



MACEROSFORJADOS DE IZCALLI S.A. DE C.V.

Calle : Amapola mz 2 Num.Int11 Colonia Ejido el socorro C.P. : 5474

CUAUTITLAN IZCALLI EDO MEXICO

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| | | | | | |
|--|--|-------------------------------|-------|-------------|--------|
| CERTIFICADO DE CALIDAD EN10204 - 3.1B | | CERTIFICADO NO. | | 1662 | |
| CLIENTE | | FECHA: | | 18-sep-15 | |
| PLESA ANAHUAC Y CIAS S.A. DE C.V. | | NO. DE ORDEN DE COMPRA | 21972 | REF | F-1963 |

ESPECIFICACIONES

| | |
|--|--|
| A 105N - ASTM A 105N -09/ ASME SA105N -13 NACE-MR-01-75/09 | FORGED/ROLLED 1150-1200 GRADES CELSIUS |
|--|--|

NORMAS Y GRADOS

TRATAMIENTO TERMICO

| ASME BOILER AND PRESSURE VESSEL SECC II, CODE PART A, EDITION 2010- ADENDA 2011 DE LA NORMA ASME | | | NORMALIZED 900 GRADES CELSIUS AND ALLOWED TO COOL IN STILL AIR | | | |
|--|----------|--|--|--------|--------|--|
| PARTIDA | CANTIDAD | DESCRIPCION DEL PRODUCTO | NORMAS APLICABLES | MEDIDA | COLADA | |
| 17 | 5 | BRIDA A.C. S.W.C-80/XS R.F. 150LBS 25M | ASTM A-105-09 ASME SA-105-13 ASME B16.5 NACE MR-0175-09 ASME-SA-105-13 FULLY KILLED NACE MR-0103 | 1" | HHW | |
| 18 | 10 | BRIDA A.C. S.W.C-160 R.F. 300LBS 51MM | | 2" | KNZ | |
| 19 | 10 | BRIDA A.C. S.W.C-80/XS R.F. 600LBS 25M | | 1" | JHD | |
| 20 | 10 | BRIDA A.C. W.N. RF STD DE 1" 150LBS | | 1" | 4102 | |
| 21 | 10 | BRIDA A.C.W.N. C-XS/80 R.F. 150LBS 38M | | 1-1/2" | JCC | |
| 22 | 5 | BRIDA A.C. W.N. RF STD DE 1/2" 150LBS | | 1/2" | GYR | |
| 23 | 10 | BRIDA A.C.W.N. C-XS/80 R.F. 150LBS 25M | | 1" | HHW | |
| 24 | 20 | BRIDA A.C. W.N. RF STD DE 3/4" 150LBS | | 3/4" | IHK | |

PRUEBAS MECANICAS

| COLADA | LIMITE LASTICO(P.S.I.) | CEDENCIA (P.S.I.) | ELONGACION 2% | REDUCCION DE AREA % | DUREZA HB | | | | | | | | | | | | | | | | |
|--------|------------------------|-------------------|---------------|---------------------|-----------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| HHW | 83575 | 45422 | 27 | 59 | 159 | | | | | | | | | | | | | | | | |
| KNZ | 71670 | 50276 | 31 | 33 | 163 | | | | | | | | | | | | | | | | |
| JHD | 71670 | 50276 | 29 | 33 | 177 | | | | | | | | | | | | | | | | |
| 4102 | 82475 | 44622 | 31 | 59 | 178 | | | | | | | | | | | | | | | | |
| JCC | 84752 | 47258 | 28 | 50 | 170 | | | | | | | | | | | | | | | | |
| GYR | 82775 | 44262 | 27 | 55 | 175 | | | | | | | | | | | | | | | | |
| HHW | 83575 | 45422 | 27 | 59 | 159 | | | | | | | | | | | | | | | | |
| IHK | 83875 | 46722 | 29 | 55 | 169 | | | | | | | | | | | | | | | | |

% COMPOSICION QUIMICA

| COLADA | C | MN | SI | P | S | CR | NI | MO | CU | SN | AL | NB | V | TI | CO | AS | SB | HPPM | NPPM | CEQ | CR+M O | 1) |
|--------|------|------|------|-------|------|-------|-------|-------|-------|----|----|-------|-------|----|----|----|----|------|------|------|--------|------|
| HHW | 0.14 | 0.87 | 0.25 | 0.006 | 0.01 | 0.050 | 0.080 | 0.021 | 0.230 | | | 0.001 | 0.001 | | | | | | | 0.34 | | 0.38 |
| KNZ | 0.16 | 0.81 | 0.21 | 0.006 | 0.02 | 0.063 | 0.074 | 0.020 | 0.190 | | | 0.000 | 0.003 | | | | | | | 0.34 | | 0.35 |
| JHD | 0.17 | 0.68 | 0.18 | 0.008 | 0.02 | 0.080 | 0.011 | 0.035 | 0.150 | | | 0.001 | 0.009 | | | | | | | 0.34 | | 0.28 |
| 4102 | 0.31 | 0.81 | 0.21 | 0.006 | 0.02 | 0.063 | 0.074 | 0.020 | 0.190 | | | 0.001 | 0.003 | | | | | | | 0.34 | | 0.35 |
| JCC | 0.16 | 0.87 | 0.25 | 0.006 | 0.01 | 0.050 | 0.080 | 0.021 | 0.230 | | | 0.001 | 0.001 | | | | | | | 0.34 | | 0.38 |
| GYR | 0.18 | 0.87 | 0.25 | 0.006 | 0.01 | 0.050 | 0.080 | 0.021 | 0.230 | | | 0.001 | 0.001 | | | | | | | 0.34 | | 0.38 |
| HHW | 0.14 | 0.87 | 0.25 | 0.006 | 0.01 | 0.050 | 0.080 | 0.021 | 0.230 | | | 0.001 | 0.001 | | | | | | | 0.34 | | 0.38 |
| IHK | 0.15 | 0.85 | 0.26 | 0.006 | 0.01 | 0.054 | 0.079 | 0.028 | 0.290 | | | 0.001 | 0.003 | | | | | | | 0.34 | | 0.45 |

NOTA 1) CR+NI+MO+CU

CERTIFICAMOS QUE EL MATERIAL AQUÍ DESCRITO, CUMPLE CON TODOS LOS ESTANDARES DE CALIDAD MENCIONADOS. MATERIAL CALMADO GRANO FINO TRATADO CON CALCIO Y DEBAGIFICADO AL VACIO ULTIMA EDICION.- INSPECCIÓN 100% UT

Martha Hernandez

ELABORO

ENTREGADO
Ing. Bernardino B. Aguas
APROBADO

CC-01 REV1.0