



### Scope of application

The IITRI compression test fixture is suitable for the quasi-static characterisation of the compressive properties according to ASTM D3410 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  $0^\circ$ - or  $0^\circ/90^\circ$ -direction
- Fabric laminates with fibre orientation in  $0^\circ/90^\circ$  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 IITRI compression test fixture. The upper movable crosshead of the test fixture is fixed to the crosshead of the testing machine, the lower crosshead rests on a compression plate. The guidance is provided by the side-mounted columns. 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 (shear loading). 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 test specimen
- Removal of the clamping wedges for specimen change not necessary
- Wide range of applications due to the use of different specimen geometries
- Material stainless steel



## Technical data

Characteristics	Values
Specimen geometry	110...160 mm x 6...25 mm x 2...8 mm
Max. test load	50 kN
Permitted temperature range	-40...+150 °C
Dimensions (W x D x H)	170 mm x 75 mm x 320 mm
Weight	approx. 25 kg

## Options

- Adapter for upper mounting in universal testing machine according to customer specification
- Compression plate for lower mounting in universal testing machine according to customer specification

## Standards

- ASTM D3410 / D3410M - 16  
Standard test method for compressive properties of polymer matrix composite materials with unsupported gage section by shear loading
- 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

