Packaging, Plastics, Textile,...

BENDING STIFFNESS TESTER GURLEY™

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 unlimeted 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 (gram-centimeters or millinewton-meters).

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

Model 4171

Features

- Capable of evaluating more different sample sizes, weights and thicknesses than any other simular 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
- 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

Physical specifications

Dimensions
66 x 68.5 x 56 cm (WxLxH)

Net Weight
10 kg

Samples
Using the precision tubing clamp assemby or the parallel clamp, the instrument can accomodate :
- 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

Performance data

Accessory weights
5, 25, 50 and 200 grams

Clamp
Accomodates 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

Your professional supplier of testing equipment

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Firma Klimatest
ul. Pilczycka 198F
54-144 Wroclaw
tel/faks 71 354 06 80 / 71 354 06 92
klimatest@klimatest.eu
www.klimatest.eu

Firma Klimatest
ul. Wolczynska 133
01-919 Warszawa
tel/faks (22) 864 04 35
stan@klimatest.eu