIEMPO DE PRUEBA (HOLDING TIME): 10 S
PRUEBA DE ULTRASONIDO (ULTRASONIC TEST)	ESTANDAR DE REFERENCIA (REFERENCE STANDARD): 29
METODO DE PND EN SOLDADURA (METHOD OF WELD NDE)	SOLDADURA LONGITUDINAL (LONGITUDINAL WELD): RAYOS X (X RAY) (RT); INDICADOR DE CALIDAD DE IMAGEN (IQI): N/A; TIPO Y TAMAÑO (TYPE AND SIZE)
	JUNTAS (JOINTERS WELDS): RAYOS X TIEMPO REAL (X RAY) (RT); INDICADOR DE CALIDAD DE IMAGEN (IQI): N/A; TIPO Y TAMAÑO (TYPE AND SIZE): N/A
TRATAMIENTO TERMICO SOLDADURA (HEAT TREATMENT WELD)	TEMPERATURA (TEMPERATURE): MIN: 1600 F
PRUEBA DE APLASTAMIENTO (FLATTENING TEST)	0° OK 90° OK

CLAVE (KEY):

A. FACTOR DE EXPANSION PARA TUBERIA EXPANDIDA EN FRIO (EXPANSION FACTOR FOR COLD EXPANDED PIPE)

B. TIPO (TYPE)
1 MUESTRA EN TIRA (STRIP TEST PIECE)
2 APLANADO (FLATTENED)
3 SIN APLANAR (UNFLATTENED)

C. FRECUENCIA DE PRUEBA (FREQUENCY OF TEST)
H COLADA (HEAT)
P PRODUCTO (PRODUCT)
R REMUESTREO (RETESTING)
T UNIDAD DE PRUEBA (TEST UNIT)

CRITERIOS DE ACEPTACION (ACCEPTANCE CRITERIA):
* CUALQUIER COLADA (ANY HEAT)
** PROMEDIO DE LAS COLADAS (ALL HEAT AVERAGE)
*** PROMEDIO MINIMO DE LAS COLADAS (ALL HEAT AVERAGE MIN.)

D. LOCALIZACION Y ORIENTACION (ORIENTATION AND LOCATION) (THE SOURCE)
4 CORDON DE SOLDADURA (SEAM WELD) 1W
5 CUERPO DEL TUBO (PIPE BODY) 1T180
6 CUERPO DEL TUBO (PIPE BODY) 1L90
7 CORDON DE SOLDADURA (SEAM WELD) 3W
8 CUERPO DEL TUBO (PIPE BODY) 3T90
9 CORDON DE SOLDADURA (SEAM WELD) 3 HAZ
10 CUERPO DEL TUBO (PIPE BODY) 2T90
11 2W
12 TRANSVERSAL (TRANSVERSE)
13 LONGITUDINAL (LONGITUDINAL)

E. SIZE (TAMAÑO)
14 1.500" X 0.500"
15 CILINDRICA (ROUND BAR) 0.500"
16 CILINDRICA (ROUND BAR) 0.350"
17 FULL SIZE (COMPLETO)
18 3/4"
19 2/3"
20 1/2"

F. TIPO DE RANURA DWTT (DWTT TYPE OF NOTCH)
21 CHEVRON (CHEVRON)
22 PRENSADA (PRESSED)

G. LOCALIZACION (LOCATION)
23 EXTERIOR (OUTSIDE)
24 INTERIOR (INSIDE)
25 CENTER (CENTRO)

H. ESTANDAR DE REFERENCIA (REFERENCE STANDARD)
26 BARRENO (DRILLED HOLE) 1/16"
27 RANURA RECTANGULAR (RECTANGULAR NOTCH N-5)
28 BARRENO 1.2 mm DIAMETER MID-WALL STANDARDIZATION
29 RANURA RECTANGULAR (RECTANGULAR NOTCH) N-10
30 BARRENO (DRILLED HOLE) 3.2 mm

NOTAS (NOTES):

HACEMOS CONSTAR QUE EL MATERIAL DESCRITO HA SIDO FABRICADO, MUESTREADO, PROBADO E INSPECCIONADO DE ACUERDO CON LA ESPECIFICACION A.S.T.M. Y QUE LOS RESULTADOS SON COMO APARECEN EN LOS REGISTROS DE LA COMPAÑÍA.

(WE HEREBY VERIFY THAT MATERIAL DESCRIBED HEREIN HAS BEEN MANUFACTURED, SAMPLED, TESTED AND INSPECTED IN ACCORDANCE WITH A.S.T.M. AND THAT THESE TEST RESULT, ARE AS THEY APPEAR IN RECORDS OF THE COMPANY)

TUBACERO, S. DE R.L. C.V.

Ing. Samuel Montoya Laguna
CED. PROF. 6812341
JEFE DE LABORATORIO
(HEAD OF LABORATORY)

REV.7 Sep.-13

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