Ring-on-Ring Fixture for Equibiaxial Flexure

Built to ASTM C1499 — Standard Test Method for Monotonic Equibiaxial Flexural Strength of Advanced Ceramics at Ambient Temperature



OVERVIEW

Ring-on-ring fixture for equibiaxial flexural strength testing per ASTM C1499. A plate or disc rests on a support ring and is loaded through a smaller, concentric load ring, producing a uniform biaxial stress inside the load ring that is free of edge effects.

KEY FEATURES

- Concentric load and support rings with precise alignment
- Ring diameters configured to specimen size
- Smooth, hardened ring contact surfaces
- Specimen centering guide for concentric placement
- Supplied with adapters to suit your load frame (clevis or threaded)

TECHNICAL SPECIFICATIONS

Test method	Ring-on-ring equibiaxial flexure
Test type / loading	Concentric ring loading, compression
Specimens	Flat circular or square plates per ASTM C1499
Load capacity	10 kN standard; higher capacities on request
Fixture material	Hardened tool steel, corrosion-resistant finish
Contact surfaces	Hardened, polished load and support rings
Machine connection	Clevis pin or threaded adapter, to suit customer frame
Compatible frames	Electromechanical and servo-hydraulic universal test machines

APPLICATIONS

- Ceramic substrates and plates
- Glass and display cover materials
- Semiconductor wafer strength
- Surface finish and coating studies

ABOUT THE STANDARD

ASTM C1499 determines the equibiaxial flexural strength of advanced ceramics at ambient temperature using concentric ring loading of flat plates or discs. Because the maximum stress acts over the area inside the load ring rather than at specimen edges, the test is well suited to thin plates and surface-finish studies.

Ordering & customization: Specify specimen size and thickness, load and support ring diameters 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-C1499-CP