

Flexural Test Fixture for Advanced Ceramics

Built to ASTM C1161 — Standard Test Method for Flexural Strength of Advanced Ceramics at Ambient Temperature



OVERVIEW

Precision three- and four-point flexure fixture for advanced ceramic bars per ASTM C1161. Articulating, rolling bearings minimize friction and accommodate specimen irregularities, so the bar fails under the intended stress distribution and flexural strength can be calculated reliably from the fracture load.

KEY FEATURES

- Fully and semi-articulating designs to match specimen flatness
- Rolling bearing cylinders reduce frictional constraint
- Spans configured to the C1161 fixture size required
- Hardened or ceramic bearing cylinders for long life
- Supplied with adapters to suit your load frame (clevis or threaded)

TECHNICAL SPECIFICATIONS

Test method	Three- and four-point flexure, ambient temperature
Test type / loading	Flexure, compression loading
Specimens	Rectangular bars per ASTM C1161 configurations
Load capacity	5 kN standard; higher capacities on request
Fixture material	Hardened tool steel, corrosion-resistant finish
Loading members	Rolling bearing cylinders, hardened steel or ceramic
Machine connection	Clevis pin or threaded adapter, to suit customer frame
Compatible frames	Electromechanical and servo-hydraulic universal test machines

APPLICATIONS

- Structural and technical ceramics
- Glass and glass-ceramics
- Weibull strength characterization
- Machining and surface finish studies

ABOUT THE STANDARD

ASTM C1161 determines the flexural strength of advanced ceramics at ambient temperature, using small rectangular bars in four-point (preferred) or three-point flexure. Defined specimen sizes and fixture spans are used, with emphasis on fixture articulation, specimen preparation and fractography to obtain valid, comparable strength data.

Ordering & customization: Specify specimen configuration (size), three- or four-point loading, articulation type 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-C1161-BF