



Scope of application

The Celanese compression test fixture is suitable for the quasi-static characterisation of the compressive properties according to DIN EN ISO 14126 or similar on fibre-reinforced plastics and can be used in all common universal testing machines.

The following laminates can be tested:

- Unidirectional laminates with fibre orientation in 0°- or 90° or 0°/90°-direction
- Fabric laminates with fibre orientation in 0°/90° direction
- Short and long fibre reinforced plastics
- Isotropic materials, e.g. pure resin or adhesive resin materials

The compression test fixture is required to prevent the test specimen from buckling (Euler buckling).

The specimen is clamped in the Celanese compression test fixture and guided over two concentric cylinders. The test fixture consists of clamping wedges, which deflect the axial load of the universal testing machine into a transverse load for clamping the specimens according to the self-reinforcing principle (endloading). Strain gauges are applied on both sides in the middle of the specimen in order to determine the compressive strain and the buckling.

Features & benefits

- Easy alignment and clamping of the specimen
- Optimised clamping of the test specimen via closed clamping wedges
- Simple cable entry when using strain gauges
- Material stainless steel



Technical data

Characteristics	Values
Specimen geometry	110 mm x 10 mm x 4/2 mm
Max. test load	20 kN
Permitted temperature range	-40...+150 °C
Dimensions (D x H)	D 90 mm x 160 mm
Weight	approx. 8 kg

Options

- Compression plates for upper and lower mounting in universal testing machine according to customer specification
- Clamping wedges with cross milling, transverse milling and diamond coating for specimens with a width of 6.35 mm or 10 mm

Standards

- DIN EN ISO 14126:2000-12
Determination of compressive properties in the in-plane direction
- DIN EN 2850:2017-06
Unidirektionale Laminate aus Kohlenstoffasern und Reaktionsharz - Druckversuch parallel zur Faserrichtung
- DIN 65375:1989-11
Testing of unidirectional laminates - compression test transverse to fibre direction
- ASTM D3410 / D3410M - 16
Standard test method for compressive properties of polymer matrix composite materials with unsupported gage section by shear loading

