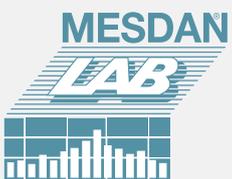


ABRASION & PILLING TESTER

MARTINDALE



COMPANY WITH
MANAGEMENT SYSTEM
CERTIFIED BY DNV
= ISO 9001 =
= ISO 14001 =

MARTINDALE

Abrasion & Pilling tester

Description

For the control of abrasion and pilling on almost all kind of woven and knitted fabrics, non-wovens, socks, gloves, natural and artificial leather, both dry and wet samples.

Extremely versatile, accurate, silent, vibration free, 100% made in Italy. Supplied with a kit of top quality consumables complete with traceable certificate.



Accessories

Sample holder 38mm Ø for abrasion and ASTM pilling test consisting in flared sample holder, fixing ring, main body and weight holding bar, to reach 9 or 12 kPa

Sample holder 90mm Ø for ISO/SN pilling test complete with mounting device, special weight and its holding bar

Sample holder for socks & hosiery abrasion test consisting in a special sample holder, fixing ring with needle, 12 kPa weight. Special mounting device available as well

Sample cutter 38mm Ø
Sample cutter 140mm Ø
Standard photographs for pilling assessment



Testing procedure

In conformity with the International Standards, the testing fabric specimen is brought into contact and rubbed against a Standard reference fabric (abrasion test) or against the same type of specimen or against a Standard felt (Pilling test), following a predetermined number of specific rotary motions known as “Lissajous figure” paths.

Basically, the abrasion test end point is reached once the operator detects visually the first two broken threads on the tested fabric specimen, whereas the Pilling test is accomplished by observing (after a certain number of laps), the created pill effect (surface fuzzing) on the fabric specimen and comparing it with the special Standard photographs.

For Pilling tests according to ISO EN and EMPA (referred also as “Swiss Pilling”) Standards, a particular sample holder is required (with special dimensions and weight) and special photograph Standards: EMPA 991 for woven fabrics and EMPA 992 for knits.

Other special International Standards call for specific abrasion tests using Standardised sandpaper.

Technical Features

Two models available: Martindale 6 positions **code 2568A**, Martindale 9 positions **code 2568**

Modular & Flexible: the 6 position model can be further upgraded to 8 or 9 positions by means of suitable upgrading kits.

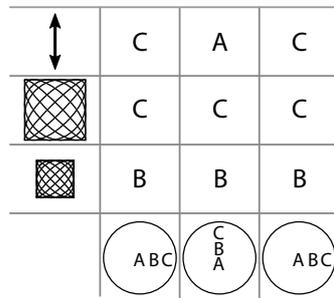
Frontal panel with distinguished refined design characterised by:

- wide LCD touch screen display for easy setting of testing parameters
- graphic presentation of the testing heads layout
- graphic scheme to select the type of test and the movement path
- on/off, start/stop and emergency keys

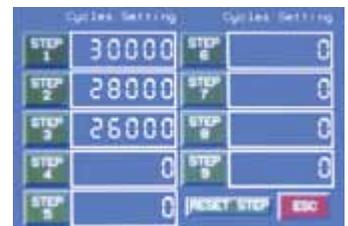


Three types of test/movement paths:

abrasion (big lissajous), pilling (small lissajous) and rubbing (linear). The desired movement path variation can be selected by a simple shift of the drive pivots position, as shown on the panel graphic scheme



Intuitive software for the setting of testing parameters such as number of cycles per testing step (with consequent stop), speed (23,75 - 47,5 - 71,25 rpm), increase/decrease counting modality, display language.



Easy access to all the testing positions

Sample and abrasion surface can be easily inspected without removing the plate



ISO 9001 calibration report available on request

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AVAILABLE MODELS

Martindale 6 positions	code	2568A
Martindale 9 positions	code	2568

UPGRADING OPTIONALS ONLY FOR MARTINDALE 6 POSITIONS

Kit of six Ø 90mm sample holders and weight for PILLING test according to EN ISO 12945, SN 198525, SFS 4328 (EMPA method)	code	2568A.300
1 position upgrading kit for ABRASION test (sample holders of Ø 38mm, weights of 9 & 12 kPa and fixing ring)	code	2568A.800
1 position upgrading kit for PILLING test according to EN ISO 12945, SN 198525, SFS 4328 (EMPA method). Code 2568A.800 is needed!	code	2568A.802
Calibration report for Martindale 6 positions	code	2568A.CC1

COMMON OPTIONAL FOR MARTINDALE 6 & 9 POSITIONS - CONSUMABLES

1 roll of standard abrasive cloth SM25, 160x100cm for ABRASION test according to EN ISO 12947-1	code	314.12
24 discs Ø 140mm of standard woven precut felt for ABRASION test according to EN ISO 12947-1	code	314.8
25 pcs of Standard polyurethane foam SM28, 25x20cm for ABRASION test according to EN ISO 12947-1	code	314.32
20 discs Ø 90mm of standard woven felt for PILLING test according to EN ISO 12945, SN 198525, SFS 4328 (EMPA method)	code	314.20
24 discs Ø 140 mm of standard backing non-woven precut felt for ABRASION test according to BS 5690 e M&S standards	code	314.26
Set of abrasive paper for ABRASION test according to EN 388 (protective clothing)	code	2560.326
Bi-adhesive tape for ABRASION test according to EN 388 (protective clothing)	code	2560.328
Set of abrasive paper for ABRASION test according to EN ISO 5470-2 (coated fabric)	code	2560.330
Cork base for sample cutters	code	175B.46

REFERENCE STANDARDS

Abrasion: Built according to: EN ISO 12947-1, EN ISO 12947-2, EN ISO 12947-3, EN ISO 12947-4, EN ISO 12947-1, ASTM D4966, IWS TM 112, EN ISO 5470-2, JIS L1018
Pilling: Built according to EN ISO 12945-2, ASTM D4970, IWS TM 196, SN 198525.

Officially approved by Marks & Spencer for the following tests: Marks & Spencer P17 Pilling method P1, P18C, P19, P19A, P19B, P19C

COMPONENTS

- Each position includes: fixing ring for the abrasive surface, sample holder 38mm diam, and a set of 2 weights (9 and 12 kPa) for ABRASION and ASTM pilling tests
- Sample holders of Ø 38 mm for ABRASION and PILLING test
- Sample mounting device
- 1 roll of standard abrasive cloth SM25, 160x100cm for ABRASION test according to EN ISO 12947-1 **code 314.12**
- 24 discs Ø 140mm of standard backing felt for ABRASION test according to EN ISO 12947-1 **code 314.8**
- 25 pcs of standard polyurethane foam SM28, 25x20cm for ABRASION test according to EN ISO 12947-1 **code 314.32**

UPGRADING OPTIONALS ONLY FOR MARTINDALE 9 POSITIONS

Kit of nine Ø 90mm sample holders and weight for PILLING test according to EN ISO 12945, SN 198525, SFS 4328 (EMPA method)	code	2568.300
Calibration report for Martindale 9 positions	code	2568.CC1

COMMON OPTIONAL FOR MARTINDALE 6 & 9 POSITIONS - STANDARD PHOTOGRAPHS

Set of comparative photographs for PILLING test of woven fabrics according to EMPA method	code	314.18
Set of comparative photographs for PILLING test of knitted fabrics according to EMPA method	code	314.24
Set of comparative photographs SM50 for PILLING test of woven fabrics according to ASTM D4970 and IWS TM 196 method	code	314.14
Set of comparative photographs SM54 for PILLING test of knitted fabrics according to ASTM D4970 and IWS TM 196 method	code	314.16

COMMON OPTIONAL FOR MARTINDALE 6 & 9 POSITIONS - SAMPLE CUTTERS

Sample cutter to cut Ø 140mm discs for PILLING test according to ISO EN 12945	code	2560.320
Sample cutter to cut Ø 38mm discs for ABRASION & PILLING test	code	2560.322
Sample cutter of to cut Ø 90mm discs for PILLING test, if precut discs are not available	code	2560.324

COMMON OPTIONAL FOR MARTINDALE 6 & 9 POSITIONS - OTHER ACCESSORIES

Pointed steel pivot to check the Lissajous figure (Writing pivot)	code	2560.222
Ball plate	code	2568.260
1 position sock & hosiery kit for ABRASION test according to EN 13770	code	2568.804
Mounting device for socks suitable for code 2568.804	code	2568.806

DIMENSIONS / POWER SUPPLY

Weight: 100 Kg
Dimensions: (L) 900 x (W) 660 x (H) 340 mm.
Power supply: 220V/50Hz, single-phase (110V-60Hz)

Photograph and description of present leaflet have to be considered as purely indicative and not binding
Ref. En 2014-05