

TESTING INSTRUMENTS FOR
A MEASURABLE DIFFERENCE...

IDM
instruments

CORNELL TYPE TESTER

MODEL: IDM-C0044-M1



INTRODUCTION

The Cornell Type Tester has been designed and manufactured for testing and evaluating of Innerspring and Boxspring mattresses. There are several different methods used for the evaluation of innersprings and boxsprings, testing for measurements regarding firmness, firmness retention, durability, effect of impact etc.

The Cornell Type Tester is used to test the long-term capacity of bedding to resist cyclic loading. The machine consists of a double hemispherical ram head on a manually adjustable shaft. A load cell is located on the ram head to measure the force being applied to the mattress.

The shaft is connected to an adjustable eccentric which is rotated by an electric motor at up to 160 cycles per minute, variable. The bedding is located below the ram, and the eccentric and shaft position adjusted so that the maximum load of 1025N and the minimum load of 22N is applied when the eccentric is rotated to the lowest and highest positions respectively. A position transducer is located so the position of the ram head can be measured automatically.

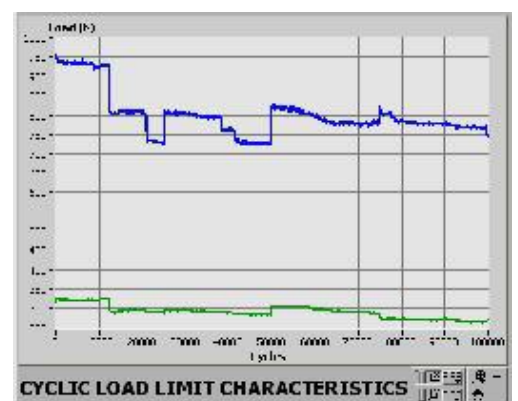
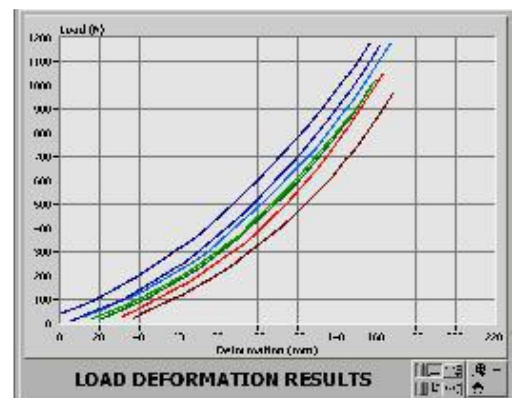
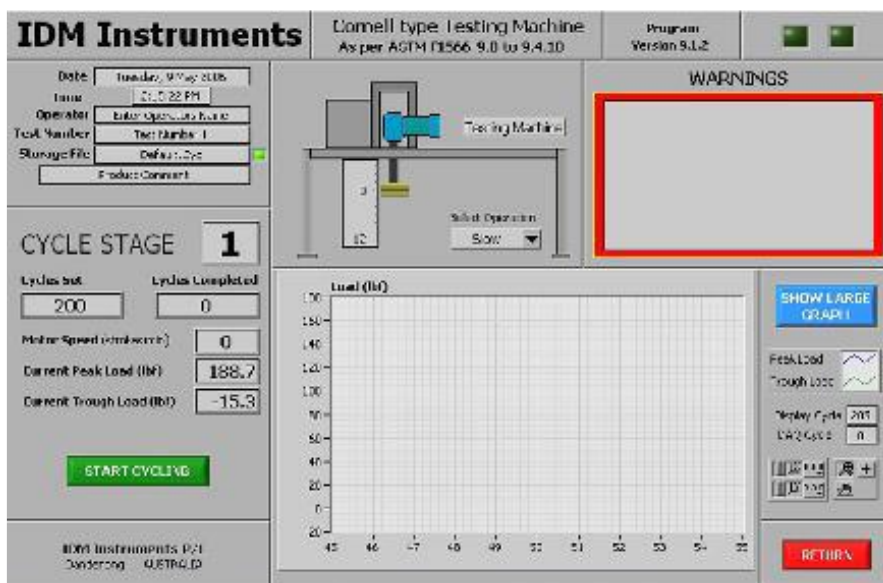
The eccentric is then rotated slowly, raising and lowering the ram head so that the load/position data can be recorded for a few cycles. The mattress firmness is calculated from the load readings between 75mm and 100mm respectively.

This procedure is performed at the start of the test and the subsequently at the end of each of seven stages. These stages are reached when 200, 6,000, 12,500, 25,000, 50,000, 75,000 and 100,000 cycles have been completed at 160 cycles per minute. The duration of the cyclic testing will take nearly 10.5 hours, simulating 10 years of mattress use.

At the end of each stage, the position of the ram head is noted when a load of 22N is applied to the mattress. A change from the previous static reading is referred to as a dimple and this is recorded. An operator prompting computer program measures both the load and ram head position from the two transducers throughout the total test stages and produces a full test report upon completion.

TEST RESULTS & SOFTWARE FEATURES

The Cornell Type Tester operates automatically using an external PC linked to the machine. The software allows operators to run tests using the computer and displays results as a graph as well as a table for test data. The program also enables tests to be printed and saved for later retrieval.



APPLICATIONS

- Innerspring Mattresses
- Boxspring Base
- Foam Mattresses
- Chairs

STANDARDS

- ASTM F1566
- AIMA American Innersprings Manufacturers
- JIS K 6400

FEATURES

- Computer Software
- Operator Prompted Software
- Adjustable Ram Head
- Ease Of Operation
- Printable Data Sheets
- Data Storage

DIMENSIONS

Instrument:

- H: 2500 mm
- W: 3180 mm
- D: 1100 mm
- Weight: 540 kg

Packaged:

- H: 1590 mm
- W: 1020 mm
- D: 3020 mm
- Weight: 800 kg

CONNECTIONS

Cornell Type Tester:

- Electrical: 320/440 VAC @ 50/60 HZ / 3 PE

Computer System:

- Electrical: 110/240 VAC @ 50/60 HZ

WARRANTY AND CALIBRATION SERVICES

- **1 year Warranty**
- Our **Preventive Maintenance and Calibration (PM&C) program** has been designed to make the maintenance and calibration of your valuable testing equipment more cost effective by preventing breakdowns and downtime by regular calibration, service and replacement of defective parts. Talk to us about this today.