



CANMET MINING AND MINERAL SCIENCES LABORATORIES

Recycling and Stabilization



Program objectives

The Recycling and Stabilization research unit complements CANMET-MMSL research programs in mining, processing and the environment by contributing expertise in cementitious materials to advance environmentally responsible stabilization practices in mining applications.

Expertise

As a team of specialists in advanced concrete, the unit ensures that state-of-the-art expertise is available to the mining industry in areas such as shotcrete and cemented backfill for underground mines, recycling mineral by-products and mining wastes in concrete, and long-term cementitious stabilization of mine waste and sludges.

Key issues

- recycling mineral by-products and mining wastes
- chemical, physical and mineralogical analysis
- grinding processes
- pozzolanic activity and hydraulicity assessment

- mechanical properties determination and analysis
- development of new test performance methods for new recycled materials

Long-term performance of cement-based materials

- durability characteristics (e.g. freeze/thaw cycles, sulphate, carbonation, alkali-aggregate reaction, de-icing salt, chemical attacks)
- development of accelerated tests for long-term performance characteristics

Chemical admixtures of cement-based materials

- chemical admixtures such as accelerators for shotcrete and viscosity-modifying agents for backfill water retention
- resolving compatibility issues between admixtures and new admixtures and between cement-based materials and new recycled materials

Contact Us

This research is part of CANMET-MMSL's broader plan to foster sustainable growth in Canada's mining and mineral industry. To work with us, contact

www.nrcan-rncan.gc.ca/mms-smm/tect-tech/index-eng.htm

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