

# Elcometer 107 Cross Hatch Cutter



Elcometer 107 Cross Hatch Cutter

### At a glance

- Ideal for thin, thick or tough coatings.
- Available as a basis or a full kit.
- ASTM & ISO versions available.

### Elcometer 107 Cross Hatch Cutter

The coating may be continuous and look good, but how well is it connected to the substrate? The Elcometer 107 Cross Hatch Cutter provides an instant assessment of the quality of the bond to the substrate. Due to its rugged construction this gauge is ideal for thin, thick or tough coatings on flat or curved surfaces. An ideal field or laboratory test.

- Low Cost
- Easy to change cutters
- Ideal for thick or hard coatings
- Large selection of cutters, each with four cutting faces
- Can be converted into the Elcometer 141 Paint Inspectors Gauge (P.I.G)
- Robust Design
- Large, non slip grip

The Elcometer 107 Cross Hatch Cutter is available in two versions.

- *The Basic Kit comes complete with:*  
Robust handle, the cutter of your choice (see below), Allen Key (wrench), presentation storage case and instructions (together with the Classification of Adhesion Test Results Chart)
- *The Full Kit includes all that is supplied in the Basic Kit but also includes:*  
An eye glass, brush, and adhesive tape (either ASTM or ISO tape), all in a plastic ABS carry case.

### Adhesion

From the largest man-made structures to the smallest household appliances, most manufactured products have a protective or cosmetic coating. Premature failure of this coating can, at the very least, result in costly penalties or rework.

Adhesion testing during the coating process will quantify the strength of the bond between substrate and coating, or between different coating layers or the cohesive strength of some substrates. Routine testing is also used as part of inspection and maintenance procedures to help detect potential coating failures.

Elcometer offer a highly comprehensive range of Adhesion Gauges designed specifically to meet your requirements. These gauges can be split into three categories:

#### Cross Hatch / Cross Cut Method

The coating is cut into small squares, thereby reducing lateral bonding, and the adhesion assessed against ISO, ASTM or Corporate Standards

#### Pull Off Adhesion Method

Tensile Dollies (or stubs) are glued to the coating and, once the adhesive has cured, the force required to pull the dolly off the surface is measured.

#### Push Off Adhesion Method

Similar to the Pull Off Adhesion Test, a dolly is glued to the coating, once the adhesive has cured, however, the dolly is pushed off the surface by the adhesion gauge.

Can be used in accordance with:	
ASTM D 387	ASTM D 332
ISO 8780-5	ISO 787/16
NFT 30 023	

## HOW TO SELECT THE CORRECT ADHESION GAUGE

SELECTING THE APPROPRIATE TEST KIT				
Cutter	Number of Teeth	Part Number		
		Full Kit with ISO Tape	Full Kit with ASTM Tape	Basic Kit
1mm	6	F10713348-6	F10713348-1	F10713222-1
1mm	11	-	F10713348-2	F10713222-2
1.5mm	11	-	-	F10713222-3
2mm	6	F10713348-9	F10713348-4	F10713222-4
3mm	6	-	-	F10713222-5

### Cross Hatch Cutters

*Advantages:*

A fast, low cost, comparison method

*Possible Limitations:*

A subjective test for flat surfaces for a limited thickness range.

*Applications:*

Paint and powder coating adhesion up to a thickness of 125µm (5 mils).

SELECTING THE APPROPRIATE ELCOMETER 107 CUTTER						
Coating Thickness		Substrate Type	Cutting Teeth	Tooth / Slot Spacing	Test Method	Part Number
mm	mils/thou					
0 – 50	2	Metal	11	1mm	ASTM D3359B	T10713700-2
0 – 60	2 – 4	Hard	6	1mm	BS EN ISO 2409	T10713700-1
0 – 60	2 – 4	Medium	11	1.5mm	-	T10713700-3
0 – 60	2 – 4	Soft	6	2mm	BS EN ISO 2409	T10713700-4
50 – 125	2 – 5	Hard and Soft	6	2mm	ASTM D3559B	T10713700-4
61 – 120	2.4 – 4.7	Hard and Soft	6	2mm	BS EN ISO 2409	T10713700-4
125 – 250	5- 10	Hard and Soft	6	3mm	Quick Check Only	T10713700-5
<b>Accessories</b>		ASTM D3359 Adhesive Tape (2 rolls)				T1078894-
		ISO 2409 Adhesive Tape (2 rolls)				T1079358-

### Pull Off Adhesion Testers

*Advantages:*

Simple to use, quantitative range – giving you a definitive adhesion value

*Possible Limitations:*

Time required for adhesive to cure

*Applications:*

Ideal gauge for the laboratory or field – flat or curved substrate applications

### Push Off Adhesion Testers

*Advantages:*

Fast cure time adhesives can be used, ideal for curved surfaces

*Possible Limitations:*

High forces exerted by gauge may cause thin substrates to deform

*Applications:*

Pipelines and metal spray coatings.

## Related products



Elcometer 1542

Simple but effective method for determining the adhesion of a large variety of coatings. The instrument is ideal for testing the adhesion of thin coatings on flat surfaces using the cross cut method, available with three different spacings 1, 2, and 3mm, corresponding to the thickness of layer to be tested.



Elcometer 1540

Simple instrument for quickly determining the adhesion of a large variety of paints. Made from special steel, it has 11 tapered teeth with 1mm spacing. Two series of lines are cut at right angles to obtain a pattern of 100 squares.



Elcometer 1541

This instrument has a single-blade tool used to perform simple parallel or crossed cuts on plane or curved surfaces. Ideal for the St Andrews Cut method.



Elcometer Inspection Kits

Site inspection requires a range of portable testing equipment. In order to make these products easily available and transportable, Elcometer have developed a range of Inspection Kits. All the gauges are conveniently stored in one hard plastic protective carrying case and are supplied with full operating instructions.

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