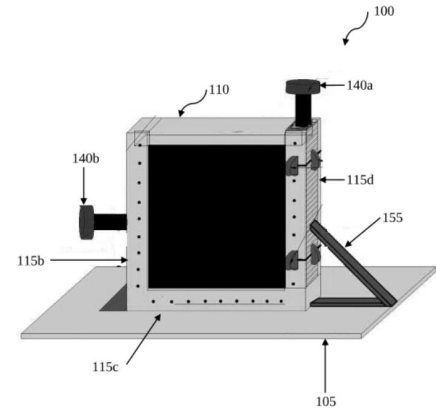


**GRANTED****(IN526130)**

## 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](#)

### 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)

Technology is available for licensing/ co-development.

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