

Elcometer 456 Dry Film Thickness Gauge Probe Options

Combining over 45 years of probe design and build experience, with the latest materials and technology, the new Elcometer probes are even more accurate, repeatable and reliable than ever before. Available in a number of designs and scale ranges to meet your specific application, all probes are supplied with an Elcometer test certificate and a set of calibration foils†

Straight

- Measures coatings on both flat and curved surfaces

Right Angle

- Designed for taking readings where access is restricted

Mini

- Ideal for measuring edges, narrow pipes and small surfaces areas

PINIP™

- Plug-in probes convert a separate to an integral gauge

Telescopic

- Extending right angled probes for out of reach areas

Ultra/Scan Probes

- These probes are fitted with replaceable probe caps - allowing users to take individual readings or scan large surface areas without damaging the probe

Waterproof

- Sealed for use under water at depth, even in diving gloves

High Temp

- For use on hot coated materials up to 250°C

Anodiser

- Chemical resistant washable probes ideal for the anodising environment

Armoured

- Probes with metal reinforced heavy duty cables, reducing the risk of cable damage

Soft Coating

- Large surface area probes for soft reach materials (HVCA approved)

Specialist Probes

- These probes are designed for measuring on specialist substrates, such as graphite, or electroplated components

Measurement Options

Ferrous (F) operation using electromagnetic induction probes for all non-magnetic coatings on a ferrous (magnetic) substrate, e.g. paint, plastic, enamel, powder, rubber, ceramic, galvanising, zinc, sprayed metal (aluminium or zinc), etc. on steel, cast iron, ferritic and duplex stainless steel, substrates etc. Elcometer 456 F gauges accept any ferrous probe.

Non-Ferrous (N) operation using eddy current probes for non-conductive coatings on non-ferrous metal substrates, e.g. anodising, paint, powder, lacquer, plastic, etc. on aluminium, brass, zinc, stainless steel, copper, titanium substrates etc. Elcometer 456 non-ferrous gauges accept any non-ferrous probe

Dual (FNF) operation combines the Ferrous and Non-Ferrous operation in a single probe. The gauge has user selection for auto or manual substrate determination. Elcometer 456 FNF gauges accept all ferrous, non-ferrous and FNF probes.

Technical Specifications

	Ferrous	Non Ferrous & FNF	PINIP
Max Operating Temperature	Up to 150°C	Up to 80°C	Up to 50°C
Storage Temperature		-10 - 60°C	
Minimum Substrate Thickness	0.3 mm	0.1 mm	

The stated temperature is the substrate temperature, and the duty cycle of the probe must be reduced to ensure a minimal temperature build-up within the probe.

All Elcometer probes are supplied with a Test Certificate and a set of calibration foils appropriate to the scale range of the probe
















†Foil sets are appropriate to the separate probe's scale range



Scale 0.5: Range: 0-500µm

Accuracy^a: ±1-3% or ±2.5µm
 Range: 0-500µm
 Resolution: 0.1µm: 0-100µm
 1µm: 100-500µm
 Certificate: •



	Description ^c	Part Number	Min Head room	Min Width	Min Sample Diameter ^b	Min Convex Surface Radius	Min Concave Surface Radius
	Ferrous (F) Mini Probe - Straight, 45mm long	T456CFM3---A	6mm		3mm	1.9mm	6.5mm
	Mini Probe - 90°, 45mm long	T456CFM3R90A	16mm	7mm	3mm	1.9mm	6.5mm
	Mini Probe - 45°, 45mm long	T456CFM3R45A	18mm	7mm	3mm	1.9mm	6.5mm
	Mini Probe - Straight, 150mm long	T456CFM3---C	6mm		3mm	1.9mm	6.5mm
	Mini Probe - 90°, 150mm long	T456CFM3R90C	16mm	7mm	3mm	1.9mm	6.5mm
	Mini Probe - 90°, 300mm long	T465CFM3R90D	16mm	7mm	3mm	1.9mm	6.5mm
	Mini Probe - 45°, 300mm long	T456CFM3R45D	18mm	7mm	3mm	1.9mm	6.5mm
	Non-Ferrous (N) Mini Probe - Straight, 45mm long	T456CNM3---A	6mm		4mm	6mm	8.5mm
	Mini Probe - 90°, 45mm long	T456CNM3R90A	16mm	7mm	4mm	6mm	8.5mm
	Mini Probe - Straight, 150mm long	T456CNM3---C	6mm		4mm	6mm	8.5mm
	Mini Probe - 90°, 150mm long	T456CNM3R90C	16mm	7mm	4mm	6mm	8.5mm
	Mini Probe - 90°, 400mm long	T456CNM3R90E	16mm	7mm	4mm	6mm	8.5mm
	Non-Ferrous - Graphite (N) Mini Probe - 90° Graphite, 45mm long	T456CNMG3R90A	16mm	7mm	4mm	6mm	8.5mm
	Mini Probe - 90° Graphite, 150mm long	T456CNMG3R90C	16mm	7mm	4mm	6mm	8.5mm
	Mini Probe - 90° Graphite, 400mm long	T456CNMG3R90E	16mm	7mm	4mm	6mm	8.5mm

a. Whichever is the greater

b. FNF (F): FNF probe in F mode FNF (N): FNF probe in N mode

c. Probe length is measured from X to Y

d. Excluding Ultra/Scan probe end cap

e. Ultra/Scan Probe calibrated using a sample of the uncoated substrate Elcometer 456 probes are covered by a 1 year warranty



f. For Elcometer 456 Model T gauges only

See separate leaflet on the new Elcometer 456 Ultra Scan Probe that can take 140 readings per minute by dragging the probe across the surface

Scale 1: Range: 0-1500µm

Accuracy^{ae}: ±1-3% or ±2.5µm
 Range^d: 0-1500µm
 Resolution: 0.1µm: 0-100µm
 1µm: 100-1500µm
 Certificate: •


















	Description ^c	Part Number	Min Head room	Min Width	Min Sample Diameter ^b	Min Convex Surface Radius	Min Concave Surface Radius
	Ferrous (F) Straight Probe	T456CF1S	85mm		4mm	4mm	25mm
	Straight Probe, sealed	T456CF1E	85mm		4mm	4mm	25mm
	Ultra/Scan Probe	T456CF1U	86mm		15mm	Flat Surface	
	Right Angle Probe	T456CF1R	28mm		4mm	4mm	25mm
	Mini Probe - 90°, 45mm long	T456CFM5R90A	16mm	7mm	4mm	3mm	6.5mm
	Mini Probe - 90°, 45mm long, sealed	T456CFME5R90A	16mm	7mm	4mm	3mm	6.5mm
	Mini Probe - 90°, 45mm long, 2m cable, sealed	T456CFME5R90A-2	16mm	7mm	4mm	3mm	6.5mm
	PINIP™ Integral Probe	T456CF1P	170mm		4mm	4mm	60mm
	Non-Ferrous (N)						
	Straight Probe	T456CN1S	85mm		4mm	10mm	10mm
	Right Angle Probe	T456CN1R	28mm		4mm	10mm	14mm
	Mini Probe - 90°, 45mm long	T456CNM5R90A	16mm	7mm	4mm	10mm	8.5mm
	Mini Probe - 90°, 150mm long	T456CNM5R90C	16mm	7mm	4mm	10mm	8.5mm
	Mini Probe - 90°, 400mm long	T456CNM5R90E	16mm	7mm	4mm	10mm	8.5mm
	Anodiser Probe	T456CN1AS	100mm		4mm	10mm	14mm
	PINIP™ Integral Probe	T456CN1P	180mm		4mm	10mm	50mm
	Ferrous & Non-Ferrous (FNF)						
	Straight Probe	T456CFNF1S	88mm		F: 4mm N: 6mm	F: 4mm N: 26mm	12.5mm
	Ultra/Scan Probe	T456CFNF1U	89mm		15mm	Flat Surface	
	Right Angle Probe	T456CFNF1R	38mm		F: 4mm N: 6mm	F: 4mm N: 26mm	12.5mm
	PINIP™ Integral Probe	T456CFNF1P	180mm		F: 4mm N: 6mm	F: 4mm N: 26mm	65mm

Scale 2: Range: 0-5mm

Accuracy^{ae}: ±1-3% or ±2.5µm
 Range^d: 0-1500µm
 Resolution: 0.1µm: 0-100µm
 1µm: 100-1500µm
 Certificate: •



	Description ^c	Part Number	Min Head room	Min Width	Min Sample Diameter ^b	Min Convex Surface Radius	Min Concave Surface Radius
	Ferrous (F) Straight Probe	T456CF2S	89mm	8mm	8mm	4mm	25mm
	Ultra/Scan Probe	T456CF2U	90mm	15mm	15mm	Flat Surface	
	Right Angle Probe	T456CF2R	32mm	8mm	8mm	4mm	25mm
	Armoured Probe	T456CF2ARM	138mm	8mm	8mm	4mm	25mm
	Telescopic Probe - 56 -122cm long	T456CF2T	36mm	8mm	8mm	4mm	25mm
	Soft Coating Probe	T456CF2B	89mm	8mm	8mm	Flat Surface	
	Waterproof Probe, 1m cable	T456CF2SW	138mm	8mm	8mm	4mm	40mm
	Waterproof Probe, 5m cable	T456CF2SW-5	138mm	8mm	8mm	4mm	40mm
	Waterproof Probe, 15m cable	T456CF2SW-15	138mm	8mm	8mm	4mm	40mm
	Waterproof Probe, 30m cable	T456CF2SW-30	138mm	8mm	8mm	4mm	40mm
	Waterproof Probe, 50m cable	T456CF2SW-50	138mm	8mm	8mm	4mm	40mm
	PINIP™ Integral Probe	T456CF2P	174mm	8mm	8mm	4mm	60mm
	Hi-Temperature PINIP™ Probe - 250°C	T456CF2PHT	174mm	8mm	8mm	4mm	60mm
	Non-Ferrous (N) Straight Probe	T456CN2S	88mm	14mm	14mm	100mm	150mm
	PINIP™ Integral Probe	T456CN2P	185mm	14mm	14mm	100mm	150mm

a. Whichever is the greater

b. FNF (F): FNF probe in F mode FNF (N): FNF probe in N mode

c. Probe length is measured from X to Y

d. Excluding Ultra/Scan probe end cap

e. Ultra/Scan Probe calibrated using a sample of the uncoated substrate Elcometer 456 probes are covered by a 1 year warranty



f. For Elcometer 456 Model T gauges only

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Scale 3: Range: 0-13mm

Accuracy^a: ±1-3% or ±50µm
 Range: 0-13mm
 Resolution: 1µm: 0-2mm
 10µm: 2-13mm
 Certificate: •




	Description ^c	Part Number	Min Head room	Min Width	Min Sample Diameter ^b	Min Convex Surface Radius	Min Concave Surface Radius
	Ferrous (F) Straight Probe	T456CF3S	102mm		14mm	15mm	40mm
	PINIP™ Integral Probe	T456CF3P	184mm		14mm	15mm	45mm

Scale FM⁷: Range: 0.6-3.8mm

Accuracy^a: ±7.5% or ±114µm
 Range^f: 0.60-3.8mm
 Resolution: 1µm: 0-1mm
 10µm: 1-3.8mm
 Certificate: •



	Description ^c	Part Number	Min Head room	Min Width	Min Sample Diameter ^b	Min Convex Surface Radius	Min Concave Surface Radius
	Ferrous (F) Mini Probe - 45° [≈] , 45mm long	T456CFM7R45A	20mm		6.5 mm	-	-





a. Whichever is the greater
 b. FNF (F): FNF probe in F mode FNF (N): FNF probe in N mode
 c. Probe length is measured from X to Y
 d. Excluding Ultra/Scan probe end cap
 e. Ultra/Scan Probe calibrated using a sample of the uncoated substrate Elcometer 456 probes are covered by a 1 year warranty
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Scale 6: Range: F: 0-25mm N: 0-30mm

Accuracy^a: ±1-3% or ±100µm
 Range: F: 0-25mm
 N: 0-30mm
 Resolution: 10µm: 0-2mm
 100µm: 2-30mm
 Certificate: •




	Description ^c	Part Number	Min Head room	Min Width	Min Sample Diameter ^b	Min Convex Surface Radius	Min Concave Surface Radius
	Ferrous (F) Straight Probe	T456CF6S	150mm		55 x 55mm ²	35mm	170mm
	Straight Probe, armoured cable	T456CF6ARM	190mm		55 x 55mm ²	35mm	170mm
	Non-Ferrous (N) Straight Probe	T456CN6S	160mm		58mm	Flat Surface	
	Straight Probe, armoured cable	T456CN6ARM	200mm		58mm	Flat Surface	

Scale 7: Range: 0-31mm

Accuracy^a: ±1-3% or ±100µm
 Range: 0-31mm
 Resolution: 10µm: 0-2mm
 100µm: 2-31mm
 Certificate: •



	Description ^c	Part Number	Min Head room	Min Width	Min Sample Diameter ^b	Min Convex Surface Radius	Min Concave Surface Radius
	Ferrous (F) Straight Probe, armoured cable	T456CF7ARM	200mm		55 x 55mm ²	40mm	170mm

a. Whichever is the greater
 b. FNF (F): FNF probe in F mode FNF (N): FNF probe in N mode
 c. Probe length is measured from X to Y
 d. Excluding Ultra/Scan probe end cap
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