

Materials Testing Laboratory

- + Professional testing of the physical and mechanical properties of rocks, concrete, and soils
- + Specialised testing equipment and measuring instruments
- + Testing methods accredited by the Polish Centre for Accreditation (PCA).



Materials testing for industry

The Materials Testing Laboratory conducts a comprehensive range of tests to determine the physical and mechanical properties of rocks, concrete and soils, including:

- + Testing of physical properties,
- + Testing of strength and deformation properties under complex stress states,
- + Determination of rock failure criteria and assessment of rockburst susceptibility,
- + Determination of complete mechanical characteristics, including pre-failure and post-failure behaviour,
- + Model testing of rock pillar behaviour under static loading conditions,
- + Specialised testing of hydraulic and cemented backfill parameters,
- + In situ testing of backfill pipeline networks (measurements of pipeline wall thickness).

We carry out research related to goaf closure technologies using backfilling and sealing methods, with particular emphasis on:

- + Testing of hydraulic backfill parameters,
- + Testing of cemented backfill parameters, including paste backfill and sealing mixtures,
- + Field testing of backfill pipeline systems, including:
 - abrasion of backfill pipelines (pipeline wall thickness measurements),
 - flow parameters of backfill mixtures (pressure measurements), and
 - research aimed at improving backfill pipeline management, including the development of new pipeline types.

Application of test results

The results of our research are applied in copper ore mines employing hydraulic backfill systems to **optimise backfilling processes** and to support the **implementation of new mining technologies**. These technologies are based on innovative concepts for the utilisation of waste materials from the copper industry.

Testing methodology and accreditation

The Materials Testing Laboratory holds **accreditation No. AB 726, issued by the Polish Centre for Accreditation (PCA) in Warsaw**, in accordance with **PN-EN ISO 17025**, covering the full scope of tests performed. The laboratory operates in compliance with internationally recognised management systems certified in accordance with: **PN-EN ISO 9001** and **PN-EN ISO 14001**.

The high level of professional expertise of our laboratory staff, combined with specialised testing equipment and advanced measuring instruments, ensures the reliable and professional execution of all testing services.

Contact us

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