



Paul N. Gardner Company

CROSS HATCH KIT ADHESION

Paint Adhesion Test Kit (P.A.T)
instructions on how to perform
adhesion tests.



Cross Hatch Kit



The Cross Hatch Paint Adhesion Test Kit (P.A.T) from GARDCO is a visual adhesion kit designed for flat, uniform surfaces, providing everything needed to perform cross-hatch adhesion testing on paints and coatings in accordance with ASTM D3359 Method B and DIN 53151. **Cutter blades must be ordered separately.**

The ergonomic handle design provides comfortable, precise control during cross-hatch testing and keeps the hand in a natural position to reduce strain and fatigue, making it suitable for both right- and left-handed users.

Use the P.A.T kit when you need a quick, visual check of how well a coating is bonded to its substrate, or when comparing adhesion between different paints, primers, or surface preparations. The compact, portable kit keeps all tools in one place, so users can perform adhesion tests consistently across multiple locations and samples, reducing variability caused by different tools or setups.

Included in Kit



Blade handle

Holds the selected cutter blade securely during testing



Scrub Brush

Removes detached coating flakes after cutting



Hex wrench

Used to tighten and loosen the blade set screws



Magnifier

Helps inspect the cut grid for coating removal



Adhesive Tape

Applied over the grid as part of ASTM D3359 Method B



ASTM D3359 Guide

Full test method reference for interpreting results

Note: PAT kit blades are sold separately. Choose the correct blade spacing based on your coating thickness and ASTM D3359 requirements.

Blade Accuracy Check

Before shipment, all blades pass a cutter tooth accuracy inspection. You can verify your blade periodically using the following method:

1. Hold a small piece of polished plate glass.
2. Using a match or lighter, smoke a portion of the glass — this leaves a thin black film.
3. With the blade mounted in the handle, pull it across the smoked film.
4. **All teeth should leave visible tracks.** If any teeth fail to leave a track, the panel surface may not be flat, or one or more teeth may be damaged.

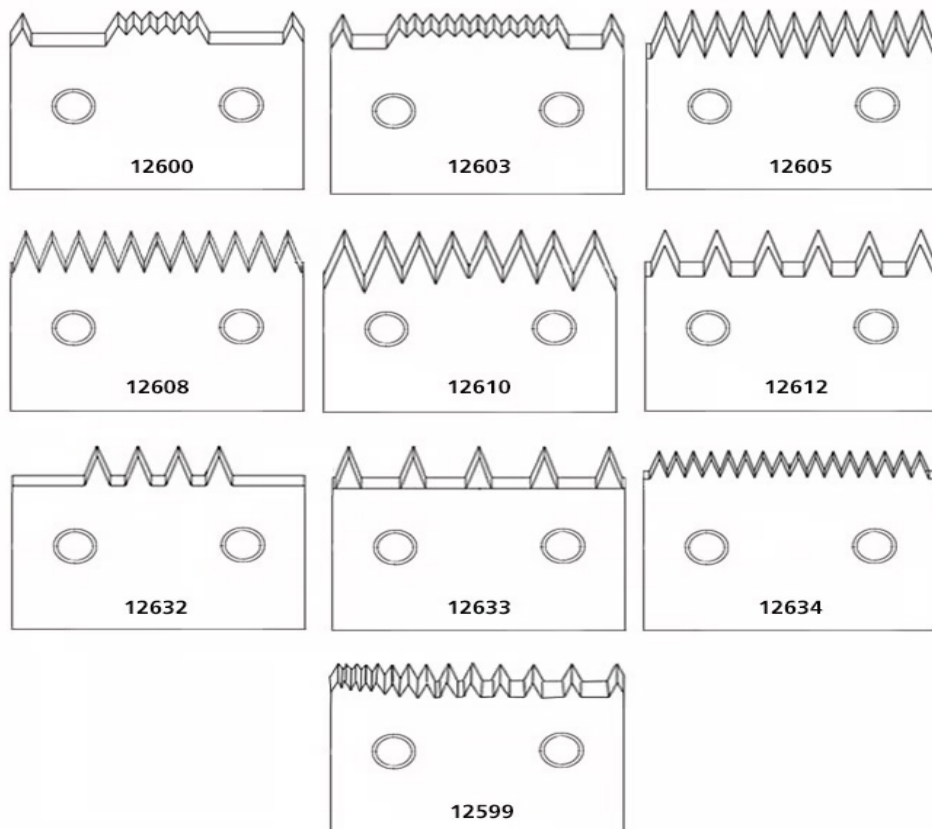
Troubleshooting: Uneven Cuts

If the blade is not cutting evenly through the coating, this is almost always caused by a warped or unsupported panel, not a blade defect.

- Always support the test panel on a flat, rigid table or surface
- Apply sufficient and even pressure throughout the cut
- If the panel is not rigid enough, increased pressure will bend the panel rather than drive the blade through the coating

Blade Cutter Options

Available at GARDCO.COM



Installing Blade

1. Select the appropriate blade for your application.
2. Position the blade in the handle with the holes facing the securing set screws.
3. Tighten the set screws with the hex wrench — do not over-tighten.



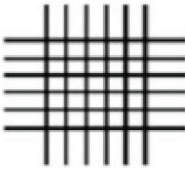
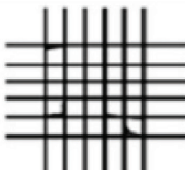
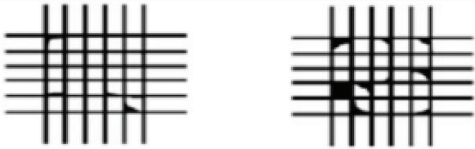
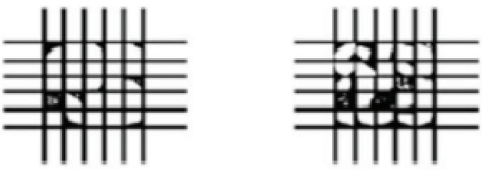
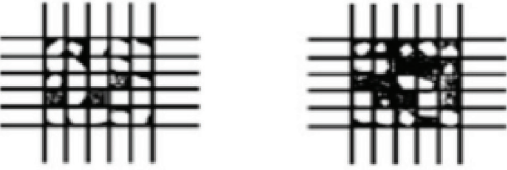
Instructions for Use

1. Prepare your coated test panel as outlined in ASTM D3359. Make sure the panel is supported on a flat, rigid surface. Uneven or unsupported panels are the most common cause of uneven cuts.
2. Place the cutter assembly on the test specimen so that both the guide and the cutter rest on the substrate.
3. Grasp the handle and rotate it upward so the cutter tips first contact the surface at roughly 7 degrees, then continue to about 15 degrees while applying enough pressure for all tips to penetrate to the substrate, and pull the assembly steadily along the surface for 0.75 to 1 inch.
4. Repeat the same cutting procedure with a second cut intersecting the first pattern at 90° ($\pm 5^\circ$).
5. Lightly brush the cut area with the flaking brush to remove any loosely detached flakes.
6. Cut a piece of tape approximately 3 inches long. Place the center of the tape over the grid and smooth it firmly into place with your fingertip.
7. Remove the free end of the tape rapidly, pulling as close to a 180° angle as possible.
8. Using the illuminated magnifier, inspect the grid area for any coating removal. Evaluate results using the illustrated adhesion scale in the ASTM D3359 instruction guide included with the kit.



Classification of Adhesion Test

Use the ASTM D3359 adhesion rating chart on this page to match your test pattern to the appropriate rating and easily determine the percentage of coating removed and overall adhesion level.

Classification	% Of Area Removed	Surface Of Cross-cut Area From Which Flaking Has Occurred For 6 Parallel Cuts & Adhesion Range By %
5B	0% None	
4B	Less than 5%	
3B	5-15%	
2B	15-35%	
1B	35-65%	
0B	Greater than 65%	