

Landscape Block Circle Algorithm : Variables

Variable	description	Defined																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">W_f (P_1 to P_2)</td> <td style="width: 10%;">Width across front</td> <td rowspan="8" style="text-align: center; vertical-align: middle;"> </td> </tr> <tr> <td>W_m (P_3 to P_4)</td> <td>Width across middle</td> </tr> <tr> <td>W_b (P_5 to P_6)</td> <td>Width across back</td> </tr> <tr> <td>W_l (P_{11} to P_{12})</td> <td>Width across lip</td> </tr> <tr> <td>D_m (P_7 to P_8)</td> <td>Depth to middle</td> </tr> <tr> <td>D_b (P_7 to P_9)</td> <td>Depth to back</td> </tr> <tr> <td>D_l (P_7 to P_{10})</td> <td>Depth to lip</td> </tr> <tr> <td>t</td> <td>Thickness(height)</td> </tr> </table>	W_f (P_1 to P_2)	Width across front		W_m (P_3 to P_4)	Width across middle	W_b (P_5 to P_6)	Width across back	W_l (P_{11} to P_{12})	Width across lip	D_m (P_7 to P_8)	Depth to middle	D_b (P_7 to P_9)	Depth to back	D_l (P_7 to P_{10})	Depth to lip	t	Thickness(height)		
W_f (P_1 to P_2)	Width across front																		
W_m (P_3 to P_4)	Width across middle																		
W_b (P_5 to P_6)	Width across back																		
W_l (P_{11} to P_{12})	Width across lip																		
D_m (P_7 to P_8)	Depth to middle																		
D_b (P_7 to P_9)	Depth to back																		
D_l (P_7 to P_{10})	Depth to lip																		
t	Thickness(height)																		
R_s	INPUT: radius to P_7 of blocks of inner ring																		
N_r	INPUT: number of rings desired																		
R_1 (to P_7)	set to R_s for inner ring for other rings: set to R_5 of the previous inner ring																		
R_2 (to P_8)	$R_1 + D_m$	part of derivation of δ (EQN 2)																	
R_3 (to P_{10})	$R_1 + D_l$	EQN 5																	
R_4 (to P_{11} or P_{12})		EQN 6																	
R_5 (to P_7 of next outer ring)		EQN 11																	
R_6 (to P_1 or P_2)		EQN 12																	
R_f	set to R_6 of the outer ring																		
B_r B_{min}	maximum blocks in a ring minimum blocks in a ring B_{min} the smallest number where G is still greater than W_f	EQN 4																	
G (P_{12} to P_{11} of next block in ring)		EQN 10																	
C_u	unique number of chords for B_r	EQN 13																	
$C_{h(n)}$ for ($n=1$ to C_u)	chords of outer ring to determine block placement	EQN 14																	

Greek Letters Used Here to Designate Angles

greek letter		description	Defined
name	symbol		
alpha	α	opposite side $Wf/2$	
beta	β	opposite side Wf	EQN 1
gamma	γ	opposite side $Wm/2$	
delta	δ	opposite side Wm	EQN 2
epsilon	ϵ	maximum of β and δ (beta and delta)	EQN 3
zeta	ζ	opposite side $Wl/2$	
eta	η	opposite side Wl	EQN 7
theta	θ	360 degrees of a circle divided by B_r	EQN 8
kappa	κ	opposite G the gap between blocks in a circle measured at the end of the W_1 dimension	EQN 9
		note: iota (ι) comes between theta and kappa. But wasn't used here because it is too indistinguishable on the diagrams	