V-Notched Beam (Iosipescu) Shear Test Fixture

Built to ASTM D5379 — Standard Test Method for Shear Properties of Composite Materials by the V-Notched Beam Method



OVERVIEW

V-notched beam shear fixture for in-plane and interlaminar shear properties of composite materials. The fixture clamps each half of a double-V-notched specimen and displaces one half relative to the other through a guided slide, creating a region of nearly uniform shear between the notches.

KEY FEATURES

- Guided linear slide keeps the moving half aligned during loading
- Wedge-clamped specimen halves with adjustable gib for snug fit
- Alignment tool centers the notch on the loading line
- Hardened, ground loading surfaces for repeatable contact
- Clearance for strain gauge leads on both specimen faces

TECHNICAL SPECIFICATIONS

Test method	V-notched beam (Iosipescu) shear
Test type / loading	Compression-driven antisymmetric shear
Specimens	Double V-notched flat bars, per ASTM D5379 geometry
Load capacity	20 kN standard; higher capacities on request
Fixture material	Hardened tool steel, corrosion-resistant finish
Specimen clamping	Wedge and gib clamps on each specimen half
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
- Unidirectional and fabric composites
- Aerospace material qualification
- Shear modulus and strength databases

ABOUT THE STANDARD

ASTM D5379 determines the shear properties of fiber-reinforced composite materials using the V-notched beam, or Iosipescu, method. A flat rectangular specimen with symmetric V-notches is loaded in a fixture that applies two counteracting moments, producing shear across the notched section. Shear strength, shear strain via strain gauges, and shear modulus are reported.

Ordering & customization: Specify specimen thickness range, test temperature, required capacity and test machine connection when ordering.

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-D5379-SF