

Contents

1 Introduction	1
Louis Pilato	

Part I Raw Materials

2 Phenols	9
Manfred Weber and Markus Weber	
3 Formaldehyde	25
Stefan Kowatsch	
4 Resin Chemistry	41
Louis Pilato	
5 Analyses/Testing	93
David Valdez and Ellen Nagy	

Part II Production

6 Resole Production	139
Jürgen Lang and Marc Cornick	
7 Novolak Production	147
Hiroshi Aiba	

Part III Applications

8 Wood Composite Adhesives	155
Jose Gomez-Bueso and Robert Haupt	

9	Foam	189
	Marc Cornick	
10	Mineral Wool Insulation Binders	209
	Stefan Kowatsch	
11	Laminates	243
	Karin Lepedat, Robert Wagner, and Jürgen Lang	
12	Composites	263
	John G. Taylor	
13	Abrasives	307
	Masakatsu Asami and Michael Santorelli	
14	Friction	345
	Yoshihiro Matsuo, Daryl D. Clarke, and Shinichi Ozeki	
15	Photoresists	363
	Fumitaka Saimura and Michael Santorelli	
16	Phenolic Molding Compounds	383
	Koji Koizumi, Ted Charles, and Hendrik De Keyser	
17	Alkyl Phenol Resins in Adhesive and Rubber Applications	439
	John D. Fisher	
18	Foundry	451
	Douglas M. Trinowski	
19	Phenolic Resin for Refractories	503
	Shunsuke Irie and James Rappolt	
20	Recycling	517
	Junya Goto and Michael Santorelli	
21	Future Aspects	525
	Louis Pilato	
	Index	529