Input oven dimensions all in inches

	in inches			
	↓			
Oven size	39.00			
Distance from IT Pivot to Dome Floor	1.00			
Height of soldier course(s)	2.50			
Brick Height	2.50			
Brick Width	4.50			
Brick Depth	4.50			
Mortar Joint size	0.125			
Length of IT (inches)	19.6			
Dome height (inches)	20.6			
Effective Radius (inches)	19.6			
Inner Arc Angle	85.6			
Inner Arc Length (inches)	29.2			
Courses	11.0			
Plug size (inches)	3.4			
Rough Brick Count (what to order)				
Dome	158			
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"

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 x 9.0 inches

Assumes exposed face dimension of 2.5 x 9.0 inches (running bond)

Course Number	Brick Count
Soldier	32.6
1	32.6
2	32.4
3	31.5
4	33.8
5	31.7
6	29.1
7	26.1
8	22.6
9	18.7
10	14.5
11	10.1
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-

Finished Course Measurements				
	(incl	nes)		
		Inner	Outer	
		Height	Height	
Inner	Outer	from	from	
Radius	Radius	Pivot	Pivot	
19.5	24.0	1.5	1.5	
19.4	23.8	2.7	3.4	
18.9	23.2	5.2	6.4	
18.0	22.2	7.6	9.3	
16.9	20.8	9.8	12.0	
15.5	19.1	11.9	14.6	
13.9	17.1	13.8	16.9	
12.0	14.8	15.4	19.0	
10.0	12.3	16.8	20.7	
7.8	9.5	18.0	22.1	
5.4	6.6	18.8	23.1	
3.0	3.6	19.3	23.8	
-	-	-	-	
-	-	-	-	
-	-	-	-	
-	-	-	-	
-	-	-	-	
-	-	-	-	
-	-	-	-	
-	-	-	-	

Jig Setup			
(degrees)			
	Side		
Tilt	Angle		
-	5.5		
8.1	5.5		
15.4	5.5		
22.7	5.5		
30.0	4.9		
37.4	4.9		
44.7	4.9		
52.0	4.9		
59.3	4.9		
66.7	4.9		
74.0	4.0		
74.0	4.9		
81.3	4.9		
-	-		
-	-		
-	-		
-	-		
-	-		
-	-		
-	-		
-	-		

Cut Brick Dimensions

(inches)

(inches)			
Inside	Outside		
Bottom	Bottom		
3.63	4.50		
3.63	4.50		
3.63	4.50		
3.64	4.50		
3.23	4.00		
3.23	4.00		
3.23	4.00		
3.22	4.00		
3.22	4.00		
3.23	4.00		
3.23	4.00		
3.23	4.00		
-	-		
-	-		
-	-		
-	-		
-	-		
-	-		
-	-		
-	_		