



The Taber® Stiffness Testers incorporate a pendulum weighing system which provides an accurate and responsive method for measuring small load increments. This system is a critical component for evaluating material stiffness, flexural strength, resilience and elastic properties. Nine (9) distinct ranges permit the testing of materials that vary from those that are extremely lightweight and flexible (such as cellophane or thin metallic foils) to those that are very rigid (such as plastics).

The Taber® Stiffness Testers are available in two models, the 150E and 150B. Both units offer bidirectional pendulum type testing in a range from 0 – 10,000 Taber Stiffness Units.

A force is applied to the lower end of the specimen by a pair of rollers which are attached to the driving disc. The resultant torque tilts the pendulum from its vertical position and a Taber Stiffness Unit reading ( $g \cdot cm$ ) is taken automatically when the pendulum mark aligns with the appropriate driving disc mark ( $7.5^\circ$  or  $15^\circ$ ). Predetermined sample length, deflection angle and rate of loading provide accurate and reproducible test results.

The updated Model 150B (shown at the right) offers telescoping tripod legs which make this instrument lightweight and portable. Manually operated by a lever control switch, a robust housing protects the electrical components. The new ratchet stop roller significantly reduces specimen mounting variability.

The Model 150B (shown above left) features a high resolution optical encoder and a noncontact photo sensor that make this instrument fully automatic. The onboard computer calculates and records testing data:




- average;
- standard deviation;
- high / low;
- time;
- date;
- user-defined label;

and converts stiffness readings to the appropriate user selected stiffness range. Test results are presented on a large (4 x 20 character) illuminated LCD display screen. They be printed, stored or downloaded to a PC via an integral RS232C connection.

The Taber® Stiffness Testers can evaluate paper, foil, light metallic sheet, laminated plastic, cardboard, wire, and other flexible materials up to 5.5 mm (0.219 inch) in thickness that do not exceed 10,000 Taber Stiffness Units.



Complete Data Sheets for the Taber® Stiffness Testers are available for download:

-  [Taber® Stiffness Tester Model 150E Data Sheet](#)
-  [Taber® Stiffness Tester Model 150B Data Sheet](#)
-  [Taber® Stiffness Tester Model 150 E & B Data Sheets](#)
-  [Taber® Stiffness Tester Model 150 E & B Brochure \(CCSi\)](#)

## Taber® Stiffness Tester Models 150E & 150B: Standard Features & Options














### Standard Features Model 150B:

- Factory calibrated to accuracy of  $\pm 1\%$  full scale;
- Telescoping, tripod base;
- Ratchet stop roller;
- Constant speed motor;
- Dynamic brake holds pendulum at the point of deflection;
- 110 VAC / 60 Hz selectable operation;
- 6 mm Jaw Assembly;
- Calibration Specimen 62;
- Compensator Range Weight (0 - 10 units);
- Range Weights (500, 1000 and 2000 units);
- Range Weight Case;
- Calibration Specimen.

### Standard Features Model 150E:

- Factory calibrated to accuracy of  $\pm 1\%$  full scale;
- Ratchet stop roller;
- Auto / Manual modes;
- Real-time clock and calendar;
- RS232C data port;
- 16 button control panel;
- Integral weight storage;
- 110/220 VAC, 50/60 Hz selectable operation;
- 6 mm Jaw Assembly;
- Calibration Specimen 62;
- Compensator Range Weight (0 - 10 units);
- Range Weights (500, 1000 and 2000 units);
- Calibration Specimen.

### Model 150 E & B Optional Accessories (sold separately):

-  [Triple Cut Specimen Shear](#) [P/N 980104-11] cuts 38 x 70 mm or 38 x 38 mm specimens;
-  [High Sensitivity Attachment](#) [P/N 980150-14] evaluate materials below 1.0 unit;
-  [Ratchet Stop Roller](#) [P/N 130240] retrofit specimen mounting for older models;
-  [Compensator Range Weight](#) [P/N 120815] 0 - 10 Taber units;
-  [Range Weight 500](#) [P/N 120753] 50 - 500 Taber units;
-  [Range Weight 1000](#) [P/N 120752] 100 - 1000 Taber units;
-  [Range Weight 2000](#) [P/N 120751] 200 - 2000 Taber units;
-  [Auxiliary Range Weight Set](#) [P/N 125656] 300 - 3000, 500 - 5000 & 1000 - 10000 units;
-  [Range Weight Case](#) [P/N 120888] case for range weights;
-  [6 mm Jaw Assembly](#) [P/N 125762] upgrade for older models (requires unit's return);
-  [Wire / Tube Testing Kit](#) [P/N 131030] customized for each specimen up to 4 mm  $\emptyset$ ;
-  [ETF-14 Step down Transformer](#) [P/N 112954] required for 220 VAC operation of 150B;
-  [Calibration Specimens](#) (for routinely checking the state of calibration):
  - Calibration Specimen 62, Model 104-151-1 [P/N 125390-1]
  - Calibration Specimen 225, Model 104-151-2 [P/N 125390-2]
  - Calibration Specimen 440, Model 104-151-3 [P/N 125390-3]
  - Calibration Specimen 565, Model 104-151-4 [P/N 125390-4]
  - Calibration Specimen 1060, Model 104-151-5 [P/N 125390-5]

Please submit a [Request for Quotation \(RFQ\)](#)

## Taber® Stiffness Tester Models 150E & 150B: Applicable Test Methods

SDO	Number	Title / Description
Appita	P 431 RP-73	Stiffness of Paper and Paperboard
AS	1301.431RP	Methods of Test For Pulp and Paper – Taber Bending Resistance of Paper and Paperboard
ASTM	<a href="#">D5342</a>	Standard Test Method for Resistance to Bending, of Paper and Paperboard (Taber-Type Tester)
ASTM	<a href="#">D5650</a>	Standard Test Method for Resistance to Bending of Paper of Low Bending Stiffness (Taber-Type Tester in 0 - 10 Taber Stiffness Unit Configuration)
BSI	BS-3748	Method for Determination of Resistance to Bending of Paper and Paper Board.
CPPS	D28P	Stiffness of Paper and Paperboard (Taber Method)
ISO	<a href="#">2493</a>	Paper and Board – Determination of Resistance to Bending
JIS	P8125	Testing Method for Stiffness of Paperboard by Bending Load
TAPPI	T489	Stiffness of Paper and Paperboard
TAPPI	T566	Bending Resistance (stiffness) of Paper (Taber Type Tester in 0 – 10 Taber Stiffness Unit Configuration)
AENOR	UNE 57-075	Paper and Cardboard - Determination of Rigidity; Method by Static Flexing

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