Record Nr. UNINA9910842496103321 Autore Feng Hu **Titolo** Ultra-High Ductility Magnesium-Phosphate-Cement-Based Composites (UHDMC) / / by Hu Feng, Aofei Guo, Jun Zhao Singapore:,: Springer Nature Singapore:,: Imprint: Springer,, 2024 Pubbl/distr/stampa **ISBN** 981-9709-52-0 [1st ed. 2024.] Edizione 1 online resource (276 pages) Descrizione fisica Disciplina 620.135 Soggetti **Building materials** Concrete **Building Materials** Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references. Chapter 1. Fundamental performance of PVA fiber reinforced UHDMC Nota di contenuto -- Chapter 2. Fundamental performance of hybrid fiber reinforced UHDMC -- Chapter 3. Water stability of PVA-UHDMC -- Chapter 4. Performance improvement of PVA-UHDMC using fly ash and silica fume -- Chapter 5. Development of PE fiber reinforced UHDMC -- Chapter 6.

Preparation and performance of sprayable UHDMC.

Sommario/riassunto

This book systematically discusses the workability. In

This book systematically discusses the workability, mechanical properties, water stability, and material design methods of ultra-high ductility magnesium phosphate cement-based composites (UHDMC) with PVA fibers, PE fibers, or hybrid fibers. The developed UHDMC possesses strain-hardening behavior, multi-cracking, and ultra-high ultimate tensile strain, which can be used in many engineering projects, such as rapid repair and strengthening of airport runways, roads, bridges, and military installations. Meanwhile, this book covers the development of sprayable UHDMC, which further expands the application scope of UHDMC. This book is expected to provide some technical guidance for the development and design of UHDMC. The book is intended for graduate students who are interested in the ductility improvement of magnesium phosphate cement-based composites, researchers investigating the mechanical properties (strength, toughness, etc.), water stability, microstructure, and sprayability of magnesium phosphate cement-based composites, and

engineers working on rapid repair of concrete structures.