

FOCUS ON

Determining the strength of materials in the interest of safety

The CSIR mechanical testing laboratory houses two of the largest mechanical testing machines in South Africa that have been serving the mining and other industries since 1935. Today, it continues to play an important role in testing industrial products and materials to ensure that safety standards are adhered to.

MECHANICAL TESTING LABORATORY

The unique combination of machine force capacity and the size of the test specimen that can be accommodated is what makes these testing machines of a novel nature. The 1 000-ton compression-testing machine accommodates test specimens up to 4.5 m in height and is regularly used to evaluate the compressive resistance of a variety of roof support systems employed in modern underground mining.

The 500-ton tensile testing machine, with its 25 m testbed and 2 m stroke length, is used to carry out proof-load testing and destructive tensile testing to evaluate the mechanical properties of a variety of products, including high voltage conductors, lifting and hoisting equipment, heavy vehicle towing arrangements, safety detaching hooks and overhead crane hooks of all sizes.

The machines continue to play an important role in assisting the industry to test against legislative standards, such as standards for lifting equipment, and to promote the general health and safety of workers in the mining, manufacturing and construction industries.

The proof-load testing of lifting equipment ensures that items that receive the laboratory's stamp of approval meet the safety requirements of the users and those set out in legislative standards, as well as a host of product-specific national and international standards.



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