

Light chemo-mechanical rubbing and abrasion tests, according:

- ⊕ DIN EN 60068-2-70 / IEC 68-2-70
- ⊕ BMW GS 97034 / GS 97045
- ⊕ Daimler Chrysler DBL 7384
- ⊕ Ford WSS-M2P188-A1

And a wide range of other customer specifications.

Abrasion of coated and printed surfaces, by means of human hand contact, is an important cause for reduction of utility, appearance and value of products. ABREX[®] offers the possibility to simulate the complex visco-elastic methodology of hand abrasion, together with its chemical environment, also at finished products.



Advantages

- ⊕ **Reproducible results** using standardized test methods
- ⊕ **Pratice orientated testing** using chemo-mechanical abrasion
- ⊕ **Ubiquitous application** by the flexible equipment concept
- ⊕ **Testing on smooth, structured, as well as, shaped surfaces**

Examples



leather

Keypad & equipment buttons

Measurements

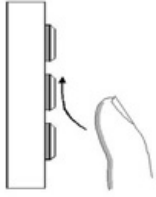
- Mechanical** ⊕ Simulation of natural abrasion by hand contact. Any type of surface or product
- Chemical** ⊕ Realistic chemical operating conditions by using standardized testing liquids such as artificial sweat, hand creams, cleaning products etc..
- Durability tests** ⊕ Up to 10.000.000 cycles.
- Functional tests** ⊕ Simultaneous during abrasion testing (switches, push buttons, key pads, touch screens, etc.).

Specifications

- ⊕ Test load : 1, 5, 10 N (optional, 6 /15 / 20N)
- ⊕ Test length : 4mm (optional till 40 mm)
- ⊕ Number of cycles : 1 to 10.000.000
- ⊕ Liquid / Paste feeding : Cyclic
- ⊕ Test fabric feed : Cyclic
- ⊕ Power supply : 230V/50Hz
- ⊕ Compressed air supply : Required. 4 Bar.
Free from oil and water.

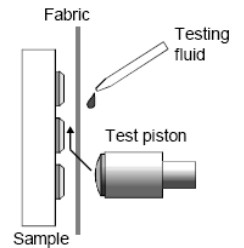


Operation



Automatic liquid feeding

The IEC 68-2-70 / DIN EN 60068-2-70 describes an international recognized standard for testing hand-contact abrasion behaviour of materials and products.



Hardware options



- ⊕ **Adjustable test length**, from 4 to 40 mm. Test speed at 4 mm. – 2Hz, at 40 mm. – 0,5 Hz
- ⊕ **Nail Scratch "Industry"**, simulation of scratch resistance by finger nails, e.g. prints and coatings.
- ⊕ **Nail Scratch "Automotive"**, simulation of crease damage by finger nails. Specified by BMW.
- ⊕ **Shoe sole test**, resistance against abrasion by shoe soles. Specified by BMW.
- ⊕ **Fingerprint test**, affinity to fingerprints and cleaning characteristics

Test materials



Standard woollen abrasive cloth, simulates abrasion by skin roughness and profile according DIN EN 60068-2-70 / IEC 68-2-70



Cotton 'batist' (DENIM), simulates abrasion by garments, e.g. Jeans according ISO 105 D01.



Cotton 'lawn', simulates abrasion by garment inner pockets, e.g. trouser pockets, according ISO 105 F09



Soiling cloth, simulates soiling of surfaces (contains fat and soot) according a.o. BMW GS 97034.



Abrasive padding S1000, simulates heavy mechanical abrasion



Padding for sponge scouring, simulates the mechanical abrasion by cleaning scourers



Wool felt H1, abrasion tests according various standards. Hardness

Artificial Sweat, according DIN 53160-2:2001, BMW GS 97045-2, DBL 73084, VW TL 226

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