

elcometer®
inspection equipment



Elcometer 1720
Washability & Abrasion Testers

Elcometer 1720

Washability & Abrasion Testers

These robust, reliable and extremely versatile machines have been designed for testing the washability, brushability and resistance of a wide range of materials including paint, lacquers, inks, coatings, leather, wood, plastics, printed material, fabrics etc.

STANDARDS:

AS/NZS 1580.459.1, ASTM D 2486, ASTM D 3450, ASTM D 4213, ASTM D 4488, ASTM D 4828, ASTM F 1319, DIN 53778-2:1983, ECCA T11, EN 13523-11, EN 233/C3.2-A, EN 233/C3.2-B, EN 233/C3.2-C, EN 60730-1-A, GME 60269, ISO 105-X12, ISO 11998, JIS K 5600-5-11, PSA D45 1010, ASTM D1792 - 06, ASTM D2198 -02, ASTM D3206 - 08, ASTM D6279 - 03(2007), MIL-C-3004, MIL-C-46057, MIL-E-11237, MIL-STD-1334B, MIL-P-15422C, FTMS 141, Method 6141, FTMS 141, Method 6142, FTMS Method 536/6701, Federal Specification P-D-220D, P-R-1760, P-W-155C, TT-P-26C(1), TT-P-29K, TT-P-30E(1), TT-P-47G, TT-E-505B, TT-E-506K(1), TT-E-509C, TT-C-535B(2), TT-C-555B(1)

Test up to 4 samples simultaneously

User adjustable stroke length from 10 to 300mm (0.4 to 11.8")

Rapid tool change

Multi-lingual digital display

All stations can be tested wet or dry

Available with or without an integrated liquid dosing pump

The durable and robust design is stable under test allowing repeatable results, even at the fastest stroke speeds

Speed Cycles can be adjusted from 10 to 65 cycles per minute or set to the ISO Standard of 37 cycles/min



Wide range of tools available, for testing flat and curved samples (see page 5)

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Meeting Standards

- With the wide range of tools available many Standards can be tested in one unit
- All units can be used in accordance with ASTM, DIN, EN and ISO Standards
- Easily adjustable to customers unique applications using the special tools
- Washability and abrasion testing on flat and curved samples up to 13mm (0.51") thick



Interchangeable Tools

- All tools are interchangeable with the rapid tool change system, making the unit ideal for use in accordance with a wide range of Standards

For the complete range of tools, see page 19-5



User Adjustable

- Stroke length can be quickly and easily changed by the user to meet their specific requirements between 10 - 300mm (0.4 - 11.8")
- Speed of carriage can be adjusted between 10 and 65 cycles per minute
- Cycle counter can be pre-set for a defined number of cycles from 1 - 32,760



Wet and Dry

- All stations can be tested wet or dry
- Versions are available with or without an internal liquid pump
- Samples can be tested under wet or dry conditions



Economic

- With the ability to test up to 4 different characteristics simultaneously, significant time can be saved
- With its rapid tool change system setting up tests is fast and easy
- Easy sample placement allows quick change between tests

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Available in 2 versions:
 2 station - undertakes two tests at a time.
 4 station - tests up to four samples with 4 different tests.



Stroke speed can be varied between 10 and 65 cycles/min or set to 37 cycles/min to meet ISO Standards.



Stroke length can be adjusted by the user to meet specific requirements, from 10 to 300mm (0.4 to 11.8").



Available with or without liquid dosers, allowing test liquids to be regulated automatically or independently.



Digital display allows easy, accurate speed variation and simple reporting.



The rapid tool change system allows the user to test the samples in accordance with a wide range of National and International Standards on both flat and curved samples simultaneously.

Technical Specification

C

| Part Number | Description | Certificate |
|--------------|--|-------------|
| K1720M202 | Elcometer 1720 Abrasion Tester, 2 Station (110 - 240V) | ○ |
| K1720M204 | Elcometer 1720 Abrasion Tester, 4 Station (110 - 240V) | ○ |
| K1720M302 | Elcometer 1720 Abrasion & Washability Tester, 2 Station (110 - 240V) | ○ |
| K1720M304 | Elcometer 1720 Abrasion & Washability Tester, 4 Station (110 - 240V) | ○ |
| Dimensions | 550 x 460 x 320mm (21.7 x 18.1 x 12.6") | |
| Weight | 2 Station: 31.5kg (70lb), 4 Station: 33kg (73lb) | |
| Packing List | Elcometer 1720, 250µm (10mil) metal strip for ASTM D2486 Standard, sample drip tray, 1 x glass sheet (2 station), 2 x glass sheet (4 station), 1 x specimen holding frame (2 station), 2 x specimen holding frame (4 station), set of 3 tools for instrument set up, 3 x mains leads (UK, EUR and US) and operating instructions. Elcometer 1720 part numbers K1720M302 and K1720M304 also include a liquid dosing bottle, liquid delivery pipe and 2 liquid drain pipes. Tools are supplied separately, please order from the list on page 6. | |



Scrub Test Panels are also available - see page 7 for more information

○ Optional Calibration Certificate available.

Washability & Abrasion Testers

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The Elcometer 1720 can undertake tests according to a wide range of different Standards and Test Methods by simply changing the abrasive tools. For more information on Standards, please see section 23. Please select the required tools from the list on the following two pages. Samples can be tested in a combination of both wet and dry methods.



Tool 1: Wild Boar Brush

Wild boar hair brush and stainless steel brush holder.
Total weight: 250g (8.82oz)

Part Number: [KT001720P003](#)

STANDARDS:

[DIN 53778-2:1983](#)



Tool 2: Nylon Brush

Nylon bristle brush, stainless steel brush holder and 177g (6.2oz) mass.
Total weight: 454g (16.01oz)

Part Number: [KT001720P030](#)

STANDARDS:

[ASTM D2486](#)



Tool 3: Sponge

Sponge and stainless steel brush holder, 337g (11.9oz).
Total weight: 508g (17.92oz)

Part Number: [KT001720P005](#)

STANDARDS:

[ASTM D4213:92](#), [ASTM D4828](#)



Tool 4: Sponge

Sponge and stainless steel brush holder, 337g (11.9oz) and 250g (8.8oz) mass to bring gross weight to 750g.
Total weight: 750g (26.45oz)

Part Number: [KT001720P073](#)

STANDARDS:

[ASTM D3450](#)



Tool 5: Sponge / Abrasive

Sponge & stainless steel holder abrasive pads - top and bottom & 76g (2.7oz) mass.
Total Weight: 232g (8.12oz)

Part Number: [KT001720P029](#)

STANDARDS:

[ASTM D4213](#)



Tool 6: Abrasive

Aluminium holder, abrasive pads (x5).
Total weight: 135g (4.76oz)

Part Number: [KT001720P036](#)

STANDARDS:

[ISO 11998](#)



Tool 7: Universal Material Clamp

Stainless steel holder allowing users to fix their own test sample or abrasive material. Ideal for abrasion and wear of labels, textiles, ink etc.

Part Number: [KT001720P207](#)



Tool 8: Linear Abrader "Crockmeter"

This tool is ideal for testing abrasion on both curved and flat surfaces and for testing colour fastness of fabrics. Supplied with a removable stainless steel rod, test felt, textile fixing ring and a set of additional masses - 2x100g (3.5oz), 1x200g (7oz), 1x500g (17.6oz). Total weight (excluding masses): 200g (7oz)

Part Number: [KT001720P074](#)

STANDARDS:

[ASTM F1319](#), [ISO 105-X12](#), [PSA D45 1010](#)

Elcometer 1720

Washability & Abrasion Testers



Tool 9: Linear Abrader

For testing the resistance to abrasion of automotive components, includes a felt disc of 10mm (0.4") diameter and 10mm (0.4") thick working under a mass of 400g (14.1oz).
Total weight: 400g (14.11oz)

Part Number: **KT001720P075**

STANDARDS:
GME 60269



Tool 9B: Linear Abrader

Felt holder for 16mm (0.63") diameter felt wool disc working under a mass of 900g (31.7oz)
Total weight: 900g (31.74oz)

Part Number: **KT001720P075-2**

STANDARDS:
EN 13523-11, ECCA T11



Tool 9A: Linear Abrader

As Tool 9 but with 16mm (0.63") diameter felt wool disc.
Total weight: 820g (28.9oz)

Part Number: **KT001720P075-1**



Tool 10: Curved Sample Tool

Height adjustable with an elbow joint for curved samples, this tool is ideal for testing abrasion resistance of both coatings and inks. Supplied with felt disc, rod for masses, 1x50g (1.75oz), 1x100g (3.5oz), 2x200g (7oz) and 2x500g (17.5oz) mass

Part Number: **KT001720N003**

STANDARDS:
EN 60730-1-A

Accessories

| Part Number | Description |
|--------------|---|
| KT001720P004 | Wild Boar Brush for Tool 1 |
| KT001720P009 | Nylon Brush for Tool 2 |
| KT001720P006 | Sponge (5) for Tools 3 & 4 |
| KT001720P141 | Sponge/Abrasive (5) for Tool 5 |
| KT001720P037 | Abrasive Pads (10) for Tool 6 |
| KT001720P064 | Abrasive Pads (100) for Tool 6 |
| KT001720P051 | Abrasive G 120 Sheets (4) for Tools 1 & 2 |
| KT001720P008 | 25m Abrasive Roll for Tool 7 |
| KT001720P062 | Felt Disks (2) for Tool 10 |
| KT001720N009 | Non-Abrasive Scrub Medium - SC1 |
| KT001720N002 | Abrasive Scrub Medium - SC2 |
| KT001720P016 | 50g Mass (To fit tools 1 - 8, 10) |
| KT001720P017 | 100g Mass (To fit tools 1 - 8, 10) |
| KT001720P018 | 200g Mass (To fit tools 1 - 8, 10) |
| KT001720P031 | 227g Mass (To fit tools 1 - 8, 10) |
| KT001720P019 | 500g Mass (To fit tools 1 - 8, 10) |
| KT001720P214 | Glass Plate, 478 x 165mm |
| KT001720P012 | ASTM Test Foil 250µm (10mils) |
| KT001720P013 | 10m Replacement Channel Gasket |
| K0004695M068 | Scrub Test Panels - see page 7 |

Scrub Test Panels

Elcometer 4695

In a typical scrub test, the coating is applied to the Leneta Scrub Test Panel at a specified film thickness, allowed to dry and then subjected to scrubbing with a straight-line scrub tester.

When used in accordance with ASTM D2486, Method A, a 10mil shim is inserted under the panel to accelerate failure and thereby reduce testing time. The scrub resistance is the number of scrub cycles required to remove the coating to a specified end point.

Alternatively, the loss in weight is determined after a specified number of scrub resistance cycles, with calculation of equivalent loss in film thickness.

These Scrub Test Panels are ideal for use with the Elcometer 1720 Washability & Abrasion Testers, see page 2.



Form P121-10N



Fig 1. Typical failure using shim per ASTM D2486 Method A



Fig 2. Typical failure without

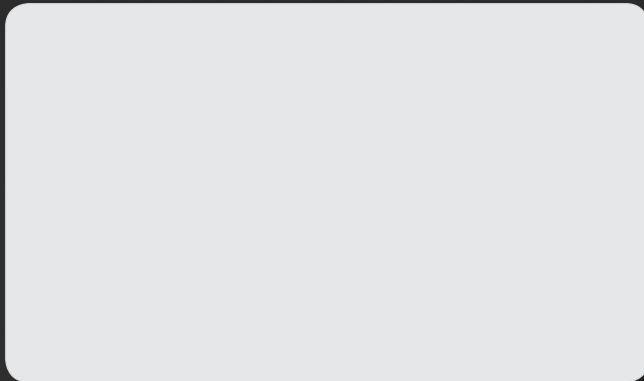
STANDARDS:
ISO 11998

Technical Specification

| Part Number | | Description | Chart Dimensions | | Quantity per Box | Boxes per Case |
|--------------|--------------|---------------------------------|------------------|---------|------------------|----------------|
| Box | Case | | mm | inches | | |
| K0004695M068 | K0004695M268 | Black Scrub Test Panel P121-10N | 165 x 432 | 6½ x 17 | 100 | 5 |
| K0004695M069 | K0004695M269 | White Scrub Test Panel P122-10N | 165 x 432 | 6½ x 17 | 100 | 5 |

Accessories

| | |
|--------------|-------------------------------|
| KT001720P012 | ASTM Test Foil 250µm (10mils) |
|--------------|-------------------------------|



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