

times 6 seconds and the material removed. This mixture was transfer molded into a 12 cavity test bar mold (each cavity=6.2×37.8×2.5 mm) at 195° C. with a ram pressure of 1250 psi and clamping pressure of 1850 psi. The test bars were fired to 1800°, 1900°, 2000°, 2100°, and 2200° C. in an argon atmosphere using the following ramp rate: room temperature to 1200° C. at 2.55° C./min, a 19 minute hold, 1200°-1400° C. at 2.5° C./min under vacuum, 1400-maximum at 2.5° C./min with a 60 minute hold at maximum, and maximum - 1200° C. at 5° C./minute. The characterization of these test bars is provided in Table 3.

#### EXAMPLE 4

##### B—Polymer Pyrolysis and Char Composition Calculations

A mixture of 10.0 g of the polymer described in Example 3, 1.85 g of a fluid prepared from Si(OEt)<sub>4</sub> and (Me<sub>2</sub>HSi)<sub>2</sub>O and 0.15 g Lupersol catalyst (2,5-bis(t-butylperoxy)-2,3-dimethylhexane) was prepared. An aliquot of the blend was cross-linked at 180° C. for 1 hour. An aliquot of the crosslinked polymer was weighed into a graphite crucible. The crucible was transferred into an Astro tube furnace. The furnace was evacuated to <20 torr and then backfilled with argon. This backfill procedure was repeated twice. Under a purge of argon the sample was heated to 1800° C. at 10° C./min and held at temperature for 1 hour before cooling to room temperature. The sample had a mass retention of 42.34% and contained 33.26 % carbon. The following calculations were made: 100 g of cured polymer gives 42.34 g of a ceramic char consisting of 33.26% carbon and 66.74% silicon (by difference). (In order to simplify the calculations, the amount of oxygen has been ignored.) The char consists of 40.37 g SiC and 1.97 g excess carbon. Therefore, each gram of polymer, after pyrolysis, gives 0.4037 g SiC and 0.0197 g free carbon.

##### C—Test Bar Fabrication

In a 60 mL bowl of a Hauschild Dental Mixer was place 86 g Ividen UF-SiC powder, 21 g of the resin described above and 4 g of the fluid described above. The mixer was run at 4 times 10 seconds at which time the mixing was stopped and the material allowed to cool for 5 minutes. 0.5 g Lupersol™ was then added and the mixing continued for 2 times 6 seconds and the material removed. This mixture was transfer molded into a 12 cavity test bar mold (each cavity=6.2×37.8×2.5 mm) at 195° C. with a ram pressure of 1250 psi and clamping pressure of 1850 psi. The test bars were fired to 1800°, 1900°, 2000°, 2100°, and 2200° C. in an argon atmosphere using the following ramp rate: room temperature to 1200° C. at 2.55° C./min, a 19 minute hold, 1200°-1400° C. at 2.5° C./min under vacuum, 1400-maximum at 2.5° C./min with a 60 minute hold at maximum, and maximum - 1200° C. at 5° C./minute. The characterization of these test bars is provided in Table 3.

TABLE 3

Ex No	Firing Temp °C.	Density (g/cc)	Shrinkage	4 pt Bend Strength (ksi)
3	cured	2.24		5.84 ± 1.16
	1800	2.05	2.23%	19.9 ± 3.8
	1900	2.10		23.9 ± 2.7
	2000	2.07	2.48%	12.0 ± 1.0
	2100	2.08	2.56%	13.6 ± 2.4
4	2200	2.09	3.25%	13.2 ± 2.3
	cured	2.25		5.18 ± 0.80
	1800	2.04	2.41%	18.6 ± 3.7
	1900	2.05	2.58%	21.6 ± 3.2
	2000	2.05	2.53%	12.0 ± 1.0
2100	2100	2.06	2.74%	16.1 ± 4.4
	2200	2.03	3.23%	13.3 ± 2.3

That which is claimed is:

1. A porous body which was heated above 1600° C., comprising silicon carbide having a density less than 2.4 g/cm<sup>3</sup>, an open porosity greater than 25% and a 3 point bending strength greater than 25 Ksi.

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