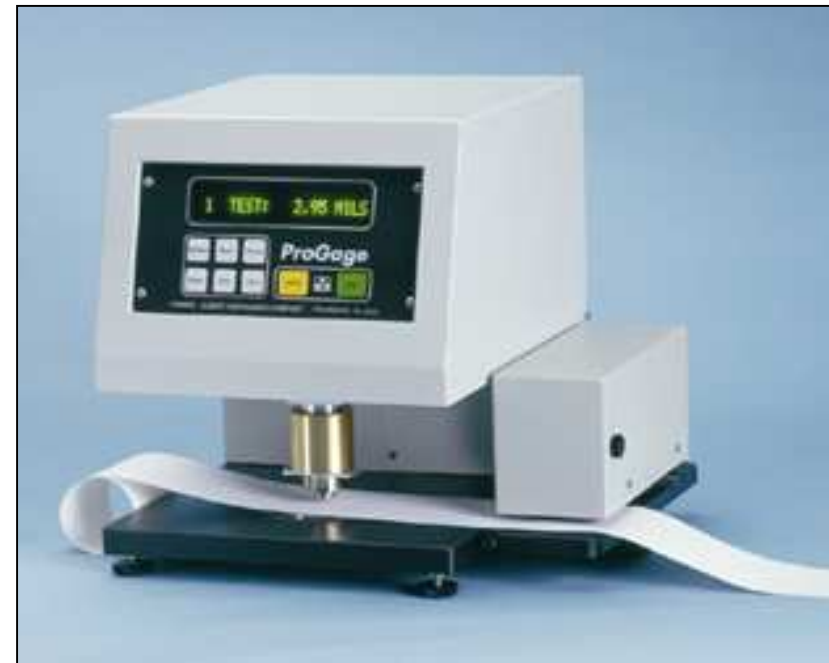# ProGage Thickness Tester

ProGage Thickness Tester

The ProGage Thickness Tester measures the thickness of sheeted materials.

- Paper
- Tissue & Toweling
- Nonwovens
- Paperboard
- Film & Plastics
- Textiles
- Packaging Materials

ProGage Thickness Tester
Industry Standards

- ASTM D374, D1777, D645
- TAPPI T411
- EDANA 30.4-89
- BS 3983, 4817
- DIN 53105, 53353
- ISO 3034, ISO 534
- CPPA D.4
- EN 29534
- SCAN P7, P31, P47

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ProGage Thickness Tester
Industry Standards

● ASTM D374 (95) Test Method for Thickness of Solid Electrical Insulation

Covers the determination of the thickness of several types of solid electrical insulating materials employing recommended techniques.

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ProGage Thickness Tester
Industry Standards

- ASTM 1777 Test Method for Thickness of Textile Materials

➢ This method covers the measurement of the thickness of most textile materials including woven fabrics, air bag fabrics, blankets, napped fabrics, knitted fabrics, layered fabrics, and pile fabrics. The fabrics may be untreated, heavily sized, coated, resin-treated or otherwise treated

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ProGage Thickness Tester
Industry Standards

• ASTM D645 Test Method for Thickness of Paper and Paperboard

➢This test method covers the determination of the thickness of paper and paperboard except electrical insulating papers

ProGage Thickness Tester
Industry Standards

- TAPPI 411 Test Method for Thickness of Paper, Paperboard and Combined Board

➢ Procedure for measuring single-sheet thickness and variations in single sheet thickness of paper, paperboard and combined board (corrugated and solid fiberboard).

ProGage Thickness Tester
Industry Standards

- EDANA 30.4-89 Test Method for Thickness of Nonwovens

  ➢ Covers the measurement of the thickness of normal or bulky nonwoven fabrics, ie. The distance between the face and the back surfaces of the material when measured under specific pressure.

  ➢ Measures bulk, which is thickness divided by mass per unit area and bulk density which is mass per unit area divided by thickness.

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ProGage Thickness Tester
Industry Standards

- ISO 534: Paper and board — Determination of thickness and apparent bulk density or apparent sheet density.

Specifies two methods of measurement:

1. Measurement of single sheets of paper or board (single sheet thickness)

2. Measurement of a pack of sheets of paper of grammage up to 224 g/m^2 (bulking thickness)

ProGage Thickness Tester
Industry Standards

- ISO 3034: Corrugated fiberboard — Determination of thickness

➢Specifies a method for determining the thickness of corrugated fiberboard intended for use in the manufacture of packing cases or used inside such packing cases

ProGage Thickness Tester
Industry Standards

- SCAN-P 47:83 Bulking thickness and apparent density of low density papers

➢Specifies a method for determining the bulking thickness and the apparent density of low density papers, such as crepe papers and soft tissues.

➢It utilizes a lower static pressure and a larger test area then SCAN-P 7

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ProGage Thickness Tester
Industry Standards

- ISO12625-3 /EN ISO 12625-3 Determination of thickness, bulking thickness and apparent bulk densitiy

- Published as (EN) ISO in April 2005

ProGage Thickness Tester
Industry Standards

- SCAN-P 7 Bulking thickness and apparent density of papers and paperboard

➢Specifies a method for determining the bulking thickness and the apparent density of papers and paperboard

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ProGage Thickness Tester
Features

- Measuring Ranges: 1 mm(40 mil), 2.5 mm(100 mil), 5 mm(200 mil) & 12.7 mm(500 mil)
- Measurement conversion: mils, microns, millimeters, inches
- Auto push-button zero control
- Rigid mechanical design ensures zero and parallel stability
- Dual Speed Presser Foot
- Adjustable opening
- Presser foot low speed selection
- Presser foot low speed distance selection

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ProGage Thickness Tester
Features - Continued

- RS-232 output and serial printer ports
- Optional Sample Feeder provides single and continuous testing modes
- Foot Switch control for hands free operation
- Automatic Statistical Analysis
- Stores up to 99 samples — Average, high, low and standard deviation

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ProGage Thickness Tester
Wide Range of Capacities

Four Ranges: 1 mm, 2.5 mm, 5 mm and 12.7 mm

> ➤ Accuracy, parallelism and display resolution vary depending on what size opening is required.
> ➤ 1 mm range unit has the highest accuracy, parallelism and display resolution and is the default setting
> ➤ 5 mm and 12.7 mm ranges are typically required for measuring multiple plies and thicker material including nonwovens, textiles and flooring

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ProGage Thickness Tester
Performance Settings

You define the following for customized testing:

➢ Foot Opening Adjustment
➢ Dual Speed (Low/High) Distance Selection
➢ Foot Low Speed Selection
➢ Dwell Time

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ProGage Thickness Tester
Foot Opening Adjustment

➤ This setting is set during production based on your specifications

➤ Field setting is simple! Open the top cover and loosen the limit switch bracket. Slide the bracket to the distance of the required opening. Use the appropriate size gage block to set the bracket. Tighten limit switch bracket and close cover


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ProGage Thickness Tester
Dual Speed Setting

➢ Set a high speed for pressure foot descent and return and a slow speed for measuring to ensure a rapid test cycle while maintaining a high degree of accuracy.

➢ Factory Setting: High speed is 5 mm/sec (0.200 in/sec)

➢ Settings that adjust overall test speed:
  1. Low Speed Distance
  2. Foot Low Speed
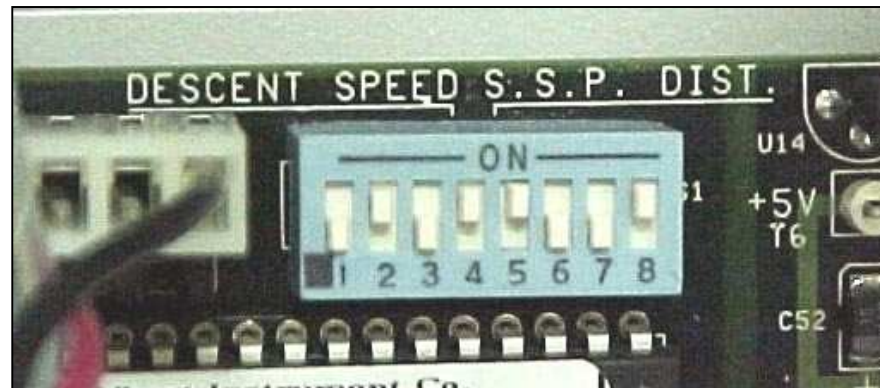
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ProGage Thickness Tester
Low Speed Distance Setting
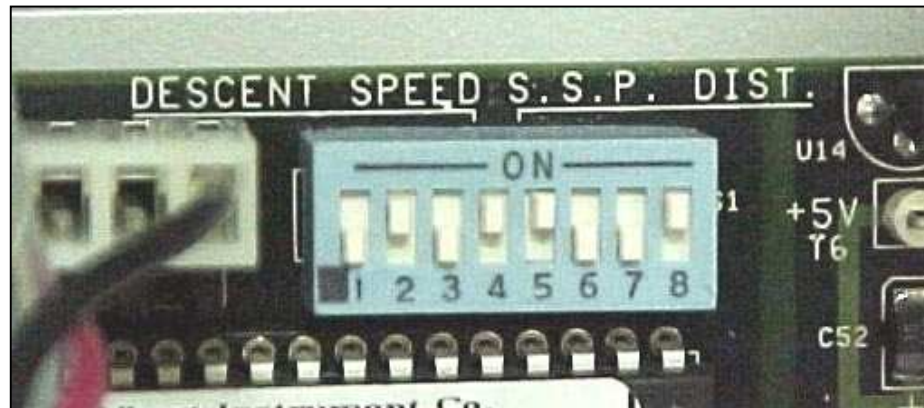
➢ This is the point the foot slows down to begin measuring

➢ Distance is controlled by an on/off combination of DIP switches 5 through 8

➢ Distance ranges from 0.127 mm to 12.7 mm

ProGage Thickness Tester
Pressure Foot Low Speed Setting

➤ This is the point where the foot speed is slowed for the measuring portion of the test. The speed is active between the speed switch point and when the foot makes contact with the sample or anvil.

➤ Speed is controlled by an on/off combination of DIP switches 1 through 4

➤ Speed ranges from 0.3175 mm to 5.08 mm

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ProGage Thickness Tester
Dwell Speed Adjustment

> ➢ Dwell time is the amount of time the foot remains in contact with the sample before taking a thickness reading.
> ➢ The default setting is 2 seconds.
> ➢ Dwell time range is 0 to 9.9 seconds

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ProGage Thickness Tester
Accessories

Automatic Sample Feeder

Provides cross-reel profiling and roll or strip feeding. It can test samples up to 177.8 mm wide. The distance the sample is fed between tests can be stet from 2.5 to 505 mm) The feeder rate is 84.6 mm/sec)

ProGage Thickness Tester
Accessories

Foot Switch

The foot switch is a foot actuated control which enables the user to start a test with one press of the foot thereby keeping the hands free to insert test samples.

ProGage Thickness Tester
Computer Interface

➢ **Two Serial Ports, COM 1 and COM 2**

➢ **COM 1 — Input/Output - PC interface**

➢ **COM 2 — Output only - printer interface**

➢ **Data is transmitted at the end of each cycle**

➢ **Remote operation available through a computer terminal or in conjunction with other instruments**

ProGage Thickness Tester
Data Acquisition Software
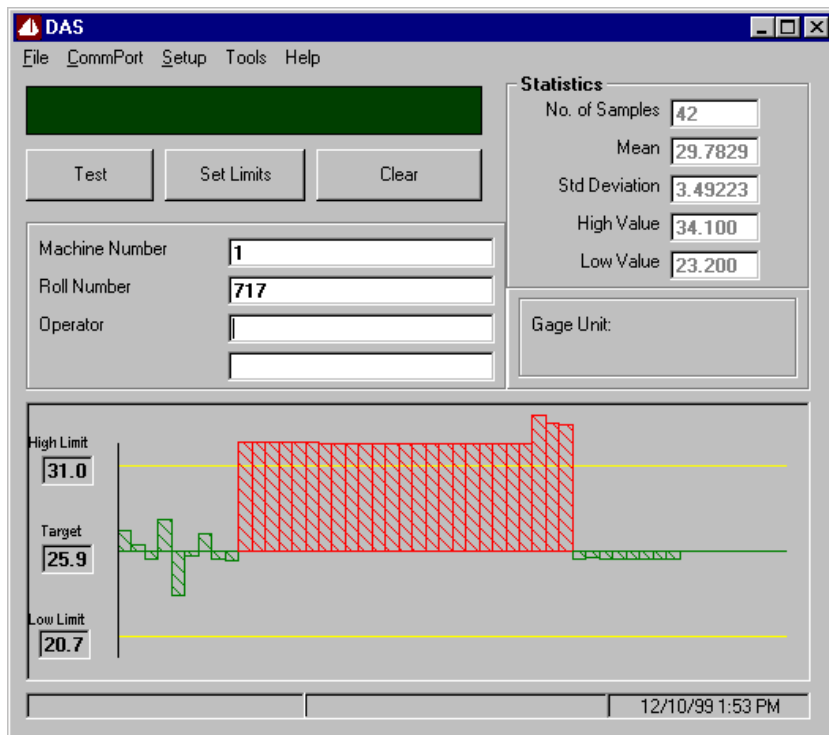
➢ **Windows-based program that collects data and downloads it to a PC via a communication Cable (COM 1).**

➢ **Results are displayed on the computer screen immediately, plotted on a real-time graph and included in the real-time statistics**

➢ **Data is saved to a file for storage and future analysis**

➢ **Each file stores up to1000 test results**

➢ **Data can be saved to an Excel file**

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ProGage Thickness Tester
Data Acquisition Software

➢ **Remote Control through DAS:**

1. Define multiple number of tests to be performed before automatically stopping
2. Start testing with TEST key
3. Instruments key panel is automatically locked when operating through the PC

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ProGage Thickness Tester
Tester Parallellism

➤ Parallelism: Check variation in flatness between the anvil and pressure foot

ProGage Thickness Tester
Tester Calibration

➢ Calibration is verified with a Certified Gage Block

1. Turn on and put in CONTINUOUS mode, cycle for 30 minutes.

2. During warm up, clean anvil, foot and gage block

3. Choose SINGLE mode and press TEST

4. Press ZERO key to zero the instrument

5. Place gage block under pressure foot and press TEST key.

6. If the reading does not match the gage block, clean the anvil, gage block and foot again.

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ProGage Thickness Tester
Preventitive Maintenance

➢ Clean Anvil & Foot

➢ Lubricate Stepper Motor Lead Screw

➢ Routine Care

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ProGage Thickness Tester
Instrument Configuration

Base Unit includes:

➢ Test Instrument:
Specify required range — 1, 2.5, 5, 12.7 mm

➢ One standard pressure foot:
Specify from available options:
Paper Foot: 16 mm / 0.33 kPa
Film Foot: 4.83 mm / 62.05 kPa
Film Foot: 6.35 mm / 51.71 kPa
Tissue Foot: 50.8 mm / 1.52 kPa
Custom Foot: Available

➢ Software

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ProGage Thickness Tester
Instrument Configuration

Accessories (Specify if required):

➢ Automatic Strip Feed

➢ Foot Switch

➢ Dot Matrix Serial Printer

➢ Data Acquisition Software

➢ Additional Pressure Feet

➢ Gage Blocks

➢ Parallelism Adjustment Ring