

The Materials Book

**Edited by
Ilka Ruby & Andreas Ruby**

**FD SOZIAL- UND
KULTURANTHROPOLOGIE
In Zusammenarbeit mit der DFG**

- 9 Introduction: The Matter of Construction: Systemic Overhaul or Tweaking the Status Quo?
Marc Angélil and Cary Siress
- 25 22 Propositions for Re-materializing Construction
Edited by Sarah Nichols
- 53 Propositions 23–37
- 57 Talks on Materials
- 58 Make Do
Anne Lacaton
- 80 Sustainability Triad: Three Timber Buildings
Christine Binswanger
- 99 Place – Nature – Energy – Recycling – Materiality
Lord Norman Foster
- 121 Harvesting Materials in a World of Finite Resources
Laila Iskandar
- 139 Changing Paradigms: Materials for a World Not Yet Built
- 142 Build More with Less: How to Create the Future without Destroying the World
Werner Sobek
- 145 Cultivated Building Materials: The Fourth Industrial Revolution?
Dirk Hebel, Felix Heisel
- 150 Mushroom Materials Named under the Sun
Phil Ross
- 156 Reuse and Recycling: Materializing a Circular Construction
Felix Heisel
- 161 Reuse Economy
Maarten Gielen
- 169 Paradigm Shift: The City of 1,000 Tanks, Chennai
Eva Pfannes
- 181 Shifting the Flows, Pulling the Strings: Stocks, Flows, and Their Dynamics
- 184 Beyond Circularity
Marilyne Andersen, Guillaume Habert
- 187 How the Circular Economy Can Lead to Carbon Neutrality
Serge Salat
- 191 Enhancing Livability through Resource Efficiency: An Urban Metabolism Study in Cairo
Heba Allah Essam E. Khalil
- 198 Toward Urban Dematerialization: Governance for the Urban Commons
Mark Swilling
- 201 How Much Does Your Building (or Its Corresponding Infrastructure) Weigh?
Stefanie Weidner
- 206 Cities as Ecosystems and Buildings as Living Organisms
Christoph Küffer



- 211 From Manual to Digital and Vice Versa: Digitization, Labor, and Construction
- 214 Imposing Challenges, Disruptive Changes: Rethinking the Floor Slab
- Philippe Block, Cristián Calvo Barentin, Francesco Ranaudo, Noelle Paulson
- 220 Pizza and Dirt in Uganda: A Student-Led Project Proves the Viability of Rammed-Earth Construction
- Achilles Ahimbisibwe
- 225 Building Climate: From Mechanical to Material
- Arno Schlueter
- 228 Designing for Natural Ventilation: Climate – Architecture – System
- Alpha Jacob Arsano
- 233 Rebuilding after Disaster: Children’s Recreational Center in Juchitán, Oaxaca
- Loreta Castro Reguera
- 239 KnitCrete: Building in Concrete with a Stay-in-Place Knitted Fabric Formwork
- Mariana Popescu, Matthias Rippmann, Tom Van Mele, Philippe Block
- 245 Catch-22: Material Needs versus Material Impact
- 248 MaGIC: Marginal Gains in Construction
- John Orr
- 253 From India: Three Lessons in Sustainable Construction
- Soumen Maity
- 257 Cement and Concrete Materials Science and Engineering Education in Africa: Opportunities for Development
- Yunus Ballim
- 261 Concrete as a Socio-technical Process
- Elise Berodier
- 265 Urbanism and the Technosphere
- Albert Pope
- 271 Building to Cool the Climate: The New Carbon Architecture
- Bruce King
- 275 Epilogue: Standing on a Thin Arch: Incremental versus Radical Change
- Simon Upton
- 289 A Collection of Building Components and Materials
- Compiled by Something Fantastic
- 387 Donor Acknowledgment
- 388 Contributor Biographies
- 398 Image Credits
- 400 Colophon