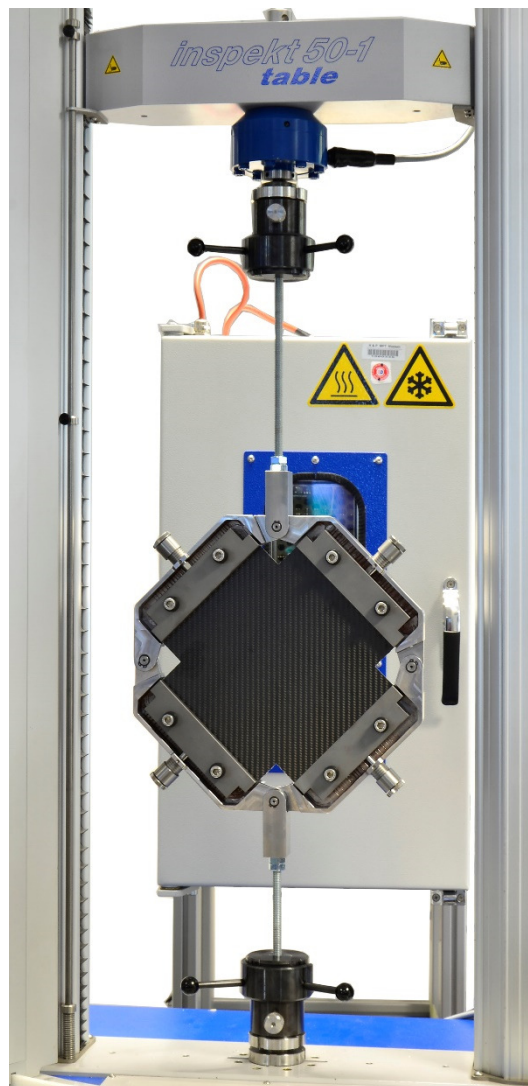




## Product Information

# Shear frame testing system

For textile semi-finished products up to 5kN tensile load



### Application

- Investigation of dry textiles and textile-reinforced plastics (e.g. prepregs or organosheets) with different types of bonding

By using the shearing device and evaluating of the shear force vs. shear angle diagrams it is possible to make statements about the expected deformability of materials. These are relevant for example for draping, which is a manufacturing process where flat semi-finished products are applied to curved surfaces.

### Advantages

- Characterization of material properties at different temperatures
- Efficient clamping, so that the specimens do not slip out of the grips and no damage occurs at the transition to the clamping area
- Application of defined preloads in the range from approx. 0N to 200N
- Low-friction mechanics under all ambient conditions for high measuring accuracy
- high stiffness and strength
- Determination of the parameters limit angle and critical shear angle

### Technical Data

<b>Tensile load</b>	5kN
<b>Dimension shear frame</b>	315mm x 87mm x 410mm (WxDxH)
<b>Clamping jaw surface</b>	148mm x 15mm (WxH)
<b>Specimen dimensions</b>	238mm x 238mm (WxH)
<b>Weight</b>	6,9kg
<b>Travelling distance</b>	100mm shearing angle up to 53°
<b>Temperature range</b>	-50°C up to +250°C

Your contact person:

In the shear test, pure shear is achieved by attaching a square specimen to a shear frame, clamping it at the opposite edges and deforming it into a rhombus up to a defined displacement. The force curve over the entire stroke is recorded. The shear angle can then be calculated from the change in length of the diagonal.

The critical shear angle and the limit angle are usually used to evaluate the shear behaviour.

To determine the limit angle, the shear force shear angle curve is divided into a linear and a non-linear zone. The limit angle is defined at the transition from the linear to the non-linear range.

The critical shear angle is defined at the beginning of the crease formation of the textile sample.

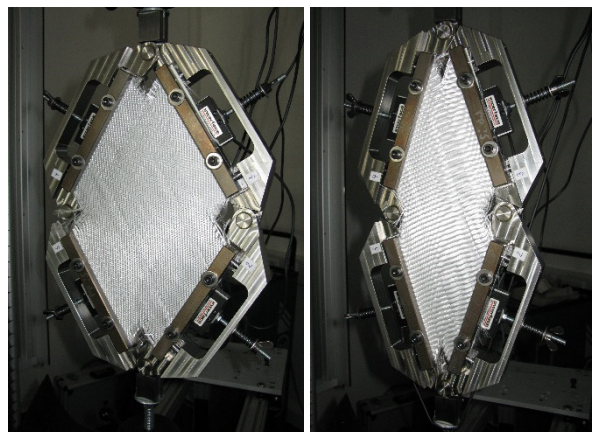


Fig. 1: Shearing device in the initial state and after deformation

### Included in delivery

- 1 shear frame
- 1 set of clamping jaws with pyramid gearing 1mm, specimen thickness 1-3mm (14-101-019)
- 1 mounting aid for the specimen assembly

### Necessary accessories

Adaption for ball nut R30 in the testing machine for the integration of the frame