

ASTM D6484 Compression Fixture

Open-Hole Compression Fixture for Composite Laminates

Built to ASTM D6484 — Standard Test Method for Open-Hole Compressive Strength of Polymer Matrix Composite Laminates



OVERVIEW

Stabilized compression fixture for open-hole compression (OHC) testing of composite laminates per ASTM D6484. Bolted support plates restrain the flat, centrally-drilled specimen against buckling while load is introduced through hydraulic grips or end loading, so failure initiates at the hole.

KEY FEATURES

- Long-grip support plates restrain the specimen against buckling
- Cutout over the hole region allows observation and strain gauging
- Supports shear loading through grips or end loading through platens
- Precision-ground support faces maintain specimen flatness and alignment
- Robust steel construction for repeated high-load testing

TECHNICAL SPECIFICATIONS

Test method	Open-hole compression (OHC)
Test type / loading	Static compression, stabilized against buckling
Specimens	Flat laminates with central hole per ASTM D6484 geometry
Load capacity	100 kN standard; higher capacities on request
Fixture material	Hardened steel, corrosion-resistant finish
Support surfaces	Precision-ground support plates with central viewing cutout
Machine connection	Loaded by hydraulic grips or compression platens
Compatible frames	Electromechanical and servo-hydraulic universal test machines

APPLICATIONS

- Aerospace composite design allowables
- Notched laminate strength screening
- Material and layup qualification
- Fastener-hole compressive behavior studies

ABOUT THE STANDARD

ASTM D6484 determines the open-hole compressive strength of multidirectional polymer matrix composite laminates. A flat laminate with a centrally located hole is loaded in compression while laterally supported against buckling by a bolted fixture. The result characterizes the notch sensitivity of a laminate and is widely used for design allowables in aerospace structures.

Ordering & customization: Specify specimen width and thickness, loading method (grip or end loading), required capacity and test machine connection.

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-D6484-CF