

Paint Test Equipment

Cross Hatch Cutter Data Sheet





Complies with International Standards

BS 3900 E6	DIN EN ISO NF 2409
ASTM D3359	ECCA T-6

Cross Hatch Cutter

The Cross Hatch Cutter allows an assessment to be made of the adhesion resistance of coatings to separation from substrates when a right-angled lattice pattern is cut into the coating and penetrates through to the substrate.

The coating thickness determines the Cutter size used. The 1mm Cutter is suitable for coatings under 60 microns. The 2mm Cutter is suitable for coatings over 60 microns.

Simple operation, each Cross Hatch Cutter has 6 cutting blades spaced either 1mm or 2mm apart. Make one cutting pass through to the substrate. This makes 6 cuts in the coating. A second pass at 90° makes a square lattice pattern. Apply Adhesive Tape over the cut lattice section and within 5 minutes remove the Tape. Classify the cut area with the Viewing Lens according to the relevant national standard classification guide.

Multiple coatings can be tested for the assessment of the resistance to separation of individual layers of the coating from each other.

The hardened tool steel cutting blades are precision-ground with 6 cutting sides, so that when one cutting side becomes blunt there are a further 5 cutting sides to use.

Supplied in a Foam-Filled Carrying Case with Adhesion Test Tape 50mm and a x3 Illuminated Magnifier.

Cross Hatch Cutter Specifications

Part No	Cutter Size Metric	Cutter Size Imperial	Coating Thickness	Number of Teeth	Conformance Cert Part No
X2001	1mm	40mils	Under 60µm	6	NXC01
X2002	2mm	80mils	Over 60µm	6	NXC01
XS001	Spare Cutter Head 1mm (40mils)				NXC01
XS002	Spare Cutter Head 2mm (80mils)				NXC01
XA001	Adhesion Test Tape 25mm (1") 60m Roll (ISO2409)				NXC03
XA002	Spare Adhesion Test Tape 50mm (2") 60m Roll (ISO2409)				NXC03

Operation

Cutting

Select the correct Cross Hatch Cutter for the required coating thickness.

Hold the Cross Hatch Cutter firmly in the hand and draw the cutting edge across the coating to be evaluated, ensuring that the cutter penetrates through to the substrate. Repeat with a cross cut at 90° so that a lattice pattern is formed. The cutter will make 8 cuts in the surface: the 2 fine cuts each side are to steady the cutter, and the 6 cuts in the centre create the lattice that is the test area.

Evaluation

Apply the Adhesive Tape over the lattice section, and within 5 minutes of application remove by pulling the free end steadily within 1 second at an angle as close as possible to 60°. Carefully examine the cut area of the coating using the x3 Illuminated Magnifier. Classify the cut area according to the relevant National Standard classification guide.

The following classification guide is given as an approximate information guide only (refer to the appropriate National Standard for the precise classification):

ASTM 5B: The edges of the cuts are completely smooth. None of the squares of the lattice is cut.

ASTM 4B: Small flakes of the coating are detached at intersections. Less than 5% of the area is affected.

ASTM 3B: Small flakes of the coating are detached along the edges and at intersections of cuts. The area affected is 5% to 15% of the lattice.

ASTM 2B: The coating has flaked along the edges and on parts of the squares. The area affected is 15% to 35% of the lattice.

ASTM 1B: The coating has flaked along the edges of cuts in large ribbons and whole squares have detached. The area affected is 35% to 65% of the lattice.

ASTM 0B: Flaking and detachment worse than grade 1B.

Changing Cutting Head

The cutting head has 6 cutting edges. When one edge becomes blunt simply remove the cutter head by removing the retaining screw, and turn the cutter head around until the second new unused cutter edge is selected. Replacement cutting heads are available.

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About us

Paint Test Equipment are manufacturers of a comprehensive range of specialist instruments for the Industrial Coatings and Finishings Industries and have been supplying instruments to customers worldwide for over 25 years.

During this time Paint Test Equipment have established a reputation for manufacturing quality instruments to the highest specification, to meet the demanding requirements of the Industrial Painting Industry.

Recalibration

Paint Test Equipment can service and recalibrate all applicable products that we supply.

We recommend that the equipment is returned on a 12-monthly basis to Paint Test Equipment for service and recalibration.

Calibration Certificates will have traceability to UKAS or BAM. The Certificate is supplied in a paper format and is available online through the Calibration Portal (under Browse Categories) on our website. The Calibration Portal will list all your equipment that is calibrated by Paint Test Equipment, showing the renewal dates and allowing Calibration Certificates to be viewed at any time.

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