

**Elcometer**  
**3505 • 3600 • 3700**  
**3800 • 3805**

**Film Applicators**

**Operating Instructions**

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Thank you for your purchase of this Elcometer Film Applicator. Welcome to Elcometer.

Elcometer are world leaders in the design, manufacture and supply of inspection equipment for coatings and concrete. Our products cover all aspects of coating inspection, from development through application to post application inspection.

This Elcometer Film Applicator is a world beating product. With the purchase of this product you now have access to the worldwide service and support network of Elcometer. For more information visit our website at [www.elcometer.com](http://www.elcometer.com)

## **1 ABOUT THIS INSTRUMENT**

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The Elcometer Film Applicator is a simple but effective instrument for applying a uniform and reproducible film of product to a flat and relatively firm substrate.

The applicator is set to the required gap and then placed on the substrate<sup>a</sup>. Product is poured onto the substrate either in front of the blade, or into the reservoir of models which have this feature. The applicator is then pushed across the substrate<sup>a</sup> by hand or by a motorised film applicator to produce the film.

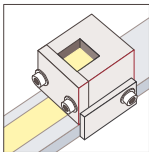
### **1.1 STANDARDS**

Depending upon model, Elcometer film applicators can be used in accordance with the following National and International Standards: ASTM D 823, FTMS 141aM4121, FTMS 141a4122.1, FTMS 141a2161, FTMS 141a2162, FTMS 141a6226, FTMS 141a4121 and FTMS 141M6226.

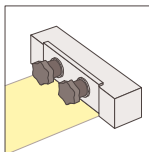
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- a. Elcometer 3800/3805 models are loaded with a contrast sheet. The contrast sheet is pulled out of the applicator by hand to produce 2 or 3 strips of product on the sheet.

## 1.2 THESE INSTRUCTIONS

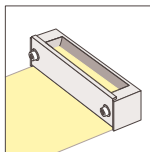
These instructions describe the use of the following Doctor Blade Film Applicators:



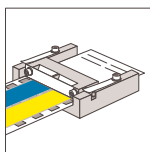
**Elcometer 3505**  
Cube applicator  
1 or 5 strip



**Elcometer 3600**  
Film applicator



**Elcometer 3700**  
Film applicator  
with reservoir



**Elcometer 3800/3805**  
Film applicator  
2 or 3 strip

## 1.3 WHAT THE BOX CONTAINS

Elcometer Film Applicator

Set of thickness gauges <sup>b</sup>

Coated contrast sheets x 100 (3800/3805 only)

Operating instructions

Hexagonal wrench (not included with 3600)

Storage case


Your Elcometer Film Applicator is packed in a cardboard and foam 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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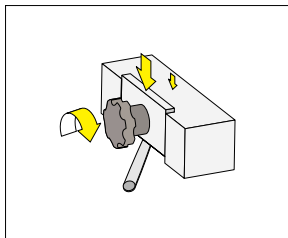
b. Elcometer 3505/2, 3600/4, 3600/5, 3600/6, 3700/1 and 3700/2 are all supplies with two sets of thickness gauges

## 2 SETTING THE BLADE GAP

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 Take care while you are handling and using your Elcometer Film Applicator. Damage to the working surfaces will affect the film thickness and the instrument may have to be replaced.

1. 3600: Rotate the two blade retaining knobs to loosen the blade.  
3505/3700/3800/3805: Use the hexagonal wrench to loosen the two blade retaining screws.
2. 3505/3600/3700: Place the applicator on a flat and clean reference surface such as a glass plate.
3. For 3505/1, 3600/1, 3600/2, 3600/3, 3700/3, 3800/1 and 3805/1 detach the appropriate thickness gauge from the set and slide it under the centre of the blade; ensure that the gauge is under the blade only and not the body of the applicator as well.  
For 3505/2, 3600/4, 3600/5, 3600/6, 3700/1 3700/2 detach the appropriate thickness gauge from each of the two sets and slide the gauges under the blade at each side; ensure that the gauge is under the blade only and not the body of the applicator as well.
4. Press down firmly on the blade and the body of the applicator ensuring that the blade is flat against the thickness gauge.

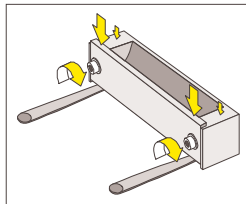


5. 3600: Keeping downward pressure on the blade and applicator, rotate the two knobs to tighten the blade.

3505/3700/3800/3805: Keeping downward pressure on the blade and applicator, tighten the two blade retaining screws.

6. Use the thickness gauges to confirm that the blade is set to the correct gap. Adjust if necessary.

The applicator is now ready for use.



### 3 APPLICATION PROCEDURE

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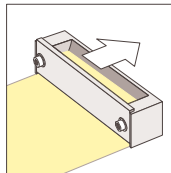
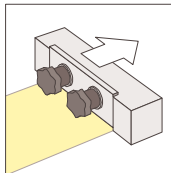
Before each use, check the working surfaces for irregularities and damage.

#### 3505/3600/3700

1. Fix a clean substrate on a flat and horizontal base such as a vacuum table.
2. 3505 only: If applying a film to a glass substrate, fit the guide plate to the side of the applicator.
3. Place the applicator down at one end of the substrate. The applicator should be positioned with the blade facing away from the direction of travel.
4. 3600: Spread sufficient product on the substrate over a width slightly smaller than the internal width of the applicator.

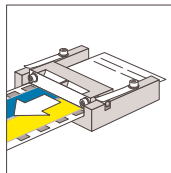
3505/3700: Pour a quantity of product into the reservoir of the applicator ensuring that the product is evenly distributed over the whole width of the reservoir.

- Spread the film by moving the applicator towards the opposite end of the substrate at a constant speed.
- Lift the applicator from the substrate taking care to catch any product dripping from the applicator before it lands on the newly prepared film.



### 3800/3805

- Place a clean contrast sheet into the applicator and feed it under the blade assembly.
- Pour a quantity of product into each of the reservoirs of the applicator ensuring the product is evenly distributed over the width of each reservoir.
- Apply gentle downward pressure on the blade assembly and pull the contrast sheet out of the instrument at a constant speed to spread the film strips.



## 4 CLEANING AFTER APPLICATION

**X** Do not use very aggressive solvents or wire brushes, metal scrapers, metal files or other metallic tools for cleaning.

**✓** Clean the applicator using a suitable solvent.

After cleaning, ensure that all materials are removed and that the instrument is dry. Use the case provided to store the instrument when it is not being used.



## **5 WET FILM THICKNESS**

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The thickness of the film produced by your applicator depends on many factors including; the speed of film application, applicator blade gap setting, surface tension and the viscosity of the product.

## **6 STORAGE**

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When stainless steel applicators and the thickness gauges are not being used they must be protected from rust. Rust can appear when stainless steel instruments are used occasionally and when they have been handled by users with sweaty hands.

To protect against rust, always dry stainless steel applicators and the thickness gauges after use and apply a thin layer of oil to the surface before storage. Elcometer recommends the use of an oil which does not harden during drying such as Castrol Rustilo DW 378.

Always store the applicator and thickness gauges in the case provided.

## **7 MAINTENANCE**

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The Elcometer Film Applicator is designed to give many years reliable service under normal operating and storage conditions.

Regular calibration checks over the life of the thickness gauges are a requirement of quality management procedures e.g. ISO 9000 and other standards. For checks and certification contact Elcometer or your local supplier.

## 8 TECHNICAL SPECIFICATION

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Material:		Hardened stainless steel/anodised aluminium
Range	3505:	0 $\mu\text{m}$ to 2000 $\mu\text{m}$ (0 mils to 80 mils)
	3600:	0 $\mu\text{m}$ to 3000 $\mu\text{m}$ (0 mils to 120 mils)
	3700:	0 $\mu\text{m}$ to 4000 $\mu\text{m}$ (0 mils to 160 mils)
	3800/3805:	0 $\mu\text{m}$ to 2500 $\mu\text{m}$ (0 mils to 100 mils)
Set of 19 thickness gauges:		30 $\mu\text{m}$ to 1000 $\mu\text{m}$ (1 mil to 40 mils)
Contrast sheet:		210 mm x 75 mm (8.25" x 3") (3800/3805 only)

## 9 SPARE PARTS

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The following spare sets of 19 thickness gauges are available for your Elcometer Film Applicator:

30  $\mu\text{m}$  to 1000  $\mu\text{m}$ , metric: KT003600P001

1 mil to 40 mils, imperial: KTUS3600P001

## 10 PRODUCT RANGE

Model		Film strips	Strip width		Part number	
			(mm)	(inch)	Metric	Imperial
3505	3505/1	1	12	0.5	K0003505M001	K0US3505M001
	3505/2	5	12	0.5	K0003505M202	K0US3505M202
3600	3600/1	1	50	2	K0003600M201	K0US3600M201
	3600/2	1	75	3	K0003600M002	K0US3600M002
	3600/3	1	100	4	K0003600M203	K0US3600M203
	3600/4	1	150	6	K0003600M204	K0US3600M204
	3600/5	1	200	8	K0003600M205	K0US3600M205
	3600/6	1	225	9	K0003600M206	K0US3600M206
3700	3700/3	1	80	4	K0003700M203	K0US3700M203
	3700/2	1	180	8	K0003700M002	K0US3700M002
	3700/1	1	250	10	K0003700M001	K0US3700M001
3800 3805	3800/1 <sup>a</sup>	2	28	1.0	K0003800M001	K0US3800M001
	3805/1 <sup>a</sup>	3	18	0.7	K0003805M001	K0US3805M001

a. Overall internal width: 75 mm (3")

## 11 RELATED ELCOMETER EQUIPMENT

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Elcometer produces a wide range of coatings inspection gauges and related equipment.

Users of this Elcometer Film Applicator may also benefit from the following Elcometer products:

- Elcometer Fineness of Grind Gauges
- Elcometer Viscosity Meters
- Elcometer Motorised Film Applicators
- Elcometer Leneta Test Charts
- Elcometer Drying Time Recorders
- Elcometer Washability, Brushability and Abrasion Testers
- Elcometer Hardness Testers

For further information contact Elcometer, your local supplier or visit [www.elcometer.com](http://www.elcometer.com)