

Data Sheet

FTM 8-10

Shear tester according to FINAT specifications



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Precise testing – Large working space –
Use of individual weights – functional without power connection

Your Benefits

- Large work space
- Individual weights can be used
- Fully functional without power connection
- Fully electronic, long-lasting watches with lithium-ion batteries
- Resistant paint coating of the device housing

Technical Data

Measurements:	B 1230 mm x H 480 mm x T 300 mm
Total weight:	38 kg
Power supply:	Intern

Scopy of Delivery

- Test device with 10 test points
- 10 sample triangles 25 mm
- 10 weights, stainless steel or brass 1 kg
- 20 sample plates, float glass 50 mm x 50 mm x 2 mm

Usage

- The shear tester FTM8-10 is intended for tests according to the FINAT method FTM 8.
- Up to 10 samples can be tested simultaneously. The built-in stopwatches measure the shearing time in the range of 0.01 to 9999.9 hours.
- No external power supply is required for the test fixture.
- The lifespan of the built-in lithium batteries is at least 10 years.

Hour Counter



The display is in hours. The 100th of an hour is given as a decimal place after the comma or dot on the display.

Insertion and Removal of the Sample Plates



The sample plates are pushed into the sample holder from above and pulled out again after the test has been completed.

FINAT Test Method No. 8

Shear Strength on Standard Surface

The method evaluates the resistance of a pressure-sensitive adhesive to static loading parallel to the label material. Indications of the likely cause of the failure such as adhesive or cohesive failure are obtained.

Definition

Shear strength on a standard surface is defined as the time required for a specific area of a self-adhesive material to shear off a standard surface by applying a load parallel to the surface.

Testing Device

- FTM8-10 for recording the test plates at an angle of exactly 2° from the vertical (see drawing) with automatic timing.
- weight of 1 kg.
- FINAT standard pinch roller.
- Test plates of crystal mirror glass [float glass] or similar flat glass.

Material

- The test strips are cut from a representative sample of the material. The strips are 25 mm wide and have a minimum length of 175 mm in the running direction.
- The cut must be clean and straight.
- At least three strips of each sample material are required.

Conditions

- 23 ± 2°C and 50 ± 5% RH.
- Material or test strips must be conditioned for at least 4 hours before testing.

Testing Process

The release material is pulled off the test strip. The label stock is adhered to a clean test panel with light finger pressure, adhesive side such that a 25mm x 25mm area is in contact with the test panel.

The FINAT standard pressure roller is rolled twice in both directions over the glued strip at approx. 10 mm/s to ensure proper contact between the adhesive and the test panel.

Strips on which air bubbles can still be found between the adhesive and the glass plate must not be used for the measurement.

1. The test plate is hung into the holder.
2. The free end of the strip is loaded with a weight of 1 kg (5 minutes at the earliest and 10 minutes at the latest after pressing with the pressure roller).
3. The time it takes for the strips to fall off the test plate is noted.

Results

Shear strength on a standard surface is reported as the average time for three test strips to shear from the test panel.

Description of Fracture Patterns

CP	„Clear Panel“	<ul style="list-style-type: none"> ▪ No visible residue on the test panel.
PS	„Panel Stain“	<ul style="list-style-type: none"> ▪ Residue on test surface but not sticky.
CF	„Cohesive Failure“	<ul style="list-style-type: none"> ▪ The adhesive film split during testing. ▪ Adhesive residues are left on the test panel as well as on the facestock.
AT	„Adhesive Transfer“	<ul style="list-style-type: none"> ▪ The adhesive has completely separated from the upper. ▪ The adhesive film remains completely on the test panel. ▪ The approximate size of the carry should be given as a percentage.

Cleaning the Test Panels

The test panels must be carefully cleaned so that no traces of glue, grease, silicone or moisture remain on the surface.

The following solvents can be used for cleaning:

- Diacetone alcohol, technical grade or better
- Methyl ethyl ketone (MEK)
- Acetone
- 95% methanol
- n-heptane
- Ethyl acetate

Literature Reference

FINAT Technical Handbook,
6th Edition 2001

The material used for cleaning must be absorbent, e.g. cotton wool, fleece material or textiles. These must not fray during use, should absorb solvents and contain no components that are soluble in the solvents mentioned above, and should always be used fresh without exception.

The test panel is wetted with one of the solvents listed above and wiped dry with fresh cleaning material. This solvent cleaning is performed three times, with the final cleaning step being MEK or acetone.

Other methods that thoroughly remove contamination can also be used, such as ultrasonic cleaning.

Manufacturer and Copyright

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