

## GURLEY BENDING STIFFNESS TESTER



All genuine Gurley™ bending resistance/stiffness testers measure the force required to bend a wide variety of materials under controlled and repeatable conditions. This force may be equated to stiffness, resilience, flexibility or pliability, depending on the nature of the material and purpose of test. There are 15 possible specimen sizes and an unlimited range of thicknesses up to 6 mm. A complete set of accessory weights (5, 25, 50 and 200 grams) as well as a calibration strip, are included as standard.

### Operation

A sample of a specific size is attached to a clamp.

A driving gear aligns the sample 15° to the left or the right and moves it over a balanced pendulum. The configuration of this pendulum is registered by a high resolution encoder.

The requested force for the configuration of the pendulum determines the appropriate bending resistance/ stiffness measurement.

The sensitivity of the pendulum can be adjusted with different weights. The results can be read on the display in force (grams or millinewton), which then can be multiplied by a constant for bending moment (gramcentimeters or millinewton-meters).

### Applications

- Gen. manufacturing control (testing packaging, cards, containers, wire, tubing, plastic and metal parts,...)
- Medical manufacturing (testing adhesive bandages, laminated or coated materials, catheters,...)
- Textile testing (effect of laundering, filling, starching or coating)
- Research (product development & quality control)
- Chemical, temperature and other treatments (effect of softening, stiffening, radiation and environmental exposure)
- Custom applications

## Models

### 4171D

Digital bending resistance/stiffness tester with parallel clamp

### 4171E

Digital bending resistance/stiffness tester with parallel clamp and RS-232 communication port

### 4171DT

Original bending resistance tester with parallel clamp and tubing clamp

### 4171ET

Digital bending resistance/stiffness tester with parallel clamp and tubing clamp

## Technical specifications

### Accessory weights

5, 25, 50 and 200 grams

### Clamp

Accommodates materials up to 50 mm wide and 6 mm thick

### Output

On digital models, the point of release is automatically measured by an optical encoder and displayed on a digital readout. This readout continuously displays readings from tests performed in both the left and right directions. In addition, the on-board microprocessor automatically computes and displays the average of left and right stiffness data after each measurement is performed. For flat sheet materials, the operator can then press a button to automatically convert the point-of-release reading on the display to force (milligrams) which then can be multiplied by a constant for bending moment (gram-centimeters or millinewton-meters). For tubing, we recommend using the scale reading only for samples of similar dimensions and material.

### Power Supply

Electrical 220 V, 50/60 Hz

## Features

- Capable of evaluating more different sample sizes, weights and thicknesses than any other similar instrument
- Meets the most rigorous accuracy and sensitivity requirements
- Simple to operate, require virtually no maintenance
- Output in Gurley units (milligrams), grams, centimeters and millinewton meters

## Physical specifications

### Dimensions

66 x 68.5 x 56 cm (WxLxH)

### Net Weight

10 kg

### Samples

Using the precision tubing clamp assembly or the parallel clamp, the instrument can accommodate :

- rods & wires, monofilament, finished products, flat sheet materials to 6 mm thick
- tubing, oval , polygon or asymmetrical cross sections, single or multi-lumen to 15.5 mm OD

## Standards

All flat sheet models meet TAPPI T-543 and ASTM D6125-97

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