

8/21 demo description

- Fields numbered 1 to 6 in red cannot, for now, be changed. They deal with setting the exact dimensions of the blocks
- The field G/W₁ numbered 7 in red can be changed. It deals with how much of the lips of the blocks on the next ring out span the gap on the previous ring.
- Filling in field R_s (numbered 8 in red) triggers the calculations that generates the table of intermediate values and the graphic of the results.

Block Calculator

Characteristics of the block -- For now they are not being allowed to be changed

W_f

W_m

W_b

D_m

D_b

D_i

$W_1 = 8.895833333333334 = (W_m - W_f)(D_b) / D_m + W_f$

Enter G/W₁ Must be less than 1, 0.85 good choice

Enter R_s This is the closest that the blocks of the inner most ring will be to the center

$W_f=8.375; W_m=11.5; W_b=5; D_m=6; D_b=9; D_i=1; W_1=8.895833333333334$

After R_s input, table of results goes here

Future changes

- This version just calculates for the ring number up to where G/W₁ is exceeded. Future versions will allow any ring up to this ring.
- Allow fewer blocks per ring

Block Calculator

Characteristics of the block -- For now they are not being allowed to be changed

W_f

W_m

W_b

D_m

D_b

D_i

$W_1 = 8.895833333333334 = (W_m - W_f)(D_b) / D_m + W_f$

Enter G/W₁ Must be less than 1, 0.85 good choice

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$W_f=8.375; W_m=11.5; W_b=5; D_m=6; D_b=9; D_i=1; W_1=8.895833333333334$

$\beta (29.33283822757326 \text{ degrees } (W_f)) \text{ greater than } \delta (29.294750544726 \text{ degrees } (W_m)) \text{ } \Rightarrow 29.33283822757326.8 = 30\beta$

Blks	ring	R ₁	R ₂	R ₃	R ₄	η(eta)	κ(kappa)	G	G/W ₁	R _s	Total Dia
12	1	16	17	17.572249789756892	17.572249789756892	0.6753762026868877	0.20713237045588687	0.02328420089433857	17.571944591276417	45.14388918255283	
12	2	17.571944591276417	18.571944591276417	19.097148702752786	26.936911300156662	3.0630886998433375	1.020830766592343	0.11475380982771069	19.090326469485717	48.180652938971434	
12	3	19.090326469485717	20.090326469485717	20.576811714260536	24.967370185993897	5.032629814006103	1.806803062230541	0.20310666741701633	20.556970739817388	51.113941479634773	
12	4	20.556970739817388	21.556970739817388	22.011064266658124	23.31681537116779	6.683184628832208	2.5659940013351954	0.2884489743889681	21.973640318509634	53.94728063701927	
12	5	21.973640318509634	22.973640318509634	23.400258805360732	21.914883304863675	8.085116695136325	3.2993161365010186	0.37088331276826436	23.342038051886522	56.684076103773045	
12	6	23.342038051886522	24.342038051886522	24.745075857493397	20.710346252359397	9.289653747640603	4.007650925847153	0.4505087691818813	24.663808763190687	59.327617526381374	
12	7	24.663808763190687	25.663808763190687	26.046401726673	19.665060831775666	10.334939168224334	4.6918497925355895	0.5274210539618461	25.94054122967185	61.8810824593437	
12	8	25.94054122967185	26.94054122967185	27.305250858054023	18.750063385576066	11.249936614423934	5.332735148187673	0.6017126161897149	27.17377009230775	64.3475401846155	
12	9	27.17377009230775	28.17377009230775	28.522715226426563	17.942977960877602	12.057022039122398	5.991101381428266	0.673472754820976	28.364977700452854	66.72995540090371	
12	10	28.364977700452854	29.364977700452854	29.699930606344493	17.226251795053212	12.737348204946788	6.607715812746212	0.7427877260229934	29.515595893632238	69.03119178726448	
12	11	29.515595893632238	30.515595893632238	30.83805369048241	16.58592692210403	13.41407307789597	7.203319616818763	0.8097408468555048	30.627007722622274	71.25401544524455	
12	12	30.627007722622274	31.627007722622274	31.938246353868898	16.010767708016104	13.989232291983986	7.7786287134084535	0.8744125954182804	31.700549111886914	73.40109822377383	

