

The Invention

is available under licence for Free

This invention is a complete diagnosis and design system for testing the structural integrity of bedrock core samples at specific orientations in underground mines and configuring the strongest and safest design and placement for inclined pillars.

The system includes a series of mechanical adapters to enable unconfined combined compression and shear loading tests to be conducted on rock cores of various diameters at inclinations of zero to 45 degrees from vertical.

The invention and test procedure enable engineers to determine more realistic design properties of materials for the design of pillars, columns and beams when these are subjected to eccentric or combined compression and shear loading.

Key Benefits

- Safer underground mines for workers
- Drastically reduces the likelihood of catastrophic mine collapse
- Removes the guess-work currently involved in determining pillar angles
- Can be used to improve the properties of materials
- Also applicable to beams and columns used in both mining and civil engineering
- Turn-key system – ready for fabrication

Applications

- Inclined and vertical pillars for underground mining
- Beams and columns used in civil engineering applications



This system addresses shear and compression that inclined or eccentrically loaded pillars are subjected to in underground mining

The Opportunity

This technology is available for free as an Easy Access Licence to companies and individuals. This is a complete-turn-key system ready for commercialisation, complete with technical 2D drawings ready for fabrication.

UNSW is seeking a commercial partner to licence and/or to work collaboratively with the inventors.



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