|  | Input oven dimensions all in inches |
| :---: | :---: |
| Oven size | 39.00 |
| Distance from IT Pivot to Dome Floor | 1.00 |
| Height of soldier course(s) | 6.50 |
| Brick Height | 2.50 |
| Brick Width | 4.50 |
| Brick Depth | 4.50 |
| Mortar Joint size | 0.125 |
| Length of IT (inches) | 20.3 |
| Dome height (inches) | 21.3 |
| Effective Radius (inches) | 20.3 |
| Inner Arc Angle | 74.2 |
| Inner Arc Length (inches) | 26.3 |
| Courses | 10.0 |
| Plug size (inches) | 2.5 |
| ough Brick Count (what to order) |  |
| Dome | 138 |
| Floor, bricks on wide edge | 29 |
| OR |  |
| Floor, bricks on narrow edge | 53 |

## Explanation

Oven diameter
Include thickness of any plywood + any distance of the pivot point from the surface
Height that vertical bricks extend above the floor - installed either as soldiers or sailors
Height of the inside facing edge of standard bricks (normally 2.5")
Width of a standard brick (normally 4.5")
Depth of brick that will be the thickness of dome (normally 4.5")
Default is $1 / 8^{\prime \prime}$

Pivot point to flat end, based on inputs
Height of inside of dome using a fixed length IT
Diameter of a circle that will give a constant arc for a dome based on desired dome height and soldier course height

Degrees of the circle that form the arc from soldiers to top of dome
Length of arc from dome center to soldier bricks - interior face one side of dome
Number of full height courses beyond the soldier to complete dome
Inner dimensions of the plug, should be less than 2 bricks wide

Not exact, as it assumes hemisphere shape w/out entry arch
Assumes exposed face dimension of $4.5 \times 9.0$ inches

Assumes exposed face dimension of $2.5 \times 9.0$ inches (running bond)

| Course <br> Number | Brick Count |
| :---: | :---: |
| Soldier | 32.6 |
| 1 | 32.6 |
| 2 | 31.8 |
| 3 | 30.1 |
| 4 | 31.5 |
| 5 | 28.7 |
| 6 | 25.4 |
| 7 | 21.8 |
| 8 | 17.9 |
| 9 | 13.7 |
| 10 | 9.2 |
| - | - |
| - | - |
| - | - |
| - | - |
| - | - |
| - | - |
| - | - |
| - | - |
| - | - |


| Finished Course Measurements (inches) |  |  |  |
| :---: | :---: | :---: | :---: |
| Inner Radius | Outer Radius | Inner <br> Height <br> from <br> Pivot | Outer <br> Height <br> from <br> Pivot |
| 19.5 | 24.0 | 5.5 | 5.5 |
| 19.1 | 23.4 | 6.7 | 8.2 |
| 18.2 | 22.2 | 9.0 | 11.0 |
| 16.9 | 20.7 | 11.2 | 13.6 |
| 15.4 | 18.8 | 13.2 | 16.1 |
| 13.7 | 16.7 | 15.0 | 18.3 |
| 11.7 | 14.3 | 16.5 | 20.2 |
| 9.6 | 11.7 | 17.8 | 21.8 |
| 7.3 | 9.0 | 18.9 | 23.1 |
| 5.0 | 6.1 | 19.6 | 24.0 |
| 2.5 | 3.1 | 20.1 | 24.6 |
| - | - | - | - |
| - | - | - | - |
| - | - | - | - |
| - | - | - | - |
| - | - | - | - |
| - | - | - | - |
| - | - | - | - |
| - | - | - | - |
| - | - | - | - |


| Jig Setup <br> (degrees) |  |
| :---: | :---: |
| Tilt | Side <br> Angle |
| - | 5.5 |
| 19.3 | 5.5 |
| 26.4 | 5.4 |
| 33.4 | 5.3 |
| 40.5 | 4.8 |
| 47.6 | 4.8 |
| 54.6 | 4.7 |
| 61.7 | 4.7 |
| 68.8 | 4.8 |
| 75.8 | 4.8 |
| 82.9 | 4.7 |
| - | - |
| - | - |
| - | - |
| - | - |
| - | - |
| - | - |
| - | - |
| - | - |
| - | - |


| Cut Brick <br> Dimensions <br> (inches) |  |
| ---: | ---: |
|  | Inside <br> Bottom |
| 3.63 | Outside <br> Bottom |
| 3.50 |  |
| 3.63 | 4.50 |
| 3.65 | 4.50 |
| 3.66 | 4.50 |
| 3.25 | 4.00 |
| 3.25 | 4.00 |
| 3.26 | 4.00 |
| 3.25 | 4.00 |
| 3.25 | 4.00 |
| 3.24 | 4.00 |
| 3.26 | 4.00 |
| - | - |
| - | - |
| - | - |
| - | - |
| - | - |
| - | - |
| - | - |
| - | - |
| - | - |

