|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| m | **35** | kg | | 343,0000 | N (Rn) |
| v1 | **8** | m /s | |  |  |
| v2 | **0** | m /s | |  |  |
| t | **15** | s | | -0,5333 | m/s2 (a) |
| **y** | **0** | 100 | | 60,0000 | m (d) |
| **x** | **100** |  | | 0,0000 | m (h) |
|  | Tf = m \*( g \*h - v1^2 /2 ) | | | |  |
|  |  | **T*f*** | **-1120,0000** | | **J** |
|  |  = -Tf /(d \*Rn) | |  | |  |
|  |  | **** | **0,0544** | | **J** |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| º | **10** | **0,18** | a 1-2 = g . sen . | |  |
|  | 1,0154 | **1** | 1,7018 | | m/s2 (a 1-2) |
| v1 | **0** | m/s | v 2 = (v 1^2 +2 \*a 1-2 \* d 1-2)^2 | | |
| d 1-2 | **2** | m | 2,6090 | m/s (v 2) | |
| m | **1100** | kg | 3743,8547 | J (Ec2) | |
| d 2-3 | **18** | m | 3,1257 | m (h 2-3) | |
| v3 | **0** | m/s | 33694,6924 | J (Epg2) | |
| t 2-3 =2\*d 1-2 /(v 2 +v 3). | | | 13,7983 | s (t 2-3) | |
|  | PF = (1/746)\*(Epg2 +Ec2 )/t 2-3 | | |  | |
|  |  | **PF** | **3,6371** | **HP** | |

|  |  |  |
| --- | --- | --- |
| **PATM =** | **101325** | Pa |
| **1 (Hg) =** | **13600** | kg /m3 |
| **2 (Agua) =** | **1000** | kg /m3 |
| **3 (Alcohol) =** | **790** | kg /m3 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| H | **1,8** | m | |  |  |
| y 3 | **0,3333** | m | | 0,6000 | m (h3) |
| y 2 | **0,25** | m | | 0,4500 | m (h2) |
| y 1 | 0,4167 | m | | 0,7500 | m (h1) |
|  |  |  | | 4645,2000 | Pa (P3) |
|  |  |  | | 4410,0000 | Pa (P2) |
|  |  |  | | 99960,0000 | Pa (P1) |
|  |  | P = (P1 + P2 + P3) /1000 | | |  |
|  |  | **P** | **109,0152** | | **kPa** |

|  |  |  |
| --- | --- | --- |
| **c** AIRE = | **0,1700** | cal /gr-ºC |
| **k** CONCRETO = | **0,0040** | cal/ cm-s-ºC |
| **** AIRE = | **0,0013** | gr /cm3 |
| **** CONCRETO = | **4,30** | gr /cm3 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| t INT | | **18,0** | | ºC | 18,0 | ºC | |
| t EXT | | **45,0** | | ºC | 45,0 | ºC | |
| x | | **10** | | m |  |  | |
| y | | **12** | | m | 3.840.000,0 | cm2 (A) | |
| h | | **6** | | m | 720.000.000,0 | cm3 (Vol) | |
| esp | | **50,0** | | cm | 936.000,0 | gr (m) | |
| Q = m \*cAIRE\*abs( t EXT -t INT)) | | | | | |  | |
|  |  | | ** Q** | | **4.296.240** | **cal** | |
|  | t = Q\*Esp /(A \*k \*(abs(t EXT) + abs(t INT)) | | | | | | |
|  |  | | **t** | | **518,0** | | **s** |