

MATERIAL PROPERTIES

HAMMERfrax^(TM)

HAMMERfrax^(TM) is Saint-Gobains' high performance, newly patented reaction-bonded silicon infiltrated silicon carbide (RBSiC) material. HAMMERfrax^(TM) provides a viable solution to many of heavy industries' most difficult and challenging applications involving impact and wear when traditional ceramic materials are not providing sufficient life.

This ultra premium silicon carbide material is engineered to resist abrasion and mechanical shock.

HAMMERFrax^(TM) is toughened through a proprietary casting method and firing of the green body at a very high temperature in a protective atmosphere. Large and complex shapes are entirely practical, and in every case, you can depend on dimensional tolerances well within design specifications.

To learn more about our high performance HAMMERFrax^(TM) or our other family of Wear Resistant Products, please contact your Saint-Gobain representative.

Property		SI Units	English Units
Chemical Analysis (RBSiC)			
Silicon Carbide		87%	87%
Silicon		12%	12%
Oxides		1%	1%
Bulk Density		3.04 g/cm ³	190 lbs./ft. ³
Young's Modulus (MoE)	20 °C	315 GPa	46 × 10 ⁶ psi
Vickers Hardness	20 °C	22 GPa	3.19 × 10 ⁶ psi
Modulus of Rupture	RT	83.6 MPa	12.1 × 10 ³ psi
	1250 °C	98.4 MPa	14.3 × 10 ³ psi
Wear Test-G76**			
	90°	0.115 g/mm ³	4.15 lbs./in ³
	45°	0.083 g/mm ³	2.99 lbs./in ³
Thermal Expansion	30 °C—1500 °C	4.3 × 10 ⁻⁶ /°C	2.4 × 10 ⁻⁶ /°F
Maximum Use Temperature		1,350 °C	2,460 °F
Apparent Porosity		1%	1%
Specific Heat	RT	682 kJ/(kg°C)	163 BTU/(lbs. °F)

All of the above statements, recommendations, suggestions and data concerning the subject material are based on laboratory and field results, and although we believe the same to be reliable, we expressly do not represent, warrant or guarantee the accuracy, completeness or reliability of same, of the material, or the result to be obtained from the use thereof. Nor do we warrant that any such use, either alone or in combination with other materials, shall be free of the rightful claim of any third party by way of INFRINGEMENT or the like, and Saint-Gobain Ceramic Materials DISCLAIMS ALL WARRANTIES, EXPRESSED OR IMPLIED OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Comparing Data from different wear Tests does not provide accurate/correct data; materials should be wear tested at the same time to get comparative results



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