

Tensile Testers for Thin Plastic Sheeting or Thin Films

ASTM D882 (also ISO 527-3) requires special test machines configured to measure tensile properties of films and sheeting less than 1 mm (0.040 inches) thick.

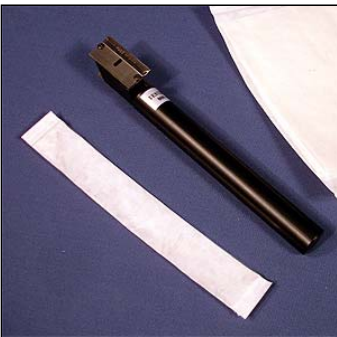
Each universal tester is configured specially with fixtures and software. The tester is equipped to perform a high elongation pull test or tensile test with line contact grips specified by ASTM D882. We offer manual and pneumatic film test grips such as models G227 and G229. Their jaw faces concentrate the entire gripping force along a single line perpendicular to the direction of the testing stress. TestResources film grips that combine a standard smooth flat face with an opposing face with a half-round.

Specimens are placed in the grips of the tensile testing machine and pulled to elongation at fracture, or failure. Test speed and grip separation are based on the elongation to break of the material. Elongation and tensile modulus can be calculated from crosshead displacement, or with an extensometer. Extension may be measured using grip separation or an extensometer – see the standard. Our Model 3800 extensometer is for high elongation thin film test applications.

The test machine must be selected to match the highest elongation or travel expected. We have several choices:

- 55 inches of travel (200Q55)
- 44 inches total travel (e.g. 650M44)
- 31 inches total travel (e.g. 200Q)
- 12 inches (e.g. 100Q12) elongation with 31 inches of manual adjustable travel (for test setup and fixtures).

Modulus of elasticity calculations can be made using grip separation values or an extensometer, which produces more accurate data. ISO 527-3 allows for additional specimen configurations, specifies different test speeds, and requires an extensometer.



Film sample cutter – for materials having an elongation-at-fracture above 10 %.

Elevated Temperature Chamber in dual column frame



650M44 for high elongation films



Model 200Q
31" Travel (STD)
55" OPTIONAL



100Q15-12 Affordable Test System – available in single or dual column