

User Guide

Elcometer 3570

Micrometric Film Applicator

Elcometer 3580

Casting Knife Film Applicator

CONTENTS

- 1 Overview
- 2 Box Contents
- 3 Test Procedure
- 4 Care & Maintenance
- 5 Spares & Accessories
- 6 Warranty Statement
- 7 Technical Specification

For the avoidance of doubt, please refer to the original English language version.

Elcometer Film Applicators are packed in a cardboard package. Please ensure that this packaging is disposed of in an environmentally sensitive manner. Consult your local Environmental Authority for further guidance.

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1 OVERVIEW

The Elcometer 3570 & 3580 are simple but effective instruments for applying a uniform and reproducible film of coating to a substrate.

1.1 ELCOMETER 3570 MICROMETRIC FILM APPLICATOR

The Elcometer 3570 is made of anodised aluminium with a reservoir and a bevelled blade applicator body. It is suitable for high-precision manual application of high viscosity fluids^a onto relatively firm substrates.



Available in a range of film widths, the gap can be adjusted, in 1µm intervals, from 0 to 1mm by the inclination of the device, using a micrometric screw.

1.2 ELCOMETER 3580 CASTING KNIFE FILM APPLICATOR

Manufactured in anodised aluminium with a bevelled blade applicator body, the Elcometer 3580 is suitable for manually applying thick layers of various products on solid and flat surfaces.



Available in a wide range of film widths, it has extended sides to confine the coating during the application. The film thickness can be adjusted in 10µm steps from 0 to 6mm by means of two integrated micrometric screws.

2 BOX CONTENTS

- Elcometer Film Applicator
- Storage Case
- Hexagonal Wrench; 4mm (Elcometer 3570 only)
- Calibration Certificate (if ordered)
- User Guide

^a Recommended for the application of fluids with a viscosity greater than 2000 cP.

3 TEST PROCEDURE

3.1 SETTING THE BLADE GAP

Using the Elcometer 3570:

- 1 Place the applicator on a flat and horizontal base such as glass or a vacuum table^b.
- 2 Adjust the micrometer to 0 (Figure 1).
- 3 Using a 4mm hexagonal wrench (supplied), turn the two hexagonal screws anticlockwise to loosen, press the blade firmly against the flat surface and then tighten the two screws - turning clockwise (Figure 2).
- 4 Adjust the micrometer to the desired gap.

- ▶ Due to the design of the Elcometer 3570, the gap must be multiplied by 10 and this value must then be set on the micrometer. For instance:

To obtain a gap of 50µm (2mils), set the micrometer to 0.5mm.

To obtain a gap of 250µm (10mils), set the micrometer to 2.5mm.

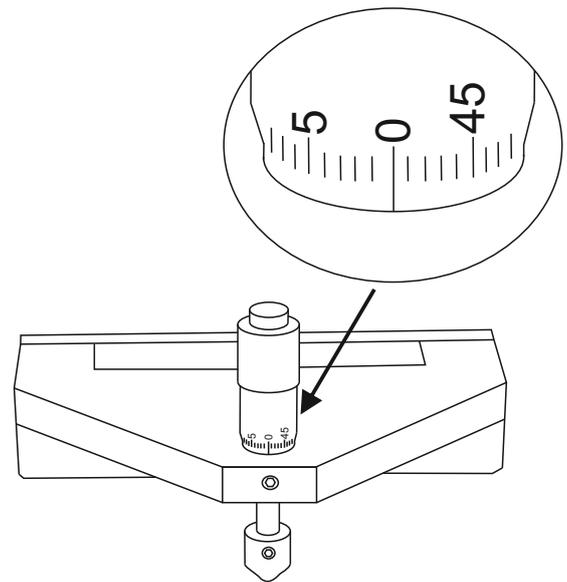


Figure 1

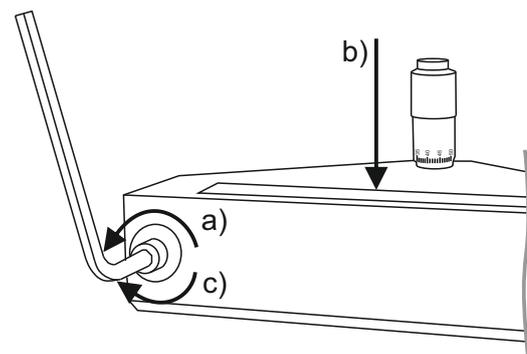


Figure 2

Using the Elcometer 3580:

- 1 Place the applicator on a flat surface.
- 2 Adjust the micrometers to the desired blade gap (Figure 3).
 - ▶ Both micrometers should be set to the same value.

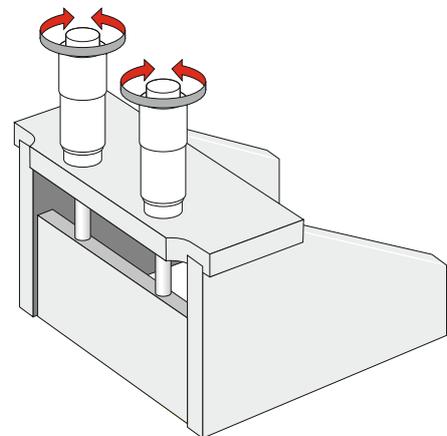


Figure 3

^b Available to purchase as an optional accessory, see Section 5 ' Spares & Accessories' on page en-6.

3 TEST PROCEDURE (continued)

3.2 APPLICATION PROCEDURE

- 1 Before each use, check the working surfaces for irregularities and damage.
- 2 Fix a clean substrate on a flat and horizontal base such as a vacuum table^b.
- 3 Place the applicator at one end of the substrate.
 - ▶ The applicator should be positioned facing the direction of travel (Figure 4).
- 4 *Elcometer 3570*: Pour the product to be applied into the centre of the reservoir.
Elcometer 3580: Pour the product to be applied onto the substrate between the sides of the applicator.
- 5 Spread the film by moving the applicator towards the opposite end of the substrate at a constant speed.
- 6 Lift the applicator from the substrate taking care to catch any product dripping from the applicator before it lands on the newly prepared film.

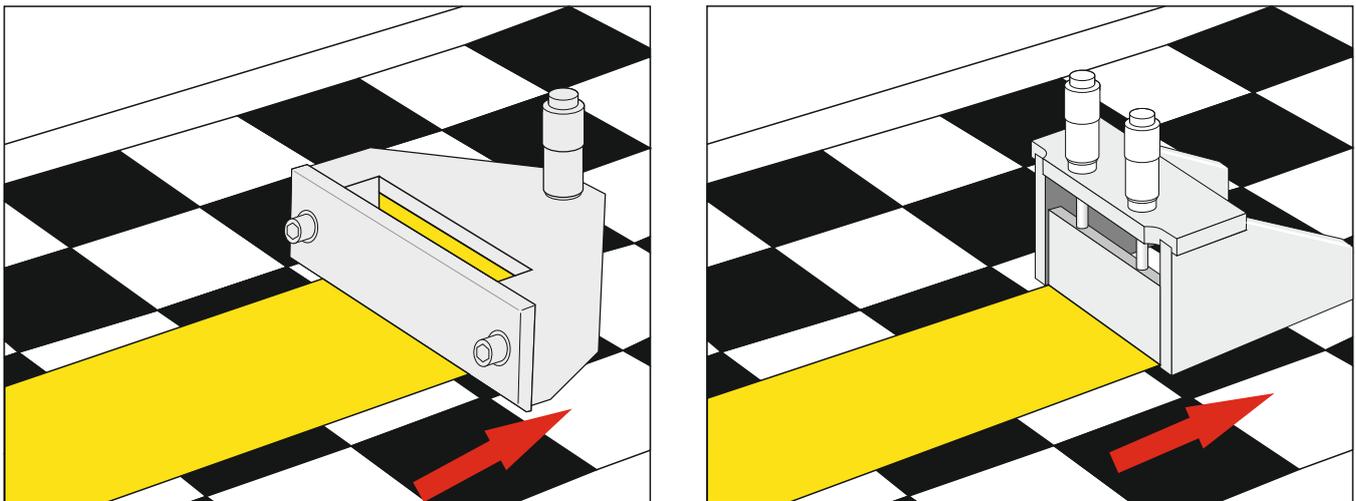


Figure 4

3.3 WET FILM THICKNESS

The thickness of the film produced by the applicator depends on many factors including:

- the speed of film application;
- the applicator blade gap setting;
- the surface tension;
- this viscosity of the product.

^b Available to purchase as an optional accessory, see Section 5 'Spares & Accessories' on page en-6.

3 TEST PROCEDURE (continued)

3.4 AFTER TEST

Clean the film applicator using a suitable solvent.



DO NOT use very aggressive solvents, wire brushes, metal scrapers, metal files or other metallic tools for cleaning.

After cleaning, ensure that all materials are removed and that the applicator is dry.

Use the case provided to store the applicator when not in use.

4 CARE & MAINTENANCE

Elcometer Film Applicators are designed to give many years reliable service under normal operating conditions.

Regularly inspect the applicator for damage to the working surfaces as this will affect the film thickness and the applicator may have to be replaced.

Regular calibration checks over the life of the film applicator are a requirement of quality management procedures e.g. ISO 9000 and other standards.

5 SPARES & ACCESSORIES

5.1 ELCOMETER 4900 FREE STANDING PERFORATED VACUUM TABLES

Elcometer 4900 tables provide an ideal surface for manual application of films on test charts or samples.

Made of perforated aluminium, the Elcometer 4900 keeps a wide range of test pieces absolutely flat (2.3µm variation over a 100mm length), including glass, plastic sheets, contrast charts etc. ideal for thicker, more substantial test pieces.



5 SPARES & ACCESSORIES (continued)

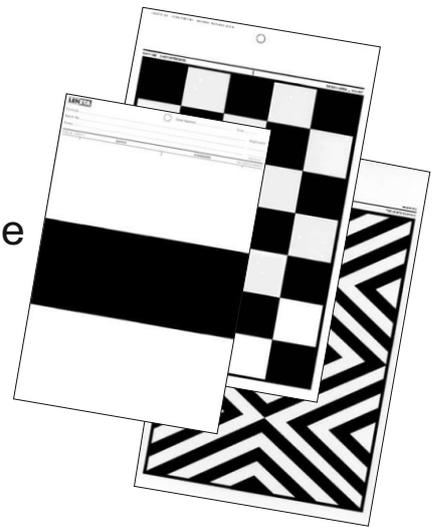
Engineered to be flat and precise with little variation for “perfect” flatness, they are 5 times flatter than glass.

Part Number	Paper Size	Table Dimensions
K0004900M001	A4	220 x 330mm (8.5 x 12")
K0004900M002	A3	300 x 450mm (12 x 18")

5.2 LENETA TEST CHARTS

Elcometer offers a wide range of Leneta Test Charts which feature a combination of black and white markings. These are the two extremes of colour thereby indicating the thickness of coating required to cover the whole colour spectrum.

Our range of Leneta Test Charts covers a variety of testing needs including the hiding power of coatings, ink qualities, penetration, spreading rates and opacity.



For further details on the test charts available contact Elcometer or your local Elcometer supplier or visit our website, www.elcometer.com.

6 WARRANTY STATEMENT

The Elcometer 3570 and Elcometer 3580 are supplied with a one year warranty against manufacturing defects, excluding contamination and wear.

7 TECHNICAL SPECIFICATION

7.1 ELCOMETER 3570			
Part Number[‡]	Film Thickness	Film Width	
		mm	inches
K0003570M001	0 - 1000µm	75	3
K0003570M002		100	4
K0003570M003		150	6
K0003570M004		200	8
Total Width	Add 36mm (1.4") to the Film Width		
Accuracy	±0.01mm		
Can be used in accordance with: ASTM D 823-E			

7.2 ELCOMETER 3580			
Part Number[‡]	Film Thickness	Film Width	
		mm	inches
K0003580M201	0 - 6000µm	50	2
K0003580M202		75	3
K0003580M203		100	4
K0003580M204		125	5
K0003580M005		150	6
K0003580M006		175	7
K0003580M007		200	8
Total Width		Add 15mm (0.6") to the Film Width	
Accuracy	±0.01mm		
Can be used in accordance with: ASTM D 823-E			

[‡] Add 'C' to the end of the sales part number for applicator supplied complete with Calibration Certificate. Calibration Certificates must be requested at time of order, they can not be supplied retrospectively.

