

Special Issue

Mechanical and Rheological Properties of Cemented Tailings Backfill

Message from the Guest Editors

Cemented tailings backfill (CTB) or cemented paste backfill (CPB) is a novel, sustainable, and environmentally friendly technology for managing waste materials from mining operations, such as tailings. This method involves mixing mine waste material with binders, such as cement, and water to create a stable backfill for underground mining openings (stopes). It provides secondary support for these stopes and minimizes the risk of ground subsidence in the mine area. This Special Issue aims to highlight the crucial factors that affect the mechanical and rheological properties of cemented tailings backfill. Understanding these properties is essential for optimizing the design and performance of backfill systems, enhancing mine safety, and minimizing environmental impacts. The research contributions in this issue explore key aspects such as strength, deformability, flow behavior, and durability of cemented tailings backfill, shedding light on innovative techniques and materials for more efficient and sustainable mining practices.

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Deadline for manuscript submissions

closed (20 January 2025)



Minerals

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Impact Factor 2.2
CiteScore 4.4



mdpi.com/si/185561

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Minerals welcomes submissions that report basic and applied research in mineralogy. Research areas of traditional interest are mineral deposits, mining, mineral processing and environmental mineralogy. The journal footprint also includes novel uses of elemental and isotopic analyses of minerals for petrology, geochronology and thermochronology, thermobarometry, ore genesis and sedimentary provenance. Contributions are encouraged in emerging research areas such as applications of quantitative mineralogy to the oil and gas, manufacturing, forensic science, climate change, geohazard and health sectors.

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