

Guided Bend Test Fixture for Weld Ductility

Built to ASTM E190 — Standard Test Method for Guided Bend Test for Ductility of Welds



OVERVIEW

Guided bend fixture for evaluating weld ductility. A plunger of specified radius forces the weld specimen into a die, bending it into a U-shape so the weld and heat-affected zone are strained in tension on the outer surface, where any cracks or open defects can then be inspected visually.

KEY FEATURES

- Plunger and die geometry guide the specimen into a controlled U-bend
- Interchangeable plungers to suit specimen thickness and bend radius
- Hardened, polished contact surfaces reduce galling
- Rugged construction for repeated high-force bending of steel plate
- Operates on universal test machines or hydraulic presses

TECHNICAL SPECIFICATIONS

Test method	Guided bend, plunger-and-die (U-bend)
Test type / loading	Compression-driven bending
Specimens	Transverse or longitudinal weld specimens, per ASTM E190
Load capacity	Sized to application; 100 kN typical, higher on request
Fixture material	Hardened alloy steel
Contact surfaces	Hardened, polished plunger and die shoulders
Machine connection	Threaded or clevis adapter, or press mounting plate
Compatible frames	Universal test machines and hydraulic presses

APPLICATIONS

- Weld procedure qualification
- Welder performance testing
- Steel plate fabrication QA
- Training and certification labs

ABOUT THE STANDARD

ASTM E190 evaluates the ductility and soundness of welds in steel plate by bending a transverse or longitudinal weld specimen around a plunger in a guided bend jig. After bending, the convex surface is examined for cracks and other open defects. It provides a simple pass/fail measure of weld quality and of welding procedure and welder performance.

Ordering & customization: Specify specimen thickness, required plunger radius, capacity 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-E190-BF