

elcometer® **Wet Film Combs**

Can be used in accordance with:
ISO 2808-7B
ASTM D 4414-A, BS 3900-C5-7B, NF T30-125

It is important that a coating is thick enough to prevent its failing prematurely but applying a coating too thickly wastes time and money. Therefore, the measurement of coating thickness is essential.

In order to control process variables, it is often desirable that measurements are made while the film is still wet. Wet film measurements are also useful for systems where the dry film thickness can only be measured destructively.

Wet Film Comb Technique

Wet film combs have teeth of various lengths on their sides. The comb is dipped into the wet film and then removed. The wet film thickness lies between biggest value wet tooth and smallest value dry tooth values.

If the volume to solids ratio of the coating is known, then the wet film thickness can be used to predict the dry film measurement. As a rule of thumb dry film thickness will be 50% of wet film thickness. Elcometer offers a wide selection of wet film combs to suit various applications.

Elcometer 112 / 3236 Hexagonal Stainless Steel Wet Film Comb



- Precision formed in Stainless Steel to be long-lasting and reusable
- **Now also available in Aluminium at low cost – see below**
- Range of thicknesses (36 teeth) on one gauge
 - 25 to 3000 microns
- High upper value allows measurement of thick coatings which are difficult to test by other methods
- NB : 0 – 10,000 mic. on request
- Can be used in accordance with **ISO 2808-7B, BS 3900-C5 method 7B, ASTM D4414-A & NFT 30-125**

Part Numbers

| Model | Description | Range | Increments | Part Number |
|------------------|--|-------------|---|-------------|
| Elcometer 3236/1 | Elcometer 3236 Hexagonal Wet Film Comb | 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, 370 | K003236M201 |
| Elcometer 3236/2 | Elcometer 3236 Hexagonal Wet Film Comb | 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, 2000 | K003236M202 |
| Elcometer 112/1 | Elcometer 112 Hexagonal Wet Film Comb | 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, 3000 | B112----1B |

Elcometer 112AL Hexagonal Low Cost Aluminium Wet Film Comb



These punched aluminium combs offer the User a low cost method of measuring the wet film thickness.

Being punched from Aluminium, the Elcometer 112AL are not as accurate as the high precision version; The Elcometer 112 & 3236 Hexagonal wet Film Combs.

Range of thicknesses (36 teeth) on one gauge

- 25 to 3000 microns – same increments as the B112----1 above

Part Number : B112AL



BAMR (Pty) Ltd, PO Box 23973, Claremont, 7735, South Africa
 Ph : 27 (0)21 683 2100, Fax : 27 (0)21 674 1485
 Email : sales@bamr.co.za Web : www.bamr.co.za

Elcometer 115 Wet Film Comb

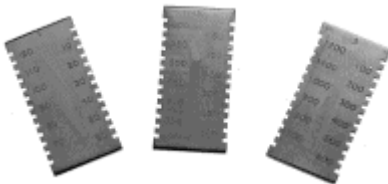


- Precision formed in stainless steel to be long-lasting and reusable
- Metric and Imperial values on the same comb
- 4 Separate Range of thicknesses, ten teeth per comb
- Total range : 25 to 1250 microns
- Can be customized to include your company details
- Available as single combs or in a set of 4 (customer selects range)
- Can be used in accordance with **ISO 2808-7B, BS 3900-C5 method 7B, ASTM D4414-A & NFT 30-125**

Part Numbers

| Model | Description | μm | Increments | Part Number |
|-----------------|--|---------------|---|-------------|
| Elcometer 115/1 | Elcometer 115 Wet Film Comb | 20 - 325 | 20, 35, 50, 75, 100, 125, 175, 225, 275, 325 | B11529455M |
| Elcometer 115/2 | Elcometer 115 Wet Film Comb | 50 - 450 | 50, 75, 100, 150, 200, 250, 300, 350, 400, 450 | B11529456M |
| Elcometer 115/3 | Elcometer 115 Wet Film Comb | 50 - 750 | 50, 100, 150, 200, 250, 350, 450, 550, 650, 750 | B11529457M |
| Elcometer 115/4 | Elcometer 115 Wet Film Comb | 125 - 1250 | 125, 250, 375, 500, 625, 750, 875, 1000, 1125, 1250 | B11529458M |
| Elcometer 115/W | Set of 4 (Select Scales when ordering) | | | B1152959WM |

Elcometer 3238 Long Edge Wet Film Combs



- Similar to the **Elcometer 115**, the Elcometer 3238 provides the User with more measurement points (teeth). These rectangular wet film combs are available in 3 ranges - supplied either separately, or in a set of 3.
- Can be used in accordance with **ISO 2808-7B, BS 3900-C5 method 7B, ASTM D4414-A & NFT 30-125**

Part Numbers

| Model | Description | Range (μm) | Incremental Steps (μm) | Part Number |
|------------------|--|-------------------------|-------------------------------------|--------------|
| Elcometer 3238/1 | Elcometer 3238 Long Edge WFC | 50 - 120 μm | 5 | K0003238M201 |
| Elcometer 3238/2 | Elcometer 3238 Long Edge WFC | 25 - 600 μm | 25 | K0003238M202 |
| Elcometer 3238/3 | Elcometer 3238 Long Edge WFC | 50 - 1200 μm | 50 | K0003238M203 |
| Elcometer 3238/4 | Set of 3 Long Edge Wet Film Comb (Scales 1, 2 and 3) | | | K0003238M204 |

Elcometer 154 Plastic Wet Film Comb



- Made from ABS plastic, designed to be used only once and kept as a record of wet film thickness measurement for your ISO needs
- Can be used repeatedly with water based paints only as is soluble in most thinners excl. turps
- Range : 50 to 800 microns
- Can be customized for your company to provide a very useful promotional device
- Supplied in minimum of 25
- Can be used in accordance with **ISO 2808-7B, BS 3900-C5 method 7B, ASTM D4414-A & NFT 30-125**

Part Number

| Model | Description | Range | Increments (μm) | Part Number |
|---------------|---------------------------|------------------------|--|-------------|
| Elcometer 154 | Elcometer 154 Plastic WFC | 50 – 800 μm | 50, 65, 75, 90, 100, 125, 150, 175, 200, 250, 300, 400, 500, 600, 700, 800 | B154----1 |



Test Method - ISO 2808-7B, BS3900-C5 method 7B & ASTM D4414-A

ISO 2808-7B, BS 3900-C5 method 7B, ASTM D4414-A specify that the wet film comb should be perpendicular to the substrate and the thickness of the coating is stated as lying between the shortest wet tooth and the longest dry tooth.



Wet film combs have teeth of various lengths on their sides.

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 value.

Example

In the diagram, 90 is the biggest value wet tooth and 100 is the smallest value dry tooth. Therefore, the wet film thickness is between 90 and 100 mil/thou.

If the volume to solids ratio of the coating is known (if not contact the coating manufacturer) then the wet film thickness can be used to predict the dry film measurement.

To use combs on pipes, measure along the longitudinal axis (lengthways) of the pipe.

On rough surfaces, measurements will be made from the surface peaks and represent the minimum wet film thickness.

Technical Specifications - Elcometer Wet Film Combs

| Model | Elcometer 3236 | Elcometer 112 | Elcometer 112AL | Elcometer 115 | Elcometer 3238 | Elcometer 154 |
|---------------|---|--|--|---|-------------------|--|
| No of Scales | 2 scales | 1 scale | 1 scale | 4 scales | 3 scales | 1 scale |
| No of Teeth | 36 teeth | 36 teeth | 36 teeth | 10 teeth | 24 teeth | 16 teeth |
| No of Sides | 6 sides | 6 sides | 6 sides | 2 sides | 2 sides | 4 sides |
| Scale 1 Range | 20 - 370µm | 25 - 3000µm | 25 - 3000µm | 20 - 325µm | 50 - 120µm | 50 - 800µm |
| | <u>Increments</u> | <u>Increments</u> | <u>Increments</u> | <u>Increments</u> | <u>Steps</u> | <u>Increments</u> |
| | 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, 150, 170, 190, 210, 230, 250, 270, 290, 310, 330, 350, 370 | 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, 3000 | 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, 3000 | 20, 35, 50, 75, 100, 125, 175, 225, 275, 325 | 5 | 50, 65, 75, 90, 100, 125, 150, 175, 200, 250, 300, 400, 500, 600, 700, 800 |
| Scale 2 Range | 25 - 2000µm | | | 50 - 450µm | | |
| | <u>Increments</u> | | | <u>Increments</u> | <u>Steps</u> | |
| | 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, 2000 | | | 50, 75, 100, 150, 200, 250, 300, 350, 400, 450 | 25 | |
| Scale 3 Range | | | | 50 - 750µm | | |
| | | | | <u>Increments</u> | <u>Steps</u> | |
| | | | | 50, 100, 150, 200, 250, 350, 450, 550, 650, 750 | 50 | |
| Scale 4 Range | | | | 125 - 1250µm | | |
| | | | | <u>Increments</u> | | |
| | | | | 125, 250, 375, 500, 625, 750, 875, 1000, 1125, 1250 | | |
| Weight | Scale 1: 19g, 2: 43g | 41g | 9g | 21g | 27g | 45g |
| Dimensions | 53x50x2; 77x90x2 | 75 x 65 x 2mm | 75 x 65 x 1mm | 73 x 25 x 2mm | 60 x 30 x 2mm | 40 x 40mm |
| Packing List | Comb, Plastic case, Instructions | | Comb | Comb, Plastic case, Instructions | | Combs |
| Minimum Order | n/a | n/a | n/a | n/a | n/a | 25 |

