

Elcometer 107 Cross Hatch Cutter



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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
- Robust Design
- Easy to change cutters
- Large, non slip grip
- 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)

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 D387	ASTM D332
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
µm	mils/thou					
0 – 50	0 - 2	Metal	11	1mm	ASTM D3359B	T10713700-2
0 – 60	0 - 2.4	Hard	6	1mm	BS EN ISO 2409	T10713700-1
0 – 60	0 - 2.4	Medium	11	1.5mm	-	T10713700-3
0 – 60	0 - 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
Accessories		ASTM D3359 Adhesive Tape (2 rolls)				T1078894-
		ASTM D3359 Adhesive Tape (1 roll)				K0001542M001
		ISO 2409 Adhesive Tape (2 rolls)				T9999358-
		ISO 2409 Adhesive Tape (1 roll)				K0001542M002
Packing List		Basic Kit: Cross Hatch Cutter handle, Cutter blade, Hexagonal wrench, Carry case & Operating instructions				
		Full Kit: Cross Hatch Cutter handle, Cutter blade, Hexagonal wrench, Adhesive Tape (ISO or ASTM), Eye Glass, Brush, Carry case & Operating instructions				

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 121

Elcometer 121 Paint Inspection Gauge is easy to use and provides the user with a cutter, microscope and light all in a single housing.



Elcometer 121/3

Elcometer 121/3 Universal Paint Inspection Gauge (P.I.G) provides a quick, versatile method of coating examination and destructive measurement of coating thickness and cross hatch adhesion in a portable, easy-to-use gauge.



Elcometer 141

Elcometer 141 Paint Inspection Gauge is a quick, versatile method of examination and measurement of coatings in a portable, easy to use instrument. Ergonomically designed to give a balanced weight distribution for a more consistent cut – even on thick and hard coatings.



Elcometer 195

Elcometer 195 Säberg Drill works in a different way to paint inspection gauges. Whereas the PIG makes a linear cut along the coating, the Elcometer 195 Säberg Drill makes a small hole in order to measure the coating thickness layer, minimising damage to the coating being tested.



Elcometer 1542

Elcometer 1542 Simple but effective method for determining the adhesion of a large variety of coatings. This instrument is ideal for thin coatings on flat surfaces, available with three different spacings, corresponding to the thickness of layer to be tested.

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