

## CONTENTS

### SECTION I : THEORY, TESTING AND CHARACTERIZATION

1. THEORY OF CORROSION OF GLASS AND CERAMICS	2
2. PREDICTING CORROSION	29
3. CORROSION TESTING AND CHARACTERIZATION	51
4. CHARACTERIZATION OF CORRODED CERAMICS BY SIMS	103

### SECTION II : CORROSION OF GLASS

5. GEOCHEMICAL APPROACH TO GLASS DISSOLUTION	124
6. THERMODYNAMIC APPROACH TO GLASS CORROSION	153
7. NUCLEAR WASTE GLASSES: CORROSION BEHAVIOR AND FIELD TESTS	218
8. THE CHEMICAL AND ENVIRONMENTAL STABILITY OF OPTICAL GLASSES	269
9. SURFACE MODIFICATION OF BIOACTIVE GLASSES AND CERAMICS	298
10. CORROSION OF HEAVY-METAL FLUORIDE GLASSES	315
11. CORROSION OF GEOLOGICAL AND ARCHAEOLOGICAL GLASSES	330
12. CORROSION OF GLAZES AND ENAMELS	372
13. CORROSION AND CONSERVATION OF ANCIENT GLASS AND CERAMICS	393

### SECTION III : CORROSION OF CERAMICS

14. CORROSION OF GLASS-CERAMICS	432
15. CORROSION OF CERAMIC CONSTRUCTION MATERIALS IN ACIDIC ENVIRONMENTS	455
16. DEGRADATION OF CERAMIC CUTTING TOOLS	481
17. DEGRADATION OF TZP CERAMICS IN HUMID ATMOSPHERES	492
18. HIGH TEMPERATURE CORROSION OF ENGINEERING CERAMICS	514

### SECTION IV : CORROSION OF CERAMIC SUPERCONDUCTORS

19. CORROSION OF CERAMIC SUPERCONDUCTORS: AN OVERVIEW	548
20. ROLE OF PROCESSING IN THE CORROSION OF CERAMIC SUPERCONDUCTORS	583
21. CORROSION OF $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ IN HIGH AND LOW HUMIDITY ENVIRONMENTS	601
22. SURFACE SCIENCE TECHNIQUES FOR ANALYSIS OF CORROSION OF THE CERAMIC SUPERCONDUCTORS	615
23. REDUCING CORROSION OF CERAMIC SUPERCONDUCTORS WITH SOL-GEL COATINGS	632
24. SUMMARY	648

INDEX	666
-------	-----