

# sicatec<sup>®</sup> 75

Silicon Carbide Blocks/Bricks,  
Nitride Bonded



simonsen<sup>®</sup>

		Guaranteed Value	Average Value	Typical Value
<b>Bulk Density:</b> <i>ISO 5017</i>	..... Kg/m <sup>3</sup>	2650	2700	2710
	..... Lbs./cu.ft.	165	168	169
<b>Max. Service Temperature:</b>	..... °C	1500	1550	1600
	..... °F	2732	2822	2912
<b>Apparent Porosity:</b> <i>ISO 5017</i>	..... %	16.5	14.5	14.3
<b>Cold Crushing Strength:</b> <i>ISO 10059/1-92</i>	..... MPa	180	210	220
	..... psi	26100	30450	31900
<b>Modulus of Rupture:</b> <i>ISO 5014 &amp; 5013</i>	@ 20°C - 950°C..... MPa	45	50	55
	@ 68°F - 1742°F ..... psi	6525	7250	7975
<b>Cryolite Resistance (CRT):</b> <i>LIRR Method</i>	Volume loss ..... %	12	9.0	8.5
<b>Degree of Corrosion</b> <i>LIRR Method</i>	.....	4	3	3
<b>Oxidation Resistance:</b> 100 H at 950°C (1742°F)	Change in weight..... %	0.65	0.53	0.52
<b>Chemical Composition:</b> (Typical average values)	SiC..... (Silicon Carbide)..... %	72	73.5	75
	Si <sub>3</sub> N <sub>4</sub> ..... (Silicon Nitride)..... %	18.5	19.5	20
	Si..... (Silicon)..... %	0.6	0.55	0.5
	Fe <sub>2</sub> O <sub>3</sub> ..... (Ferric Oxide)..... %	0.7	0.6	0.5
	Al <sub>2</sub> O <sub>3</sub> ..... (Aluminium Oxide)..... %	0.65	0.6	0.5
	CaO..... (Calcium Oxide)..... %	0.3	0.22	0.2
O..... (Oxygen) (total bound) ..... %	0.9	0.7	0.6	
<b>Thermal Expansion:</b> <i>DIN 51045</i>	@ 600°C (1112°F).....		4.7 x 10 <sup>-6</sup> /K	
	@ 800°C (1472°F).....		4.6 x 10 <sup>-6</sup> /K	
	@ 1000°C (1832°F).....		4.5 x 10 <sup>-6</sup> /K	
<b>Reheat Linear Change:</b> <i>ISO 2478</i>	1000°C (1832°F) 8 H..... %			0 - 0.1

p.t.o

<b>Thermal Conductivity:</b> <i>DIN 51936 (laser flash method)</i> W/(m·K)	@	300°C .....	36
	@	600°C .....	27
	@	900°C .....	20
Btu/(sq.ft·h·°F/in.)	@	572°F .....	250
	@	1112°F .....	187
	@	1652°F .....	139

<b>Dimensional Tolerances:</b> <i>ASTM: C 134</i>	Length .....	%	≤ ± 0.5
	Width .....	%	≤ ± 0.5
	Thickness .....	mm	≤ ± .0

<b>Warpage:</b> measured across/along an individual block	Length & Width > 300 mm .....	mm	± 2.0
	Length & Width < 300 mm .....	mm	± 1.5
	Thickness .....	mm	± 1.0

**HS Tariff Number:** ..... 6902900000

**Sizes:** sicatec 75 is available in all standard sizes within the following max. dimensions:

**Length:** 900 mm  
**Width:** 650 mm  
**Thickness:** 25 to 130 mm

Special shapes, sizes and thicknesses within the 25 to 130 mm range are available upon request.

**Packing:** Strong, double deck, export pallets with heavy paper separation between each layer and cardboard separation between each block. Pallets are equipped with 4 vertical and 4 horizontal fibre corners, 2 x 2 nylon straps, 1 shrink film bag covering the entire pallet + finally several layers of shrink wrapping

**Storage:** Always store under dry conditions

AQL 6.5.

Physical and thermal values are based upon regular, average test results.  
 No warranty or guarantee is implied on the data, which are given in good faith.

**simonsen a/s**  
 Møgelvangs Plads 7  
 DK-7900 Nykøbing Mors  
 DANMARK  
 Tel: Int. +45 9669 1300  
 Fax: Int. +45 9669 1301  
 e-mail: simonsen@simonsen.eu  
 WebSite: www.simonsen.eu



Producer:  
**LIRR**  
**SINOSTEEL LUOYANG INSTITUTE OF**  
**REFRACTORIES RESEARCH Co., Ltd.**  
 Luoyang, Henan Province  
 P.R. of China

**An ISO-9001, ISO-14001:2004 and OHSAS**  
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