

Model 840 Rail Shear Tester



Rail Shear Tester with computer controls, safety door and emergency stop

- Tests panel products in accordance with ASTM D1037 edgewise shear
- Design allows testing either at an angle as specified in ASTM or parallel to specimen length
- Eliminates drilling and bolting test specimens
- PC with touch screen user interface
- Automated test sequence
- Designed for efficient and safe operation
- Appropriate for both research and quality control work

Description

General

The Metriguard Model 840 Rail Shear Tester provides two modes of operation, the first simulating traditional 2-rail fixture operation with the load applied diagonally, and a second mode in which the shear stress is applied parallel with the long dimension of the specimen.

Touch-screen computer mounts on swing arm above operator station for convenient control and data collection.

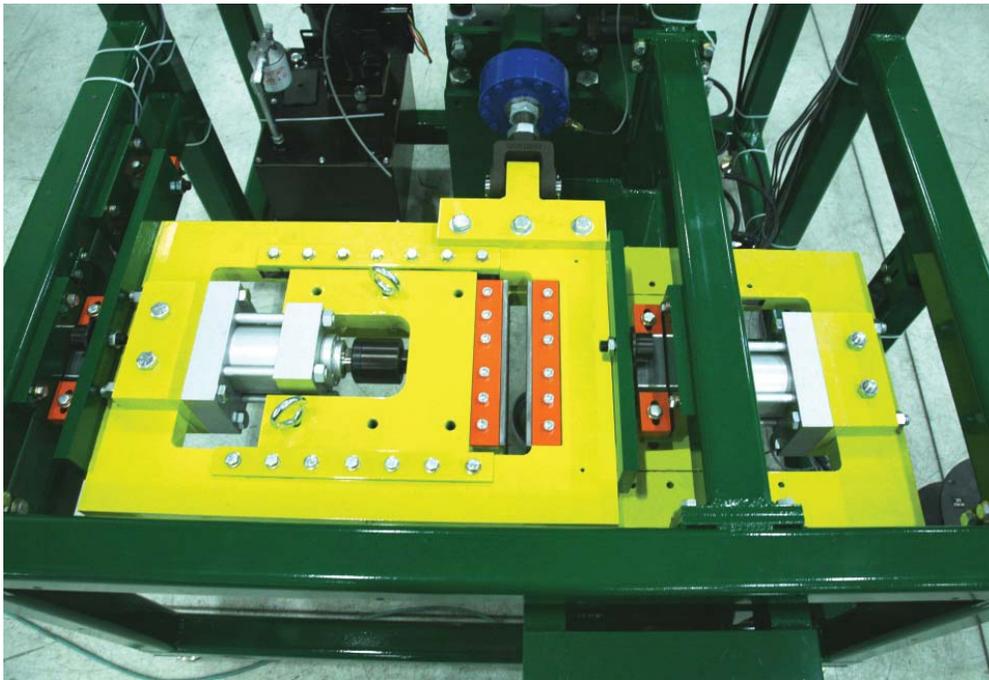
- Attractive alternative to traditional rail shear (edgewise shear) testing. With no time-consuming drilling and bolting, testing of panel specimens is quick and easy. The test is applicable to oriented strand board (OSB), other wood-based and composite product panels.
- Specimens are loaded into the clamp assembly, ready for clamping.
- Operator-initiated test sequence includes engaging protective guards, clamping specimen to a pre-set force and application of shear force.
- Allows load to be applied from corner to corner of the test area as per ASTM D1037 or parallel to the specimen length.
- Provides shear test for ongoing quality control under ASTM D5055 Standard Specification for Establishing and Monitoring Structural Capacities of Prefabricated Wood I-Joists.
- Produces the kind of shear stress that occurs in web members of wood I joists in bending load.
- After a specimen is loaded into the clamp assembly, loading door is locked to prevent operator-access to the clamp area.
- A hydraulic cylinder applies shear testing force which is measured using a precision load cell.
- Alignment coupler and linear bearing slides in clamp assemblies reduce wear, provide uniform clamping and increase machine life.
- Load at which a specimen fails (shears) is recorded into an SQL database accessible by multiple analytic software tools
- After test is complete, test specimens are dropped out of the jaw assembly into a collection bin and loading door lock is disengaged.

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Specifications

Specimen Size	Up to 0.75" (19 mm) thick. Test specimens specified in ASTM D1037 are 3.5 in x 10 in (89 x 254 mm)
Calibration	Optional accessory load cell and fixtures.
Power Requirements	120 Vac 60 Hz 10A, and 120Vac 60 Hz 2A 100 psi shop air 1 cfm
Hydraulic Pump	2,000 psi 1/2 hp
Maximum Forces	Clamping - 15,000 lbf Shear - 20,000 lbf
Dimensions	62" x 55" x 33" [1575 x 1400 x 840 mm]
Weight	3000 lb [1360 kg]
Options	Alternative horizontal shear loading. Alternative angle shear degree of freedom.
Computer	Windows® operating system controls sequence operation, interlocks and data collection. Data stored in SQL database for easy retrieval and analysis. Touch screen controls included.
Configuration	Assembled in one integral unit with covers on top, left, right and front. 120Vac power and air connections on right. Special tools included. Spares available.

Measures edgewise shear strength in panel products



The heart of the testing system is the clamping fixtures which grip the edges of the specimen while testing force is applied.

Operator safety is one of our primary design goals for this equipment.

Not shown are the protective cover guards with self-locking door that prevent access to the clamps while any part of the system is in motion.