

Vise Grip Set for Bone Cement Fatigue Specimens

Built to ASTM F2118 — Standard Test Method for Constant Amplitude of Force Controlled Fatigue Testing of Acrylic Bone Cement Materials



OVERVIEW

Vise-style grip set for fatigue testing of acrylic bone cement specimens. Precision-aligned jaws clamp the specimen ends on the loading axis so fully reversed or tension-compression cyclic loading can be applied without slippage or backlash, for fatigue life testing in air or fluid environments.

KEY FEATURES

- Vise jaws clamp without backlash for tension-compression cycling
- Aligned grip axes minimize bending on brittle cement specimens
- Corrosion-resistant construction for saline bath testing
- Jaw faces sized to the specimen gripping ends
- Compact profile fits environmental baths

TECHNICAL SPECIFICATIONS

Test method	Constant-amplitude force-controlled fatigue
Test type / loading	Fully reversed tension-compression
Specimens	Bone cement specimens, per ASTM F2118 geometry
Load capacity	5 kN dynamic standard; higher on request
Fixture material	Stainless steel
Gripping surfaces	Vise jaws with serrated or smooth faces
Machine connection	Threaded adapter to suit actuator and load cell
Compatible frames	Servo-hydraulic and electrodynamic fatigue test machines

APPLICATIONS

- Acrylic (PMMA) bone cements
- Antibiotic-loaded cement formulations
- Orthopedic material R&D
- Regulatory submission testing

ABOUT THE STANDARD

ASTM F2118 describes constant-amplitude, force-controlled fatigue testing of acrylic bone cement materials. Molded or machined cement specimens are cycled under fully reversed tension-compression loading, typically in a temperature-controlled fluid environment, until failure or run-out. Results characterize fatigue performance and are used for comparing bone cement formulations and preparation methods.

Ordering & customization: Specify specimen geometry, dynamic capacity, bath or air testing and 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-F2118-VG