

FILM LAB CAPABILITIES

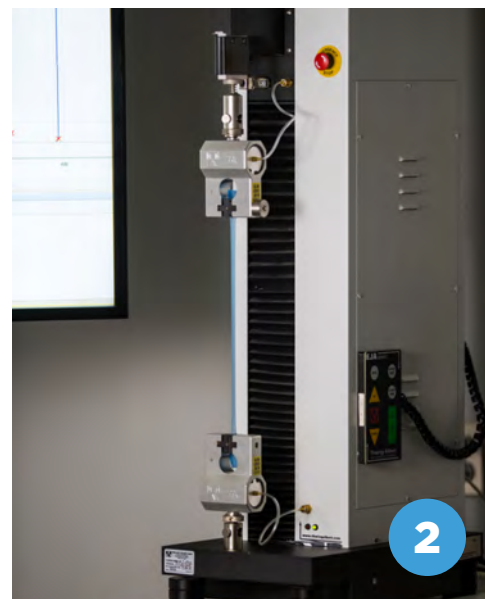
Optimize your unique product's packaging with in-depth analysis, research, testing, & consulting.

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1. FPT-750 | Film Performance Tester | ESTL

Provides a realistic simulation of the stretch film application process and offers a variety of capabilities

- **Ultimate Stretch:** Determines the stress strain behavior of stretch film at a given line velocity by increasing pre-stretch in increments up until the film's failure point
- **Film Consistency:** Tests a stretch film's quality for any gels or defects that may cause premature breakage at any given pre-stretch level
- **Wrapper Test & Wrapper Consistency:** Measures the stress strain of stretch film using the specific dimensions of a customer's pallet and the RPM of their equipment
- **Puncture:** Measures the force and energy required to puncture stretch film at a designated pre-stretch and total stretch level
- **Relaxation:** Measures how the winding force of a given stretch film increases or decreases over time based on total stretch level
- **Cling:** Determines the cling between two layers of stretch film at various levels of pre-stretch, film tension, and total stretch



2. Universal Testing Machine | Thwing-Albert

Tests the tensile, peel, coefficient of friction, adhesive strength, and seal strength of packaging materials

3. Magma 3 | Hot Tack & Seal Tester | Enepay

Measures the hot tack and heat seal properties of films and flexible packaging with a range of pressures, temperatures, dwell times, and peel rates





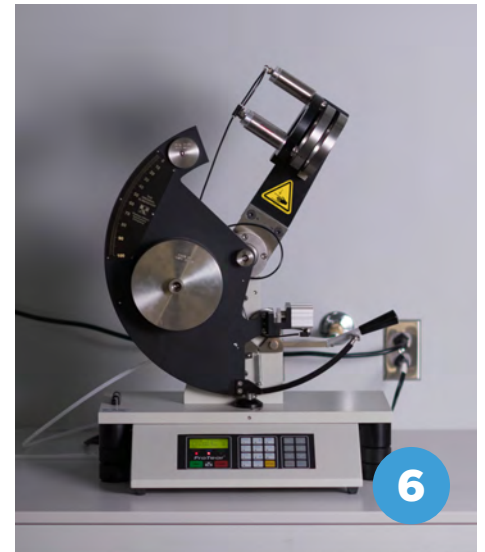
4. VHX-6000 Digital Microscope | Keyence

Provides and records high-quality imaging with a magnification of up to 2000x



5. Progage Thickness Tester | Thwing-Albert

Measures a sheet of material's thickness up to 40 mils thick



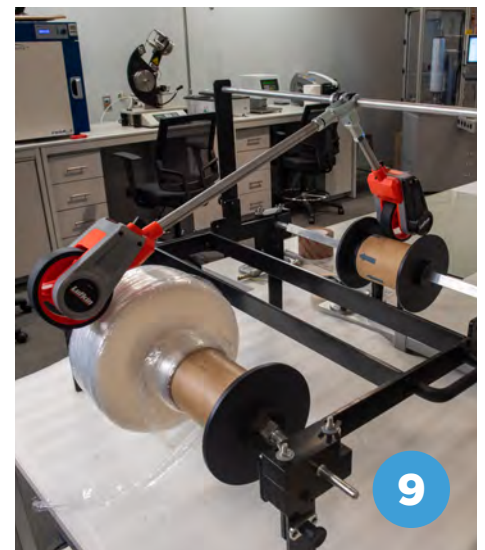
6. Elmendorf Tear Tester with Spencer Impact Attachment | Thwing-Albert

Calculates a film's impact, puncture, and level of initiated tear resistance in the material flow direction and perpendicular direction



8. Symphony Oven | VWR

Used to determine a film structure's free shrink or planar dimensional changes by heating the film above its collective melting point and allowing it to cool to room temperature



9. Film Footage Counter | Atlantic Packaging

Measures the footage of film dispensed from a subject roll as it is wrapped around a new core to demonstrate shrinkage due to release of winding tension