



geopyörä
breakage test



GEOPYÖRÄ

State of the art in rock breakage characterisation

The Geopyörä breakage test is the state of the art in rock breakage characterisation that was developed to allow mining companies to test large quantities of samples at low cost for geometallurgical, comminution design and control applications.

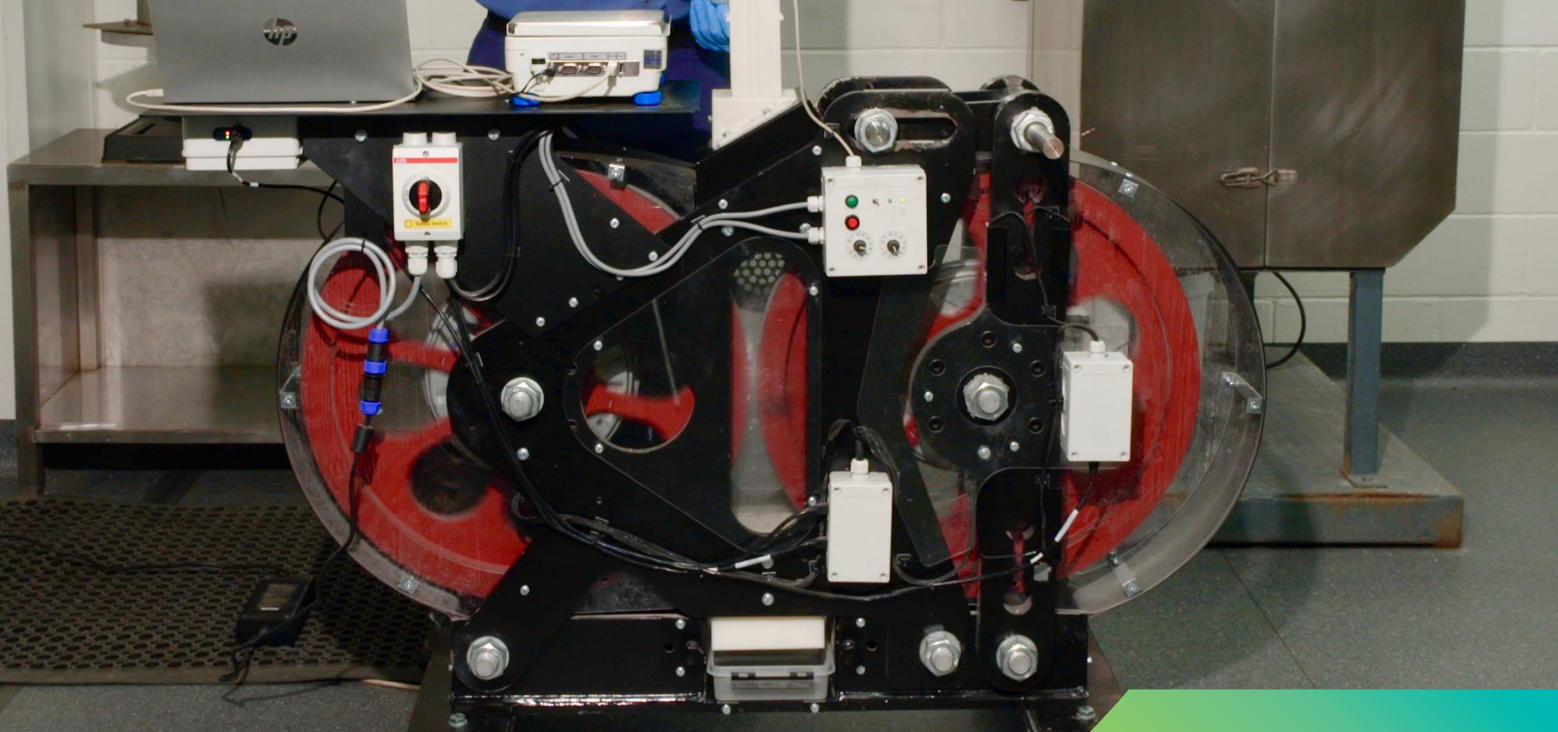
The test uses small discrete samples from a one metre section of full or half core or less than a kilogram of crushed rocks, allowing its integration with geochemical analysis for better understanding of variability mapping, making it ideal for geometallurgical applications.

The data measured by Geopyörä can be used to accurately estimate standard comminution

parameters as well as rock mechanical properties including:

- Axb parameter
- Energy and force distributions (i.e. probability of breakage)
- Drop Weight Index (DWi)
- Bond Work Index (BWi)
- Point Load Test Strength Index (Is)
- Uniaxial Compressive Strength (UCS)



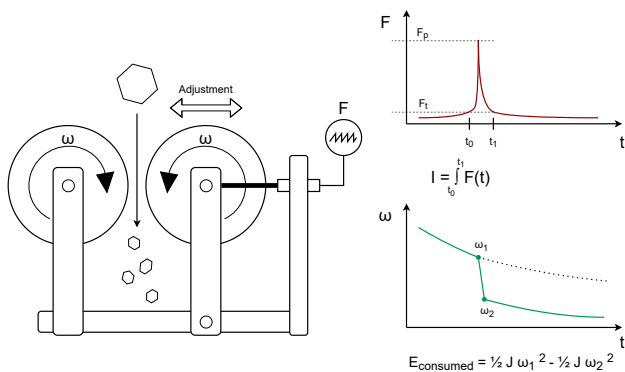


Fast and Low-Cost Breakage Characterisation

The Geopyörä breakage test device uses counter-rotating wheels to nip and crush a rock with a tightly controlled reduction ratio from the feed to a defined gap between rollers.

This allows the feeding of rocks one at a time through the spinning wheels, with no requirement of stopping, resetting and sweeping away broken fragments between each rock breakage. It also allows measurement of the force applied and energy consumed in each breakage event.

The force applied to break a rock with a given degree of compression is a function of the rock compressive strength. In contrast to drop weight test (DWT) methods, the input energy is a response to this crushing force, not a controlled test input. However, by varying the degree of reduction, i.e. the ratio of the crushing gap to the particle diameter, a range of input energies can be achieved for mapping the response of the rock to input force and the resultant input energy. In such a design it is necessary to measure the absorbed energy per rock breakage with sufficient precision, while ensuring non-slip grip and compression of the rocks to the point of fracture.



Geopyörä allows more samples to be tested at a low-cost to better UNDERSTAND VARIABILITY and MINIMISE RISKS.

Interested?

Contact Core Resources

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About Core Resources Core Resources is an award-winning process engineering and metallurgical testing business based in Brisbane, Australia. Core Resources services a global customer base, enabling the world's mining projects with innovative metallurgical flowsheet solutions.