

CONTENTS

VOLUME 1

1. Crystal Chemistry of Silicon Carbide	1
2. Properties and Applications of Silicon Carbide Ceramics	13
3. Epitaxial Growth of SiC Single Crystal Films	45
4. Silicon Carbide Prepared by Chemical Vapor Deposition	77
5. Continuous Silicon Carbide Fibers	99
6. Preparation and Sintering Properties of Ultrafine Silicon Carbide Powder Obtained by Vapor Phase Reaction	119
7. Sintering Behavior of Ultrafine Silicon Carbide Powder	149
8. Grain Boundaries in High-Purity Silicon Carbide	169
9. Grain Boundary and High-Temperature Strength in SiC	185
10. Sintering of Silicon Carbide	213
11. Joining of SiC Ceramics	239
12. Multiple Toughening in Al ₂ O ₃ /SiC Whisker/ZrO ₂ Composites	265
13. Sintering Aids and Thermal Conductivity of Polycrystalline SiC	275
Index	289

VOLUME 2

1. Mitsui ultra high-purity SiC coating	1
2. β -SiC fine powder by Mitsui Toatsu Chem. Inc.	19
3. Sinterability of submicron β -SiC powder synthesized by carbothermal reduction of silica	39
4. Onoda silicon carbide powder	51
5. Preparation of ultrafine SiC powders by plasma CVD and sintering	61
6. Silicon carbide continuous fiber (Nicalon®)	81
7. Properties and applications of SiC whiskers	99
8. Silicon carbide whiskers (Tokawhiskers) and their application	117
9. Hot-pressed SiC ceramics	139
10. Pressureless-sintered silicon carbide with addition of aluminum oxide	163
11. Fabrication method and properties of β -SiC ceramics	183
12. Showa Denko silicon carbide	197
13. On various kinds of silicon carbide-containing ceramics	211
14. High-density sintered silicon carbide parts	247
15. Tokai Konetsu silicon carbide ceramics	257
16. Effect of atmosphere on the life of silicon carbide heating elements (Siliconit)	271
17. Joining of SiC	279
Index	297