

Hexoloy Sintered SiC Tiles

High-performance ceramic tiles for composite armor systems



01 Square and Rectangular Tiles

Tile Size (inches)	Thickness (inches)
1.000 x 1.000	.100 - .500
1.181 x 1.181	.100 - .500
1.466 x .977	.100 - .500
1.968 x 1.968	.125 - .500
3.974 x 3.974	.150 - 1.000
4.220 x 3.000	.150 - .750
4.220 x 4.220	.150 - .750
6.000 x 6.000	.200 - 2.000
6.750 x 5.843	.250 - .750

02 Domed Cylinders

Tile Size (inches)	Thickness (inches)
.500 DIA	.600
.709 DIA	.850
.750 DIA	.850
.827 DIA	.950

03 Hexagonal Tiles

Tile Size (inches)	Thickness (inches)
.787	.750 MAX
.787 (1/2)	.750 MAX
1.181	.750 MAX
1.181 (1/2)	.750 MAX
2.150	.750 MAX
2.953	1.000 MAX

Available Options

- Custom tiles and sizes up to 14x30 inches and 4 inches thick
- Grit Blasting
- Powder lot marking on tile edge for traceability
- 100% dimensional inspection

Features (All dimensions in inches)

- Length and width tolerance: +/-1%
- Thickness tolerance: +/- .5%
- Flatness tolerance: .005 inch/inch
- As-sintered surface finish: 40µ inch maximum
- Cleaned tiles - free of oil and residue
- Hex tiles measured flat-to-flat

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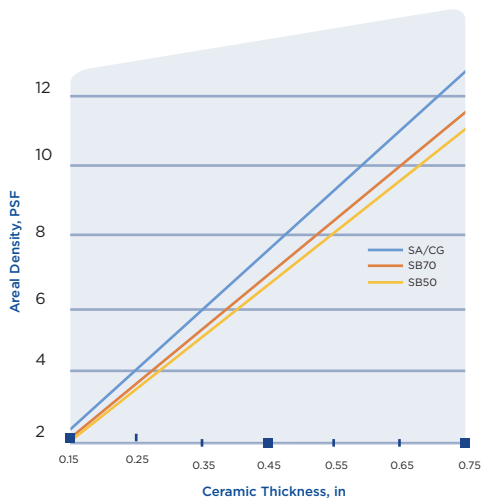
Physical Properties - Typical Properties

Material	Hexoloy® SA	Hexoloy® CG	Hexoloy® SB70	Hexoloy® SB50
Features	Industry Leading Performance	Multi-Hit	Lightweight Multi-Hit	Lightweight Multi-Hit
Composition (Phases)	Sintered SiC	Sintered SiC	Sintered SiC-B ₄ C Composite	Sintered SiC-B ₄ C Composite
Density, g/cc	3.15	3.15	2.89	2.75
Hardness, kg/mm ² (Knoop)	2,500	2,500	2,300	2,300
Flexural Strength, MPa (4 pts bending)	380	410	320	300
Elastic Modulus, GPa	430	410	400	400
Fracture Toughness, MPa.m ^{1/2}	3	3.5	3.5	3.7

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Areal Density vs. Ceramic Thickness

Areal Density vs. Ceramic Thickness



The above graphic is offered as a comparison of the weights of our ceramic materials

Thickness	SA/CG	SB70	SB50
0.15	2.436	2.235	2.145
0.3	4.916	4.498	4.311
0.45	7.378	6.746	6.464
0.6	9.836	8.995	8.62
0.75	12.307	11.259	10.793



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