



Polyurethane Protective Tape

Removal and Repair Procedures

Technical Bulletin

September, 2005

Introduction

The procedure outlined is appropriate for Mil-C-83286 paint and most 2 part polyurethane paint systems. It can also be used on acrylic enamel or epoxy surfaces. **Note:** MEK may damage acrylic enamel surfaces.

Recommended Materials for Removal

Manufacturer or Supplier

3M™ Woodgrain and Stripe Adhesive Remover 8908,* PN 08908

3M - Auto body supply dealers

3M™ General Purpose Adhesive Cleaner 8984,* PN 08984

3M - Auto body supply dealers

MEK or Isopropanol or Ethanol*

Local industrial chemical supply source

Scotch-Brite™ Hand Pad 7447 Green or Red

3M - Auto body repair supply dealers

Rigid plastic squeegee or phenolic plastic scrapers

Make from scrap plastic or purchase plastic filler applicators

Surgical knife/hobby knife or single-edge industrial razor blade

Hardware store or auto body supply dealer

Cheese cloth or paper towels or clean industrial rags

Industrial supply or paper supply companies

Additional Materials for Repair

3M™ Polyurethane Protective Tape such as 8681 clear or colored, 8671, etc.

3M

3M™ Scotch-Weld™ Urethane Adhesive 3532 B/A or 3M™ Scotch-Weld™ Epoxy Adhesive 2216 B/A Gray or 3M™ Scotch-Weld™ Epoxy Adhesive DP190 Gray*

3M - Auto body supply dealers

3M™ Adhesion Promoter 86A*

3M

***Note:** When using solvents and other chemical products, follow the manufacturer's precautions and directions for use.

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Removal Procedure

1. For radome boots: Lightly score the boot (**do not cut through into the radome**) into pie-shape pieces using a knife or razor blade. Lift an edge and carefully peel the film back at an angle of 90° to 180°. Speed and angle of removal may affect how much adhesive residue is left or how much paint is removed from the substrate.
2. For aircraft wing leading edges: If tape is wider than 4" to 6", the effort to remove the tape can be greatly reduced by lightly scoring the tape with a knife or razor blade and removing strips. The removal force required could be as much as 10 pounds per inch of width. Peel the tape back at an angle of 90° to 180°. Speed and angle of removal may affect how much adhesive residue is left or how much paint is removed from the substrate.
3. If 3M™ Scotch-Weld™ Adhesive 2216, DP-190, or 3532 has been used as an edge sealer or seam sealer, they can be removed mechanically by scraping or sanding. Scotch-Weld 3532 adhesive can also be softened by using MEK.
4. Remaining adhesive residue may be removed by applying 3M™ Woodgrain and Stripe Adhesive Remover 8908 to the areas of residual adhesive according to the instructions on the can. After waiting the required time, scrape the softened adhesive off the surface using a rigid phenolic scraper or plastic squeegee. A second application may be necessary.
5. Apply 3M™ General Purpose Adhesive Cleaner 8984 to a paper towel or cloth rag and scrub remaining adhesive residue from the area. A Scotch-Brite™ Hand Pad 7447 may aid in removing any stubborn areas of adhesive, especially around any surface protrusions such as rivet heads, etc.
6. Finally, clean entire area using clean cheesecloth or rags soaked with isopropyl alcohol, ethanol, or MEK.*
7. Repair any areas of removed paint or bare metal according to manufacturer's recommended corrosion control procedures.
8. Proceed with installation of new polyurethane tape according to instructions for that aircraft, tape, or radome boot.

***Note:** When using solvents, follow the manufacturer's precautions and directions for use.

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Repair Procedure

If damage to the 3M™ Polyurethane Protective Tape has occurred, a "field" repair can be made as follows:

1. Carefully **trim** with a razor blade or knife any areas of damaged or loose tape. Avoid damaging the corrosion protection layer beneath the tape.
2. **Remove** the tape and **clean** the area according to the removal instructions. If functionality and speed of repair are more important than looks, do not be too concerned about removal of all adhesive residue.
3. **Decide** whether you wish to make a flush patch or an overlap patch. Overlap patches are faster but may not look as aesthetically pleasing.
4. **Cut** a piece of repair tape to the size required. If this is an overlap patch, cut to allow for a 1" - 1 1/2" overlap. If this is a flush patch, allow for a 1/8" gap to be filled with a sealant. The smaller the gap, the better.
5. **Prime** area with primer such as 3M™ Adhesion Promoter 86A using the minimum amount necessary to achieve complete coverage. If this is to be an overlap patch, prime the overlap area of the tape to overlapped with the patch. You may wish to mask adjacent areas for neatness.
6. Remove liner of the patch and carefully **apply** the patch to the area using a rolling down motion to exclude air and accommodate surface irregularities. **Do not** put patch down and attempt to reposition it. Roll down or wipe down firmly to ensure complete adhesion.
7. If this is a flush patch, or if you desire to seal the edges of an overlap patch, use 3M™ Scotch-Weld™ Epoxy Adhesive 2216 B/A, 3M™ Scotch-Weld™ Epoxy Adhesive DP190, or 3M™ Scotch-Weld™ Urethane Adhesive 3532 B/A according to the mixing instructions to **fill** the gaps around the patch. A piece of masking tape or clear polyester tape can be used over the seam to smooth the application and insure that the sealer stays in place while curing takes place.
8. The patch will be serviceable immediately if edge sealer was not used, or as soon as complete cure of edge sealant is accomplished. Scotch-Weld 3532 adhesive will cure adequately in 1 hr. at 80°F. Scotch-Weld 2216 or DP190 adhesives will cure adequately in 24 hrs. @ 80°F.
9. **Paint** if desired according to your normal painting procedure. Best adhesion of paint to polyurethane protective tape is accomplished with a wipe of MEK before topcoat paint. It is not desired to prime the polyurethane protective tape before topcoat paint is applied.

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Precautionary Information

Refer to Product Label and Material Safety Data Sheet for health and safety information before using this product. For additional health and safety information, call 1-800-364-3577 or (651) 737-6501.

For Additional Information

In the U.S., call toll free 1-800-235-2376 or fax 1-800-435-3082 or 651-737-2171. For U.S. Military, call 1-866-556-5714. If you are outside of the U.S., please contact your nearest 3M office or one of the following branches:

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