

642.001 Low-Force Bend Fixtures

Accurate 3- and 4-point bend testing

Benefits

VERSATILE

- » Configure for either three- or four-point tests
- » Adjustable to a variety of span widths
- » Metric and US customary scales
- » Rollers are made from corrosion-resistant, hardened stainless steel and available in a variety of sizes (see table)
- » Design accommodates threaded or electromechanical pin style mountings

WIDE TEMPERATURE RANGE

- » From -70°C to 200°C

COMPONENTS

- » Assembly includes 3- and 4-point beam roller blocks, and 1 mm, 2 mm, 3 mm, 4 mm, and 5 mm diameter rollers

MTS 642.001 Bend Fixtures are configured to meet a variety of testing requirements. They are well-suited for plastics tests (ASTM D-790 flex test) and composites tests (ASTM D-2344, short beam shear) as well as general-purpose tests of all materials.

These units have a load capacity of 2890 N (650) and can be used for testing over a wide range of temperatures. The fixtures have adjustable spans with easy-to-use, permanently attached scales (one side in US customary units, the other in metric) for equal positioning of the rollers. The hardened rollers help ensure test accuracy by reducing undesirable loading and frictional forces on the specimen. The span can be set up in a four-point configuration, for a region of constant stress, or in a three-point configuration, to provide a line of maximum stress.

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Specifications

SHIPPING WEIGHT

» 131.8 grams (4.65 oz)

SHORT BEAM LENGTH (A)

» 40.6 mm (1.60 in)

LONG BEAM LENGTH (B)

» 75.2 mm (2.96 in)

MAXIMUM SPECIMEN WIDTH

» 28 mm (1.10 in)

LOWER BEAM WEIGHT

» 70.8 grams (2.50 oz)

UPPER BEAM WEIGHT (three point)

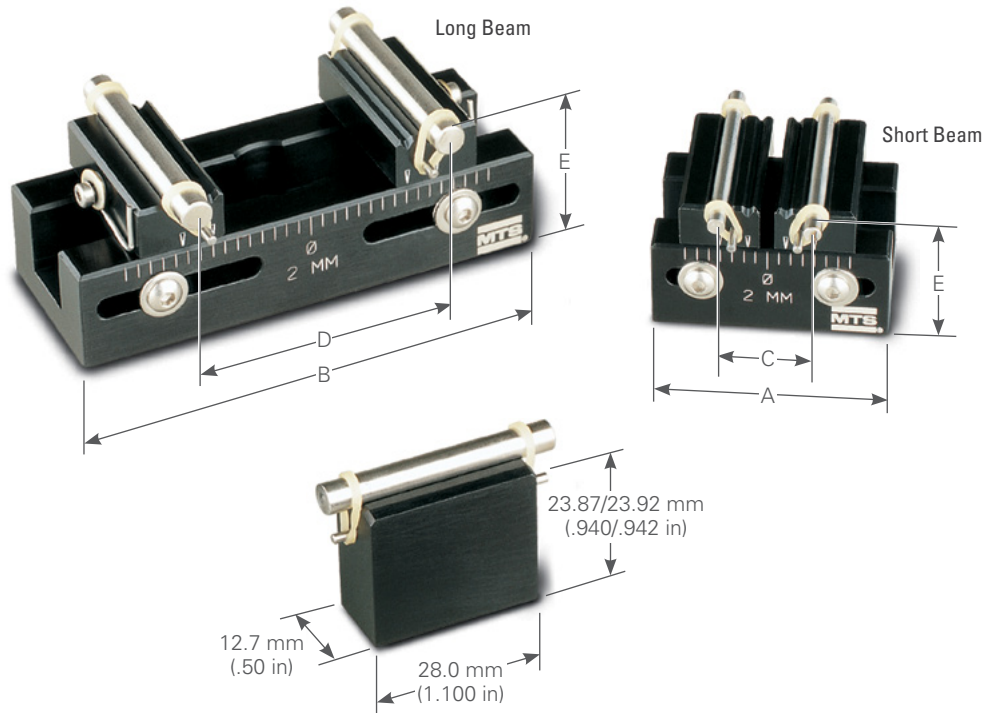
» 25.5 grams (.90 oz)

UPPER BEAM WEIGHT (four point)

» 35.4 grams (1.25 oz)

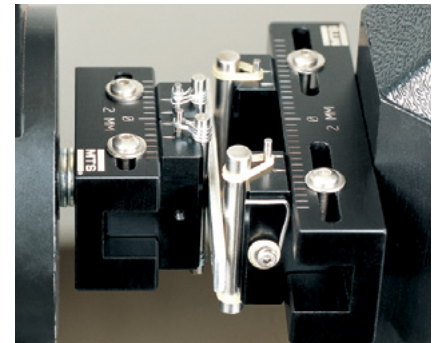
TEMPERATURE RANGE

» -70°C to +200°C



Roller Diameter	Short Beam Span C	Long Beam Span D	Roller Height E	Static Force Capacity	Dynamic Force Capacity
1 mm	4 mm to 15.4 mm (0.16 in. to 0.60 in.)	4 mm to 50 mm (0.16 in. to 1.97 in.)	25.7 mm (1.01 in)	0.57 kN (130 lbf)	0.17 kN (40 lbf)
2 mm	4 mm to 15.4 mm (0.16 in. to 0.60 in.)	4 mm to 50 mm (0.16 in. to 1.97 in.)	26.9 mm (1.06 in)	1.15 kN (160 lbf)	0.35 kN (80 lbf)
3 mm	13.7 mm to 25 mm (0.54 in. to 1.0 in.)	13.7 mm to 59.7 mm (0.54 in. to 2.35 in.)	26.7 mm (1.05 in)	1.66 kN (375 lbf)	0.53 kN (120 lbf)
4 mm	13.7 mm to 25 mm (0.54 in. to 1.0 in.)	13.7 mm to 59.7 mm (0.54 in. to 2.35 in.)	27.9 mm (1.10 in)	2.33 kN (525 lbf)	0.71 kN (160 lbf)
5 mm	13.7 mm to 25 mm (0.54 in. to 1.0 in.)	13.7 mm to 59.7 mm (0.54 in. to 2.35 in.)	29.1 mm (1.15 in)	2.89 kN (650 lbf)	0.88 kN (200 lbf)

Model	Description	Mounting	Part Number
642.001	3- & 4-point bend fixture, S/H	M6x1 threaded	100-027-125
642.001	3- & 4-point bend fixture, E/M	5/8 in Type C upper 1 1/4 in Type D lower	100-033-663



642 .001 Low-Force Bend Fixture Assembly



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