ASTM D2344 Bend Fixture

Short-Beam Shear Fixture for Composite Laminates

Built to ASTM D2344 — Standard Test Method for Short-Beam Strength of Polymer Matrix Composite Materials and Their Laminates



OVERVIEW

Three-point short-beam fixture for determining the short-beam strength of polymer matrix composites. A short, thick specimen rests on two supports and is loaded at mid-span by a loading nose; the low span-to-thickness ratio promotes interlaminar shear failure, giving a widely used measure of matrix-dominated laminate quality.

KEY FEATURES

- Three-point geometry with adjustable span to suit specimen thickness
- Hardened cylindrical loading nose and supports per standard principle
- Supports flat and curved specimens
- Alignment features keep the loading nose centered on the span
- Supplied with adapters to suit your load frame (clevis or threaded)

TECHNICAL SPECIFICATIONS

Test method	Short-beam strength (three-point bending)
Test type / loading	Compression via loading nose at mid-span
Specimens	Short flat or curved beams per ASTM D2344 geometry
Load capacity	10 kN standard; higher capacities on request
Fixture material	Hardened tool steel, corrosion-resistant finish
Loading members	Hardened, ground cylindrical nose and supports
Machine connection	Clevis pin or threaded adapter, to suit customer frame
Compatible frames	Electromechanical and servo-hydraulic universal test machines

APPLICATIONS

- Carbon and glass fiber laminates
- Prepreg and cure-cycle QC
- Environmental conditioning studies
- Aerospace material qualification

ABOUT THE STANDARD

ASTM D2344 determines the short-beam strength of high-modulus fiber-reinforced polymer matrix composites. A short beam machined from a flat or curved laminate is loaded in three-point bending at a small span-to-thickness ratio, so failure is typically interlaminar shear. Results are used for quality control and material comparison rather than design allowables.

Ordering & customization: Specify specimen thickness range, required spans, capacity and test machine connection when ordering. Environmental-chamber versions available.

Specifications are typical and may vary by configuration; confirm at time of quote. Users should refer to the current edition of the standard for test procedures. Part ref. UGC-D2344-BF