

# Elcometer 112 & 3236 Hexagonal Wet Film Combs



Elcometer 112 Hexagonal Wet Film Combs

**At a glance:**

- Precision wet film combs used to determine the thickness of wet paint prior to curing.
- Hexagonal to provide a wider range of thickness values for greater accuracy.

Can be used in accordance with:

- AS/NZS 1580.107.3
- ASTM D 4414-A
- BS 3900-C5-7B
- ISO 2808-1A
- ISO 2808-7B
- NF T30-125
- US Navy NSI 009-32
- US Navy PPI 63101-000

These hexagonal precision formed stainless steel wet film combs are long lasting and reusable and are supplied in a range of thicknesses measuring up to 3000µm (120mils).

These six sided combs vary in size, giving either 24 or 36 measurement steps - depending on the comb, providing increased accuracy.

**Using a Wet Film Comb**

Place a comb perpendicular to and touching the substrate. Hold the comb in position and wait a few seconds until the teeth are wet. Remove the comb from the film.

The wet film thickness lies between the biggest value 'coated' or 'wet' tooth and the smallest value 'uncoated' or 'dry' tooth.



**Wet Film & Powder Thickness**

Whether you are applying a liquid or powder coating, by measuring the uncured film thickness, it is possible to determine the eventual dry film thickness.

Applying too much coating not only wastes time and materials, it can also affect the performance and finish of the product. Too much wet film can cause the coating to crack as it cures; too little coating increases the risk that the substrate will not be sufficiently protected, leading to rust spots.

In the powder coating industry, ensuring the end product has the correct levels of adhesion and appearance is dependent on the thickness of the powder prior to the curing process. Too much powder can lead to poor adhesion, too little can lead to a discolouration and loss in gloss of the coating

The three methods for measuring wet film thickness are:

- Wet Film Combs
- Pfund Thickness Gauges
- Wet Film Wheels

In each case, the thickness of the coating is measured and the dry film thickness can be estimated using the coating's solid : wet ratio.

TECHNICAL SPECIFICATION		
Measuring Range	Measurement Steps	Part Number
20 – 370µm	20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, 150, 170, 190, 210, 230, 250, 270, 290, 310, 330, 350, 370µm	K0003236M201
25 – 2000µm	25, 50, 75, 100, 125, 150, 175, 200, 225, 250, 275, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900, 950, 1000, 1100, 1200, 1300, 1400, 1500, 1600, 1700, 1800, 1900, 2000µm	K0003236M202
25 – 3000µm	25, 50, 75, 100, 125, 150, 175, 200, 225, 250, 275, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900, 1000, 1100, 1200, 1400, 1600, 1800, 2000, 2200, 2400, 2600, 2800, 3000µm	B112----1B
0.5 – 15mils	0.5, 0.75, 1.0, 1.25, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 8, 9, 10, 11, 12, 13, 14, 15mils	K0US3236M203
1 – 80mils	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 55, 60, 65, 70, 75, 80mils	K0US3236M204
1 – 120mils	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 45, 50, 55, 60, 70, 80, 90, 100, 110, 120mils	B112----2B

## New Feature on Elcometer 112 & 3236 Hexagonal Wet Film Combs

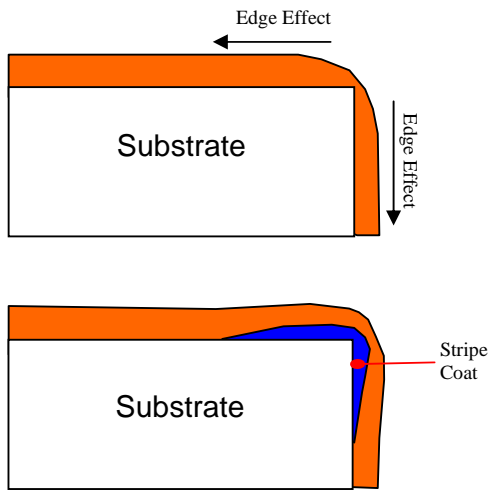


Figure 1: Stripe Coat Illustration

As a coating is applied near a corner or the edge of a substrate, the lack of surface tension at the edge causes the paint to withdraw away from the corner. This leaves the edges open to corrosion due to lack of suitable film thickness.

In marine and other protective coating applications, this “edge effect” is minimised by the addition of a stripe coat on all edges and corners prior to a full coating application (See Figure 1).

The IMO PSPC (Performance Standard for Protective Coatings) and other Standards also minimise the “edge effect” by requiring either a single or a 3 pass grinding process or a minimum edge radius of >2mm (See Figure 2), which is usually created using hand tools.

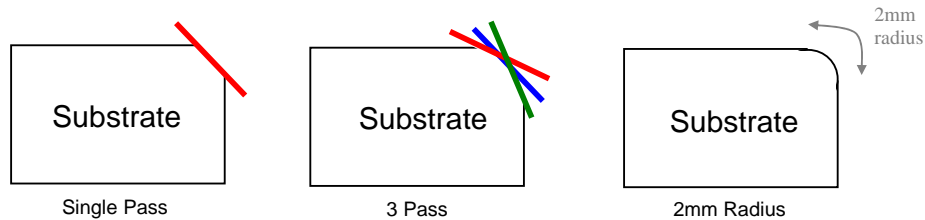


Figure 2: Grinding Process Illustration

A 2mm internal radius profile has now been added to the Elcometer 112 Stainless Steel Wet Film Combs, allowing users to quickly check that the roundness of the edge is acceptable (See Figure 3).

Simply place the 2mm curve against the edge of the substrate to determine if the curvature is greater or less than 2mm.

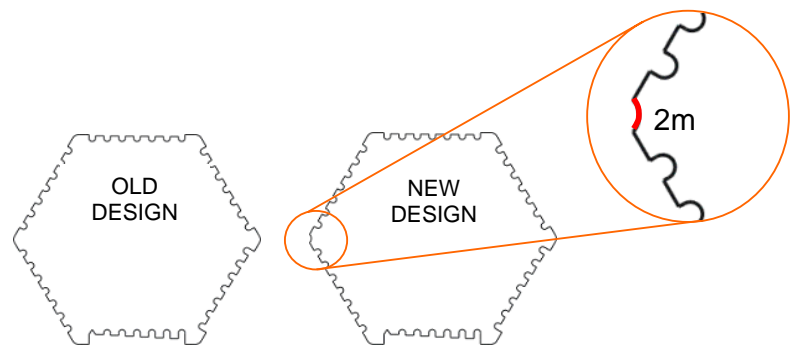


Figure 3

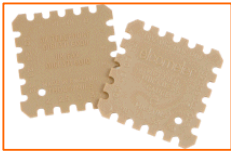
## Related Products



Elcometer 3230

### Elcometer 3230 Wet Film Wheels

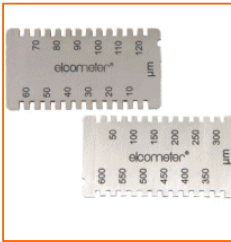
The Elcometer 3230 Wet Film Wheel is a high precision, accurate and easy to use instrument which consists of a set of three wheels. The central wheel is of a smaller diameter and is eccentric relative to the two outer wheels. By rolling the gauge through a wet coating, the centre wheel eventually touches the film. This point on the scale indicates the thickness.



Elcometer 154

### Elcometer 154 Plastic Wet Film Combs

The Elcometer 154 Wet Film Combs are made from ABS plastic and are designed to be used once and kept as a record of wet film thickness measurement for quality assurance or customer requirements.



Elcometer 3238

### Elcometer 3238 Long Edge Wet Film Combs

These stainless steel combs are wire eroded to provide an accuracy of  $\pm 2.5\mu\text{m}$  (0.01mil) and are supplied with either Metric or Imperial measurements.



Elcometer 112AL

### Elcometer 112AL Punched Aluminium Wet Film Combs

These punched aluminium combs offer the user a low cost method of measuring the wet film thickness. Supplied in a pack of 10 combs, they have Metric units (25 - 3000 $\mu\text{m}$ ) on one side and Imperial values (1 - 118mils) on the other.



Elcometer 115

### Elcometer 115 Wet Film Combs

These reusable precision stainless steel combs are made to be long lasting. Available as either metric or imperial combs with thickness ranges up to a maximum of 1270 $\mu\text{m}$  or 50mils, they are manufactured to an accuracy of 5% or 2.5 $\mu\text{m}$  (0.01mil), whichever is the greater.

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