NEW AUTOMATED MACHINE FOR ROCK TILT TESTS

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RESUMEN

The **Land and Structural Engineering group (InTerEs)** has developed an automated and reinforced machine for performing rock tilt tests of up to 100 kg.

This invention allows accurate setting of the test speed, which significantly reduces unwanted vibrations. In addition, it reaches up to 80° of platform tilting and allows the test to be automatically stopped.

The group is looking for companies interested in acquiring this technology for commercial exploitation.

VENTAJAS Y ASPECTOS INNOVADORES

INNOVATIVE ASPECTS

The invention has several innovative aspects that differentiate it from existing machines on the market:

- The structure is reinforced with steel profiles.
- The power variator that regulates the test speeds by means of a linear actuator.
- The automatic movement detection system by means of sensors that allows to automatically stop the test.
- The mobile lower stop that can be adjusted along the entire length of the test table.

MAIN ADVANTAGES OF THE TECHNOLOGY

The main advantages of this technology are the following:

- The reinforced structure allows the testing of large blocks (up to 750x500 mm and 100 kg), when the existing ones only allow the testing of samples or specimens of a few kilos in weight and reduced dimensions.
- The power regulator, which regulates the test speeds, significantly reduces unwanted vibrations and accelerations during the test process that can affect the test results.
- Possibility to achieve a higher platform tilting (up to about 80°) compared to about 50° allowed by current test tables.
- Automatic test stop avoids errors in the accurate estimation of the angle of existing equipment, which is stopped manually, so the operator response time to stop the test is estimated to be between 0.5 and 1 seconds.
- The adjustable movable lower stop allows the development of full-slide tests (long travel). This avoids the need for wooden wedges or similar, of different dimensions and shapes, depending on the desired test configuration.

APLICACIONES DE LA OFERTA

It is mainly aimed at the Civil, Geological and Mining Engineering sector, more specifically, companies that manufacture equipment for materials testing and control, as well as teaching and research.

COLABORACIÓN BUSCADA

The research group is looking for companies interested in acquiring this technology for **commercial exploitation** through utility model licensing agreements.