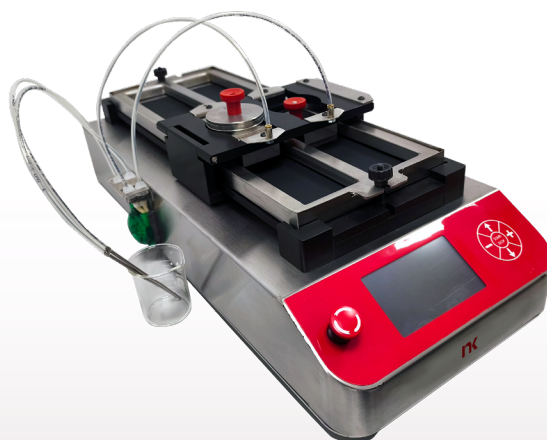


WASHABILITY / ABRASION

SCRUBTEK WASHABILITY AND ABRASION



Dry or wet abrasion testing to determine the resistance of paints or coatings.

NORMAS

ISO 11998 · EN 13300 · DIN 53778 · ASTM D2486 · ASTM D4213 · ASTM D4828 · ASTM D3450 / F1319 · ISO 105-X12
EN 13523-11 · RENAULT D431010 / GME 60269 · ECCA T11 / EN 60730-1

The Scrubtek NK-WT2300 is the washability and rubbing tester developed by NK to assess the resistance of paints, varnishes and coatings to scratching, wear, abrasion and colour loss caused by wet or dry rubbing. Its compact dualtrack design and stepper motor guarantee a linear reciprocating motion at a constant and precisely controlled speed, ensuring comparable and reproducible results.

The Scrubtek model covers a wide range of international standards (ASTM, ISO, DIN, EN) through the use of accessories specific to each standard, and its integrated metering pump allows the supply of the abrasive or cleaning agent to be automated during the test..

APPLICATION

- **Decorative and interior paints:** assessment of washability and scrub resistance in accordance with ISO 11998 and EN 13300.
- **Industrial and protective coatings:** testing of wet and dry abrasion resistance in accordance with ASTM D2486, D4213 and D4828.
- **Automotive:** scratch resistance tests in accordance with Renault D431010 and GME 60269 specifications.
- **Textile and carpet industry:** determination of rub fastness (ISO 105-X12).
- **Road signage and retroreflective materials:** wear resistance in accordance with EN 13523-11.
- **Coatings R&D:** development and validation of new formulations, colour bases and application systems.

GENERAL FEATURES

- Two independent test tracks allowing two samples or conditions to be compared simultaneously.
- Stepper motor for precise and constant control of travel speed (20–60 cycles/min).
- Programmable travel of up to 300 mm with a digital cycle counter.
- Integrated metering pump (0.0–3.0 ml/min) for automated delivery of abrasive agent or detergent.
- 480 × 272-pixel TFT display with a multilingual menu (Spanish and English) and 5 intuitive navigation keys.
- Compact design (600 × 285 × 190 mm) that minimises the space required in the laboratory.
- Compliant with ASTM, ISO, DIN and EN standards through specific interchangeable accessories.

WASHABILITY/ABRASION

WASHABILITY AND SCRUB RESISTANCE

TEST PRINCIPLE

The equipment moves a brush, sponge or scouring pad in a linear fashion across the coated surface along a programmable path of up to 300 mm, at a selectable speed between 20 and 60 cycles per minute. The test can be carried out in two ways:

- **Pass/Fail:** a specific number of cycles is programmed, and the test checks whether the coating meets the specification threshold without any noticeable damage.
- **Limit determination:** tests are carried out at regular intervals, increasing the number of passes until the first failure of the coating is detected, thereby determining its maximum resistance.

The integrated metering pump supplies the cleaning agent or abrasive continuously and in a controlled manner (0.0–3.0 ml/min), faithfully simulating everyday cleaning conditions or general use.

TECHNICAL SPECIFICATIONS

Parameter	Value
Dimensions of the equipment (L x W x H)	600 x 285 x 190 mm
Height with tubes	300 mm
Weight	14.5 kg
Number of tracks	2 independent tracks
Maximum panel width	165 mm (between the 2 tracks)
Maximum panel thickness	5 mm
Maximum panel length	430 mm
Maximum test length	300 mm
Travel speed	20 – 45 cycles/min (up to 60 depending on length)
Dosing pump flow rate	0.0 – 3.0 ml/min
Control	Electronic display with 5 navigation keys
Display	480 x 272-pixel TFT panel
Menu languages	Spanish, English
Power supply	220 V / 50 Hz
Operating voltage	24 VDC (power supply included)
Maximum power consumption	60 W

APPLICABLE STANDARDS

- **ISO 11998:** Paints and varnishes — Determination of wet washability and rub resistance of coatings.
- **EN 13300:** Paints and varnishes — Water-based paint products for interior walls and ceilings — Classification.
- **DIN 53778:** Test method for the rub resistance and washability of paints and coatings (natural bristle brush).
- **ASTM D2486:** Resistance to wet brushing of interior paints (nylon brush).
- **ASTM D4213:** Abrasion resistance of latex paints by sponge rubbing.
- **ASTM D4828:** Practical washability of interior paints.
- **ASTM D3450 / F1319:** Rubbing resistance of finished surfaces and signage materials.
- **ISO 105-X12:** Textiles — Colour fastness to rubbing.
- **EN 13523-11:** Rolled materials — Abrasion resistance.
- **Renault D431010 / GME 60269:** Automotive manufacturer's specifications for scratch resistance.
- **ECCA T11 / EN 60730-1:** Specific tests for coil coatings and household appliance materials.

WASHABILITY/ABRASION

WASHABILITY AND SCRUB RESISTANCE

MODELS

Equipment Washability

Reference	Description
NK-WT2300	SCRUBTEK Washability and Abrasion Testing Equipment – 2-lane with dosing pump

The supply includes: Base unit, tray, sample holder, brush mounting frames, dosing pump. Does not include the brushes required in accordance with the relevant regulations; please specify these when placing your order.

ACCESSORIES

Complete brushes

Reference	Description
NK-WT2300-1	Brush and scouring pad set in accordance with ISO 11998
NK-WT2300-2	Nylon brush with bristles made of assembly in accordance with ASTM D2486
NK-WT2300-3	Brush assembly with sponge in accordance with ASTM D4213 / D4828
NK-WT2300-4	Natural bristle brush assembly in accordance with DIN 53778
0226061	SC-2 aqueous dispersion (430 cc) for ASTM D2486, D4213 and D3450
0301002-100	Leneta plastic test tubes, 100 pcs, 165x432mm. P121-10N
0301003	Leneta plastic test tubes, 100 pcs, 165x432mm. P131-10N



Spare parts

Reference	Description
NK-WT2300-11	Pack of 5 replacement scouring pads in accordance with ISO 11998
NK-WT2300-11-50	Pack of 50 replacement scouring pads in accordance with ISO 11998
NK-WT2300-21	Replacement nylon bristle brush in accordance with ASTM D2486
NK-WT2300-31	Pack of 5 replacement sponges in accordance with ASTM D4213 / D4828
NK-WT2300-41	Boar bristle brush in accordance with DIN 53778
NK-WT2300-5	Pack of 4 transparent polyurethane tubes for dosing pump

