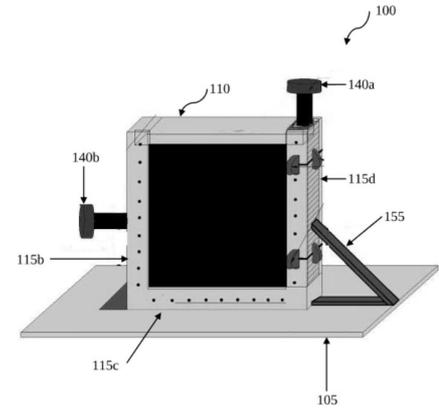


GRANTED

(IN526130)

A loading test apparatus and method thereof



NEED

Current plate testing setups face up to 30% error due to slippage and misalignment during loading. This causes faulty material certifications, leading to \$5M losses annually in rejected structural components. Accuracy loss risks infrastructure safety worldwide.

TECHNOLOGY OVERVIEW

This invention offers a modular loading test apparatus with rigid holders and precision force application. It prevents plate slippage and enables reliable in-plane shear and compression testing, improving measurement accuracy, repeatability, and ensuring better material performance assessment without disrupting existing testing workflows.

TECHNOLOGY KEY FEATURES

Modular frame design, slippage prevention through rigid holders, dual-mode shear and compression loading, roller-assisted load displacement, and simplified assembly—enabling error-free deformation measurements and safer structural certifications.

[Read more here](#)

Technology is available for licensing/ co-development.

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MARKET ANALYSIS

The global material testing market is projected to reach \$10.5 billion by 2033 at a CAGR of 5.8%, driven by rising quality standards, infrastructure projects, and aerospace expansion. [Source: Market Research Future, 2024]

Target Industries

Construction Materials Testing, Aerospace Components Testing, Automotive Structural Testing, Materials R&D labs, testing system integrators, structural health monitoring solution providers for critical load-bearing applications.

AT A GLANCE

- SDG 9 (Industry, Innovation and Infrastructure), SDG 11 (Sustainable Cities and Communities), SDG 12 (Responsible Consumption and Production)