



# Repair Systems for Aluminum Parts US National Rule



## GENERAL

### DESCRIPTION

Outlines aluminum repair procedures to address the growing number of aluminum parts needing repair or replacement in US National Rule areas.

**The products referenced herein may not be available for sale in your market. Please consult your distributor for product availability.**



## MIXING

Refer to the TDS of the respective Permasolid® Surfacer and/or Priomat® Primer.



## APPLICATION

### SUBSTRATES

#### ALUMINUM

- When working with aluminum components, use separate, dedicated tools and abrasives to prevent cross contamination with other metals and alloys.
- OEM requirements for aluminum structural and repair processes should be followed closely.
- Exposed, abraded aluminum must be primed within one hour to prevent oxidation, which may lead to adhesion or corrosion failure.

### SURFACE PREPARATION

- Degrease and sand.
- Abrade the surface with sandpaper no coarser than P80, then featheredge the repair with P180 to P240, and finish sand all surrounding areas with P320.
- Use dry, clean compressed air to remove debris from repair area.
- Before further treatment, clean all substrates thoroughly with:
  - Permaloid® Silicone Removers 7087 or 7010 Slow, Permahyd® Silicone Removers 7085, 7086 or 7096.
  - Axalta™ Silicone Remover 200 Slow, Axalta Silicone Remover 205A Spray, Axalta Silicone Remover 210 Water or Axalta Silicone Remover 220 Low VOC.
- Do not allow cleaner to dry on the surface prior to wiping dry with a clean cloth.

### ALUMINIUM REPAIR PROCESS

#### **For Best Results When Repairing Aluminum with Body Filler**

- When using body filler for aluminum repairs, apply 2 coats of Permasolid EP Primer Surfacer 4500 Light Gray to the aluminum substrate as per the TDS.
- Force dry 30 minutes at 140°F/60°C for an approximate film thickness of 1.5 mil or air dry 12 hours at 68°F/20°C.



- Sand with P320, remove debris using clean, dry, compressed air, and then clean the surface properly using the compliant cleaning system for the local area.
- Apply body filler to the thoroughly dried and sanded Permasolid EP Primer Surfacer 4500 Light Gray.
- Properly abrade body filler and finish sand with P180 – P240.
- For any cut-through areas to bare aluminum:

Option 1:

- Re-apply Permasolid EP Primer Surfacer 4500 Light Gray using a 2 coat application as per the TDS.
- Force dry 30 minutes at 140°F/60°C for an approximate film thickness of 1.5 mil or air dry 12 hours at 68°F/20°C.
- Scuff sand thoroughly with P320 – P500 for adhesion, remove debris using clean, dry, compressed air, and then clean the surface properly using the compliant cleaning system for the local area.

Option 2:

- Apply 1.5 to 2 coats of Priomat Wash Primer 4075 as per the TDS.
- Air dry Priomat Wash Primer 4075 30 minutes at 68°F/20°C.
- Apply Spies Hecker® Permasolid Surfacer to repair area using the “out-side-in” technique. Allow proper flash time between coats.
- Select the proper shade of Spies Hecker Permasolid Surfacer dependent on topcoat color required. If necessary, Permasolid EP Primer Surfacer 4500 Light Gray may also be used as a filling surfacer for low to medium builds of 1.5 to 3 mil.
- Refer to the respective base coat TDS, Permahyd Hi-TEC Base Coat 480 or Permacron® Base Coat Series 293/295, for surface prep instructions.

**For Best Results When Repairing Aluminum without Body Filler**

- Apply 1.5 to 2 coats of Priomat Wash Primer 4075 to the aluminum substrate as per the TDS. Air dry 30 minutes at 68°F/20°C.
- Apply a Spies Hecker Permasolid Surfacer to repair area using the “out-side-in” technique. Allow proper flash time between coats.
- Select the proper shade of Spies Hecker® Permasolid Surfacer dependent on topcoat color required.
- Refer to the respective base coat TDS, Permahyd Hi-TEC Base Coat 480 or Permacron Base Coat Series 293/295, for surface prep instructions.



### SPECIAL TIPS

- Oxidation forms immediately on exposed aluminum. If exposed for more than one hour the aluminum must be re-abraded and re-cleaned before applying any primer system.
- Utilize separate repair work areas, tools, sandpaper, and vacuum systems to avoid cross contamination. Follow all OEM recommendations for bonding, riveting, or welding of aluminum. Do not grind or sand aluminum substrates with grits coarser than 80 grit.

Do not use Permasolid EP Primer Surfacer 4500 Light Gray on reversible substrates or Priomat Primers.

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### VOC REGULATED AREAS

These directions refer to the use of products which may be restricted or require special mixing instructions in VOC regulated areas. Follow mixing usage and recommendations in the VOC Compliant Products Chart for your area.

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### SAFETY AND HANDLING

For industrial use only by professional, trained painters. Not for sale to or use by the general public. Before using, read and follow all label and SDS precautions. If mixed with other components, mixture will have hazards of all components.

Ready to use paint materials containing isocyanates can cause irritation of the respiratory organs and hypersensitive reactions. Asthma sufferers, those with allergies and anyone with a history of respiratory complaints must not be asked to work with products containing isocyanates.

Do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves.

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