



STIFFNESS TESTERS

A Tinius Olsen Stiffness tester is ideal for determining the stiffness properties of a wide range of materials and products. The principle of operation is simple; a specimen is clamped at one end and a controlled load is applied at the free end. The distance between the clamp and the point at which the controlled load is applied is called the test span and this is adjustable on Tinius Olsen stiffness testers.

The load is applied steadily by a motor drive, and an extremely accurate indication of load and the resulting angle of bend are shown simultaneously on circular scales.

The load is indicated as 0 to 100% of the range in use and a post is provided so that additional weights can be added to increase the loading capacity. Additionally, a hand crank is provided for manual load application.

Apparent bending modulus determinations for plastics can be made easily in accordance with ASTM D747, using a one, six or fifty (1, 6 or 50) inch -pound (or kilogram -centimeter) capacity machine. The fifty (50) inch -pound (or kilogram -centimeter) model can be used for testing rigid materials such as flat metal strips for spring applications, in accordance with method A of ASTM E855.

Technical References

- ASTM D747
- ASTM E855 Method A
- FTMS 191-5202
- FTMS 311-4211

6 in.lbf stiffness testers shown



Determination of:

- Apparent bending Modulus
- Variations in temper
- Variations in heat treatment
- Elasticity
- Brittleness
- Toughness
- Plastic Flow
- Cold work hardening characteristics
- Permanent deformation
- Yield strength in bending
- Stiffness stress -strain characteristics

Units	Capacity	Range	Bending Span	Specimen Vise Width	Max. Vise Opening
inch-pounds (in.lbf)	1	0.005 - 1.0	0.125, 0.25, 0.5 in	1 in	0.25 in
	6	0.1 - 6.0	0.25, 0.5, 1.0, 2.0 in	1 in	0.25 in
	50	2.0 - 50.0	2.0, 4.0	2 in	0.375 in
kilogram-centimeter (kg.cm)	1	0.005 - 1.0	0.3, 0.6, 1.2 cm	2.5 cm	0.63 cm
	6	0.1 - 6.0	0.5, 1.0, 2.5, 5.0 cm	2.5 cm	0.63 cm
	50	2.0 - 50.0	5.0, 10.0 cm	5.0 cm	0.95 cm