

Elcometer 1720 Abrasion Testers & Washability Testers



Elcometer 1720 Abrasion & Washability Tester

At a glance:

Robust and reliable instruments

Wide range of interchangeability tools with quick and easy tool change

Available with or without integrated liquid dosing pump

2 and 4 station models available

Variable and fixed speed modes†

† Not available on Elcometer 1720 Abrasion only models.

Can be used in accordance with:	
ASTM D2486	ECCA T11
ASTM D4213-92	EN 233
ASTM D4213-96	EN 13523-11
ASTM D4213-98	EN 60730
ASTM D3450	GME 60269
ASTM D4828	ISO 105X12
ASTM F1319	ISO 11998
DIN 53778	Renault/PSA D45 1010

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

- **Robust and durable design:**
Made from anodised aluminium instruments are steady under test allowing repeatable results, even at the fastest stroke speed
- **Wide range of tools:**
With a wide range of interchangeable tools available, the user is able to test both flat and curved samples
- **Available with 2 or 4 stations:**
Test up to 4 samples simultaneously. Two stations models can also be easily upgrade to 4 station models by simply purchasing an Upgrade Kit.
- **Speed Cycles:**
Speed cycles can be adjusted from 10 to 65 cycles per minute or set to the ISO Standard of 37 cycles/min
- **Adjustable stroke length:**
Stroke length can be easily adjusted using the tools supplied from 10 to 300mm (0.4 to 11.8")
- **Multi-lingual digital display:**
Available in 19 languages, the multi-lingual digital display allows easy, accurate speed variation and simple reporting

Washability, Brushability and Abrasion Testers

Improved mechanical resistance is part of today's quality requirements. One important criteria for assessing this feature is abrasion resistance. Depending on the nature and purpose of the product, various testing methods are available.

There are testing methods are related to the "abrasion by friction" concept. Others are based on the projection of abrasive particles on to the test specimen. These techniques provide valuable information about materials and processes.

To meet industry's growing needs for research and control, Elcometer develops, manufactures and supplies a range of instruments designed for wear resistance tests. Standardised or conventional, these tests are widely used for numerous applications.

- Meeting Standards
 - With the wide range of tools, a number of Standards can be tested in one unit
 - Adjustable to ASTM, DIN, EN and ISO Standards
 - Easily adjustable to customers' unique applications using the special tools
- Wet and Dry
 - All stations can be tested wet or dry
 - Versions are available with or without an internal pump
 - Samples can be tested under wet and / or dry conditions simultaneously
- User Adjustable
 - Stroke length can be quickly and easily changed by the user to meet their specific requirements between 10 – 300mm (0.4 to 11.8")
 - Carriage speed can be adjusted between 10 and 65 cycles per minute
 - All models available with 2 or 4 stations
- Interchangeable Tools
 - Wide range of interchangeable tools making the Elcometer 1720 ideal for use in accordance with a wide range of Standards
 - Tools available to test both flat and curved samples
 - Quick and easy tool change

TECHNICAL SPECIFICATION	
Stroke Length	10mm to 300mm (0.4" to 11.8")
Carriage Speed	10 cyc./min to 65 cyc./min
Maximum Number of Cycles	32760
Operating Voltage	UK: 230 V AC; 0.3 A; 50 Hz, EUR: 230 V AC; 0.3 A; 50 Hz, US: 120 V AC; 0.6 A; 60 Hz
Power Consumption	70W
Number of Phases	1
Fuse Rating (machine)	1 x T2AH250V
Dimensions	550mm x 460mm x 320mm (21.7" x 18.1" x 12.6")
Weight	2 Station: 31.5kg (70lb) 4 Station: 33kg (73lb)
Operating Temperature (ambient air)	+5°C to +40°C (41°F to 104°F)
Part Numbers	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)
Packing List	K1720M202: Elcometer 1720 Abrasion Tester, 250µm (10mil) metal strip for ASTM D2486 Standard, Sample Drip Tray, Glass Sheet, Specimen Holding Frame, Set of 3 Tools for instrument set up, Mains Leads (UK, EUR and US) and Operating Instructions
	K1720M204: Elcometer 1720 Abrasion Tester, 250µm (10mil) metal strip for ASTM D2486 Standard, Sample Drip Tray, Glass Sheet (x2), Specimen Holding Frame (x2), Set of 3 Tools for instrument set up, Mains Leads (UK, EUR and US) and Operating Instructions
	K1720M302: Elcometer 1720 Abrasion Tester, 250µm (10mil) metal strip for ASTM D2486 Standard, Sample Drip Tray, Glass Sheet, Specimen Holding Frame, Liquid Dosing Bottle, Liquid Delivery Pipe, Liquid Drain Pipe (x2), Set of 3 Tools for instrument set up, Mains Leads (UK, EUR and US) and Operating Instructions
	K1720M304: Elcometer 1720 Abrasion Tester, 250µm (10mil) metal strip for ASTM D2486 Standard, Sample Drip Tray, Glass Sheet (x2), Specimen Holding Frame (x2), Liquid Dosing Bottle, Liquid Delivery Pipe, Liquid Drain Pipe (x2), Set of 3 Tools for instrument set up, Mains Leads (UK, EUR and US) and Operating Instructions
Tools are not supplied as standard with the Elcometer 1720 and must be ordered separately. Please select the tools required from the following pages.	

Elcometer 1720 Tools



The Elcometer 1720 can undertake tests according to a wide range of different Standards and test methods simply by changing the abrasive tools.

Tools are not supplied as standard with the new Elcometer 1720 and must be ordered separately.

Samples can be tested using a combination of both wet and dry methods.

ELCOMETER 1720 TOOLS		
Tool	Description	Part Number
	Tool 1. Wild Boar Brush (250g/8.82oz) Can be used in accordance with: DIN 53778 Wild boar hair brush and stainless steel brush holder	KT001720P003
	Tool 2. Nylon Brush (454g/16.01z) Can be used in accordance with: ASTM D2486 Nylon bristle brush with stainless steel brush holder and 177g (6.2oz) mass to bring gross weight to 454g (16.01oz)	KT001720P030
	Tool 3. Sponge (508g/17.92oz) Can be used in accordance with: ASTM D4213-92, ASTM D4828 Sponge with stainless steel holder and 337g (11.9oz) mass to bring gross weight to 508g (17.92oz)	KT001720P005
	Tool 4. Sponge (750g/26.45oz) Can be used in accordance with: ASTM D3450 Sponge with stainless steel holder, 250g (8.8oz) and 337g (11.9oz) mass to bring gross weight to 750g (26.45oz)	KT001720P073
	Tool 5. Sponge/Abrasive (232g/8.12oz) Can be used in accordance with: ASTM D4213-96 Sponge with two integrated abrasive pads (top and bottom), stainless steel holder and 76g (2.7oz) mass to bring gross weight to 232g (8.12oz)	KT001720P029
	Tool 6. Abrasive (135g/4.76oz) Can be used in accordance with: ISO 11998 Abrasive pads (x5) with aluminium holder	KT001720P036
	Tool 7. Universal Material Clamp Stainless steel holder which allows the user to fix their own test sample or abrasive material. Ideal for abrasion and wear of labels, textiles, ink, etc	KT001720P207

	<p>Tool 8. Linear Abrader "Crockmeter" (200g/7.05oz) Can be used in accordance with: ASTM F1319, ISO 105X12, Renault D45 1010 Originally designed for testing colour fastness of fabrics, this tool is ideal for testing abrasion on both curved and flat surfaces and is supplied with a removable stainless steel cylindrical rod (200g / 7oz), test felt, textile fixing ring and a set of additional masses – 2 x 100g (3.5oz), 200g (7oz) and 500g (17.6oz)</p>	KT001720P074
	<p>Tool 9. Linear Abrader (400g/14.1oz) Can be used in accordance with: GME 60269 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)</p>	KT001720P075
	<p>Tool 9A. Linear Abrader (820g/28.9oz) Can be used in accordance with: ECCA T11 As Tool 9 but with a 16mm (0.63") diameter felt wool disc working under a mass of 820g (28.9oz)</p>	KT001720P075-1
	<p>Tool 9B. Linear Abrader (900g/31.7oz) Can be used in accordance with: EN 13523-11 Felt holder for 16mm (0.63") diameter felt wool disc working under a mass of 900g (31.7oz)</p>	KT001720P075-2
	<p>Tool 10. Curved Sample Tool Can be used in accordance with: EN 60730-1 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, 50g (1.75oz), 100g (3.5oz), 2 x 200g (7oz) and 2 x 500g (17.5oz) mass</p>	KT001720N003

Accessories for Tools

Part Number	Description
KT001720P004	Wild Boar Brush for Tool 1
KT001720P009	Nylon Brush for Tool 2
KT001720P051	Abrasive Sheets for cleaning / reconditioning wild boar and nylon brushes, Pack of 4
KT001720P006	Sponges for Tools 3 and 4, Pack of 5
KT001720P141	Sponge/Abrasive for Tool 5, Pack of 5
KT001720P037	Abrasive Pads for Tool 6, Pack of 10
KT001720P064	Abrasive Pads for Tool 6, Pack of 100
KT001720P008	25m Abrasive Roll for Tool 7
KT001720P062	Felt Discs for Tool 10, Pack of 2
KT001720P016	50g (1.75oz) Mass for Tools 1 to 8 & 10
KT001720P017	100g (3.5oz) Mass for Tools 1 to 8 & 10
KT001720P018	200g (7oz) Mass for Tools 1 to 8 & 10
KT001720P031	227g (8oz) Mass for Tools 1 to 8 & 10
KT001720P019	500g (17.5oz) Mass for Tools 1 to 8 & 10

Spares / Accessories

Part Number	Description
K0004695M068	Leneta Plastic Scrub Test Panels, Black, Box of 100
K0004695M069	Leneta Plastic Scrub Test Panels, White, Box of 100
KT001720N002	Abrasive Scrub Media
KT001720P012	250µm (10mil) Metal Strip for ASTM D2486 Standard
KT001720P214	Glass Plate, 478 x 165mm
KT001720P042	Channel Clamp
KT001720P038	Peristaltic Pump Tube
KT001720P039	Hexagonal Wrench (for instrument set up)
KT001720P040	T-Bar (for instrument set up)
KT001720P041	Screwdriver (for instruments set up)
KT001720N011	2-4 Station Upgrade Kit for Elcometer 1720 Abrasion Tester (Model M202)
KT001720N111	2-4 Station Upgrade Kit for Elcometer 1720 Abrasion & Washability Tester (Model M302)

Related Products



Elcometer 1720 Spongeability & Washability Tester:

This version of the Elcometer 1720 is adapted for testing the spongeability and washability of paper wall coverings in accordance with EN 233 & EN 12956 Standards.

The test consists of scrubbing the sample with a tool under defined conditions. Three specific tools are available for use with the Elcometer 1720 Spongeability and Washability Tester to work in accordance with the different Standards.



Typical Failure without Shim

Elcometer 4695 Scrub Test Panels: In a typical scrub test, the coating is applied to the Leneta Scrub Test Panel at a specified film thickness, allowed to dry, then subjected to scrubbing with a straight-line scrub tester.



Typical Failure using Shim per ASTM D2486, Method A.

In ASTM D2486, 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 cycles as a measure of scrub resistance, with calculation of equivalent loss in film thickness.

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