

8.0 Supplemental Material

Supplemental Table A: Model specifications for each configuration modeled using CREO™ software.

The checkered model consists of 3.75m x 3.75m x 3.75m blocks of alternating hcp and bcc blocks. For each block, 125-micron thick rectangular cross-sections are put in the inside faces of the block (total of 4 for each), which combine with the other blocks in contact, which add to a 250-micron thick cross-section. The column layered model contains these thin rectangular cross-sections, which add up to 250-microns thick on the inside of the models and 125-microns thick on the outsides. This pattern is the same for the row layered model; 250-micron thick cross-sections on the insides and 125-micron thick cross-sections on the outside.

	BCC	HCP	Row Layered	Column Layered	Checkered	BCC Inner HCP Outer	HCP Inner BCC Outer
HCP Strut diameter(mm)	N/A	0.4	0.56	0.56	0.46	.592	.592
BCC Edge Strut Diameter(mm)	0.5*	N/A	0.3	0.3	0.25	.362	.3626
BCC Diagonal Strut Diameter(mm)	0.7*	N/A	0.42	0.42	0.35	0.52	0.52
Total Height(mm)	15	18.37	16.4	15	15	16.65	16.65
Side Length(mm)	7.5	4.33	7.5	7.5	7.5	7.4	7.4
Total HCP Unit Cells per layer/block	N/A	19	8	20.3	5.3	28.3	4.3
Total BCC Unit Cells per layer/block	9	N/A	25	50	27	28	116
Total HCP layers/blocks	N/A	9	4	2	8	1	1
Total BCC layers/blocks	6	N/A	4	2	8	1	1
Total HCP Unit Cells	N/A	171	32	40.6	42.4	28.3	4.3
Total BCC Unit Cells	54	N/A	100	100	216	28	116