



SHEAR ADHESION TESTER (6-STATION)

Shear Adhesion Tester (6-Station) - ToronSAT™ ET

Holding Power Tester for Pressure-Sensitive Tapes

The ToronSAT™ ET is a shear adhesion tester that measures the holding power of pressure-sensitive tapes under a constant shear load. A tape specimen is bonded to a standard panel, a weight loads the bond in shear, and the instrument times how long the tape holds before it slips. Six independent stations test six specimens at once.

The ToronSAT™ ET carries a proximity sensor at each station that starts and stops the timer automatically, so long tests run unattended. The timer spans 0 to 10,000 hours at 1-second steps, and the standard 1000 g load covers common shear tests. A touchscreen sets and monitors each station.

A standard 2000 g roller applies each specimen to its stainless-steel panel at a consistent pressure. The ToronSAT™ ET (Holding Power Tester for Pressure-Sensitive Tapes) suits tape, label, and adhesive labs that qualify shear performance at room temperature. The embedded system supports remote maintenance and upgrades.

APPLICATIONS

Shear Adhesion Tester (6-Station) - ToronSAT™ ET Applications

The ToronSAT™ ET measures the shear holding power of pressure-sensitive adhesives at room temperature.

- **Pressure-Sensitive Tapes:** measures the holding power of packaging, masking, and industrial tapes under shear.
- **Self-Adhesive Labels:** checks the shear resistance of label adhesives under load.
- **Adhesive Development:** compares shear holding power across adhesive formulations.
- **Protective and Mounting Tapes:** verifies that mounting and protective tapes hold under sustained shear.

- **Double-Sided and Transfer Tapes:** measures the holding power of double-sided and transfer adhesives.
- **Incoming and In-Process QC:** verifies tape shear performance against specification.
- **Adhesive Creep Studies:** characterizes how an adhesive creeps under a constant shear load.
- **Quality Control:** confirms holding power batch to batch for consistent performance.



Standards

The ToronSAT™ ET is designed to align with internationally recognized standards for shear adhesion and holding power of pressure-sensitive tapes.

- ASTM D3654 - Standard Test Methods for Shear Adhesion of Pressure-Sensitive Tapes
- PSTC 107 - Shear Adhesion of Pressure-Sensitive Tape
- JIS Z0237 - Testing Methods of Pressure-Sensitive Adhesive Tapes and Sheets

FEATURES

Shear Adhesion Tester (6-Station) - ToronSAT™ ET Key Features

The ToronSAT™ ET pairs a six-station frame with automatic proximity-sensor timing for unattended holding-power testing.

- **Shear Holding Power:** measures how long a tape resists a constant shear load before slipping.
- **Six Independent Stations:** six specimens run at once under their own loads and settings.
- **Automatic Proximity Timing:** a sensor at each station starts and stops the timer on loading and failure.
- **Wide Timer Range:** the timer spans 0 to 10,000 hours at 1-second resolution.
- **Standard Load Mass:** a 1000 g load, including the panel weight, covers common shear tests.
- **Standard Roller:** a 2000 g roller applies specimens to the panel at a consistent pressure.
- **Stainless-Steel Panels:** standard steel panels keep the bond area and surface consistent.
- **Touchscreen Operation:** a color TFT touchscreen sets and monitors each station.
- **Wide-Range Power Input:** an 80 to 240 V, 40 to 66 Hz supply suits different sites.
- **Remote Maintenance:** the embedded system supports remote maintenance and firmware upgrades.

THEORY & METHOD

Theory and Method

Shear adhesion, or holding power, measures how long a pressure-sensitive tape resists a steady pulling force applied along the plane of the bond. A strip of tape is pressed onto a standard panel over a fixed area, and the panel is mounted so the tape hangs vertically. A weight is attached to the free end of the tape, loading the bond in shear.

The weight pulls steadily on the bond, and the adhesive slowly creeps until the tape finally slips off the panel. The time between loading and slip-off is the holding power, reported in hours or minutes. A longer time means a stronger, more shear-resistant adhesive. A proximity sensor at each station starts the timer on loading and stops it the moment the specimen drops.

Holding power is a core measure of adhesive quality, because a tape that creeps under load will fail in service. Running six stations at once, each with its own specimen and load, builds a data set quickly. Standard panels and a standard application roller keep the bond area and contact pressure consistent between tests.

TECHNICAL SPECIFICATIONS

Shear Adhesion Tester (6-Station) - ToronSAT™ ET Technical Specifications

Parameter	Specification
Load Mass	1000 g ± 10 g (includes panel weight)
Timer Range	0 to 10,000 h

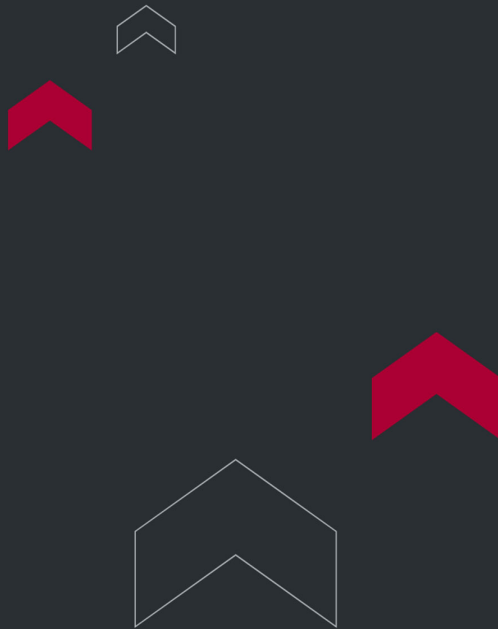
Parameter	Specification
Timer Step	1 s
Panel Size	60 mm (L) × 40 mm (W) × 2.0 mm
Test Stations	6, independent
Roller Weight	2000 g ± 50 g
Dimensions	577 mm (L) × 279 mm (W) × 388 mm (H)
Voltage	AC 80 to 240 V, 40 to 66 Hz
Net Weight	20 kg

Standard Delivery

Item	Description
Main Unit	Six-station shear adhesion (holding power) instrument
Roller	2000 g roller for applying specimens
Stainless Steel Panel	Standard test panel
Load Mass	1000 g shear load
Power Line	Mains power cable

Optional Accessories

Item	Description
Non-Standard Load Mass	Custom shear load masses for specific methods



Torontech Inc.

251 Consumers Road, Suite 1200
Toronto, Ontario, M2J 4R3, Canada 

Phone: +1 416 368 2721 | Fax: +1 416 981 7652
Email: info@torontech.com

Torontech, LLC

601 Brickell Key Drive, Suite 700
Miami, FL 33131, USA 

Toll-Free: 1-866-383-7919
Email: sales@torontech.com

Torontech ME FZE

Meydan Grandstand, 6th Floor,
Meydan Road, Nad Al Sheba,
Dubai-261440, UAE 

Phone: +971 488 19252
Email: me@torontech.com

