

|  |  |  |
| --- | --- | --- |
| **** AGUA | **1000,00**  | kg /m2 |
| **** ALCOHOL | **790,00**  | kg /m3 |
| **** MADERA | **810,00**  | kg /m3 |
| **P**ATM = | **101325**  | Pa |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **a** M | **0,70**  | m | 0,3430  | m3 (Vol) |
|  |  | m M | 277,8300  | kg |
|  |  | w M | 2.722,7340  | N |
|  |  | E M | 2.655,5060  | N |
|  |  |  |  |  |
|  |  | **F** | **67,2280**  | **N** |



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| w | **2,5** | Ton | 2500,0000 | kgf |
|  |  |  |  |  |
| F | **500** | kgf |  |  |
| A1 | **9** | cm2 | 3,3851 | cm (D1) |
|  |  diám = (( F/w )^0,5)\*D1 |  |
|  |  | **diám** | **1,5139** | **cm** |



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| m | **18,00**  | kg |  |  |
| T1 | **No** | ºC |  |  |
| h1 | **0,50**  | m |  |  |
| h | **0,27**  | m | 0,2300  | m (h2) |
|  |  |  |  |  |
|  | D = (4\*m\*g /(pi()\*(PATM\*(h1/h2)-PATM)))^0,5 |
|  |  | **D** | **0,0435**  | **m** |



|  |  |  |
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| **** HIELO = | **0,92**  | gr /cm3 |
| **** AGUA = | **1,00**  | gr /cm3 |
| **L*f***HIELO = | **80,0**  | cal /gr |
| **L*v***AGUA = | **540,0**  | cal /gr |
| **c** HIELO = | **0,50**  | cal /gr-ºC |
| **c** AGUA = | **1,00**  | cal /gr-ºC |
| **c** VAPOR = | **0,48**  | cal /gr-ºC |

|  |  |  |  |  |
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| t 1 | **194,0**  | ºF | 90,0000  | ºC |
| t f | **32,0**  | ºF | 0,0000  | ºC |
| t 2 | **14,0**  | ºF | -10,0000  | ºC |
| m | **0,50**  | lb | 227,3  | gr |
| Q = (cAGUA\*(t f-T1) + cHIELO\*(T2 -t f )-L*f* HIELO )\*m |
|  |  | ** Q** | **-39.772,7**  | **cal** |