

# Hexoloy<sup>®</sup> Sintered SiC Tiles

High-performance ceramic tiles for composite armor systems

## Square and Rectangular Tile

Tile Size (inches)	Thickness (inches)
1.000 x 1.000	.100 – .375
1.181 x 1.181	.100 – .500
1.466 x .977	.100 – .500
1.968 x 1.968	.125 – .500
2.638 x 2.087	.150 – .500
2.970 x 1.094	.150 – .500
2.970 x 1.165	.150 – .500
3.974 x 1.987	.150 – 1.000
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

## Domed Cylinders

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

## Hexagonal Tile

.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

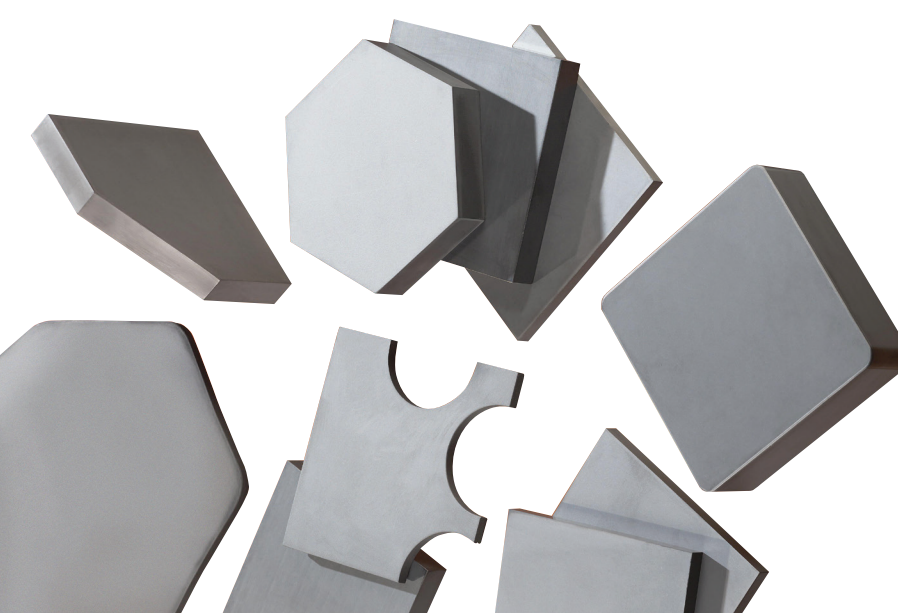
## Features

 (All dimensions in inches)

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

## Available Options

- Custom tiles and sizes up to 14 x 30 inches and 4 inches thick
- Grit blasting
- Powder lot marking on tile edge for traceability
- 100% dimensional inspection

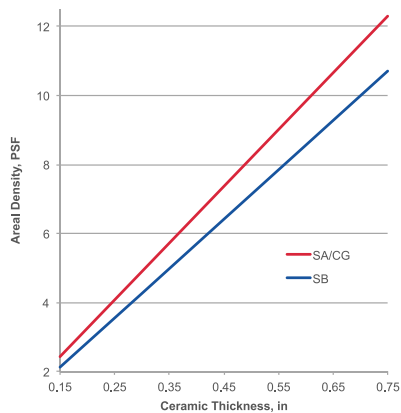


# Hexoloy® Sintered SiC Tiles

## Physical Properties – Typical Properties

Material	Hexoloy® SA	Hexoloy® CG	Hexoloy® SB
Features	Industry-Leading Performance	Multi-Hit	Lightest Weight Multi-Hit
Composition (Phases)	Sintered SiC	Sintered SiC	Sintered SiC - B <sub>4</sub> C Composite
Density, g/cc	3.15	3.15	2.75
Hardness, kg/mm <sup>2</sup> Vickers	2,500	2,500	2,300
Flexural Strength 4 pt bend, MPa	380	410	300
Elastic Modulus, GPa	430	410	400
Fracture Toughness, MPam <sup>1/2</sup>	3	3.5	3.7

## Areal Density vs. Ceramic Thickness



Thickness	SA/CG	SB
0.15	2.436	2.131
0.3	4.916	4.28
0.45	7.378	6.417
0.6	9.836	8.557
0.75	12.307	10.715



### Saint-Gobain Ceramic Materials

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