

Martindale Tester I™ (Martindale Abrasion Tester)

INTRODUCTION

Martindale Tester I™ provides a means of determination of the abrasion resistance of all knitted, woven, non-woven and coated fabrics.

FOR ABRASION

The equipment is designed to subject specimens under test to a controlled amount of rubbing at comparatively low pressures and in continuously changing directions to ensure that all surface fibers on the specimens are flexed in order to compare the resistance of fabrics to abrasion. Under this test, the circular specimen of fabric are rubbed against a standard Abradant, under a known pressure and the resistance to abrasion is determined by the number of rubs to breakdown or by the loss in the mass of the specimens.

Up to 4 specimens are tested simultaneously. Each one is prepared and mounted separately in a Specimen Holder. To promote even wear, specimen lighter than 500 g/m² are backed with a standard Polyurethane foam. The Abradant material (Standard Felt & Abradant Fabric), against which the specimen is rubbed, is clamped tightly over the abrading Platform to prevent possible metal-to-metal contact.

The Path traced by the test specimens over the Abradant is known as Lissajous figure. It changes from a circle to gradually narrowing ellipses, until it becomes a straight line, from which progressively widening ellipses develop, in a diagonally opposite direction, before the pattern is repeated. This continuously changing movement insures that the surface fibers of the specimens are flexed in every direction.

SALIENT FEATURES

- Specially designed equipment used to determine the abrasion resistance to any type of fabrics.
- Latest model with four stations for specimen testing at a time.
- Latest ergonomic design with fully microprocessor based controller.
- Specially designed control panel for individual station display system.
- Emergency stop switch to stop testing, in urgent, without hindering setting.
- Two sample cutters ϕ 140mm & 38mm with spare blades & cutting materials to make sample conveniently.
- Three types of load 3Kpa, 9Kpa, 12Kpa are available to test samples BS, ISO & ASTM standards.
- Complete with all accessories including one stainless Steel marking pen to draw lissajous figure.
- All control & components strictly adheres to C E Mark specifications for safety.
- Supplied with calibration & inspection Certificates.

Martindale Tester I™ is supplied complete with below accessories.

Main unit	: 01 No.
Top Moving Plate	: 01 No.
Sample Cutter (ϕ 140mm)	: 01 No.
Sample Cutter (ϕ 38mm)	: 01 No.
Abrading Platform Clamping Rings	: 04 Nos.
Abrading Platform Clamping Nuts	: 16 Nos.
Numbered Specimen Holders	: 04 Nos.
Weights (12 kPa) (for Upholstery)	: 04 Nos.
Weights (9 kPa) (for Apparel Testing)	: 04 Nos.
Loading Pins	: 04 Nos.
S.Steel Balls	: 03 Nos.
Pen to Make Lissajous Figure Abrasion & Pilling	: 01 No.
Uncreasing Load (Big)	: 01 No.



Handle (For Uncreasing Load-Big)	:01 Nos.
Standard Abrading Felt (ϕ 140 mm Cuttings)	:04 Nos.
Standard Polyurethane Foam (ϕ 38mm Cuttings)	:04 Nos.
Standard Abradant Fabrics (ϕ 140mm Cuttings)	:04 Nos.
Cutting Pads for Round Cutter	:02 Nos.
Detailed User's Manual	: 01 No.
Calibration Certificate (Traceable to NPL)	: 01 No.
Inspection and Conformance Certificate	: 01 No.

TECHNICAL DETAILS

LAB ENVIRONMENT

Temperature	: 20°C + 2°C
Humidity	: 65% + 5% Rh.

ABRASION	
SCOPE	Flat Woven, Knitted and certain non-woven fabrics
No. of specimens	Up to 4
ABRASION	
Working pressure on test specimen	9 kPa (apparel) 12kPa (upholstery)
Rotational speed of outer pegs	47.5 \pm 2.5 r/min.
Total Stroke of outer and inner pegs	60.5 \pm 0.5 mm
Circumferential parallelism of sample holders to abrading tables	+ 0.05 mm

Power Supply	: 230 V AC, Single Phase
Power Consumption	: 150 Watt
Frequency	: 50 Hz.

Overall Dimensions of the Instrument : 720 (L) x 700 (W) x 310 (H) mm
28 ¼" (L) x 27 ½" (W) x 12 ¼" (H) Inch.

Net Weight of the Instrument : 75 Kg. (165 lbs)



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