ALUMINUM REPAIR & REFINISHING

FEATURED PROCEDURES
- BONDING & RIVET BONDING
- INNER PANEL REFINISHING
- 2K SEAM SEALING
- SOUND DAMPENING
### BONDING & RIVET BONDING

#### PREPARATION
Remove spot welds with a spot weld cutter; remove rivets by drilling or grinding. Remove damaged panel and straighten bent flanges with a hammer and dolly.

#### DRY FIT
Dry fit all panels before applying adhesive to ensure proper alignment and clearance. While dry fitting the panel during rivet bonding process, drill holes for replacement rivets or mark the location of self-piercing rivets per manufacturer’s instructions.

#### CLEAN
Clean surfaces to be bonded with SEM Solve or Zero VOC Surface Cleaner per directions.

#### GRIND
Grind mating flanges with a 36 grit grinding disc at low speed to maintain grinding marks, removing any adhesive or protective coating, such as paint, e-coat or galvanized coating. Some manufacturers may recommend leaving the OEM e-coat on the surface of the new replacement panel if rivet bonding. If this is the case, omit grinding with 36 grit and instead, scuff with a red scuff pad.

#### RE-CLEAN
Blow off and re-clean surfaces with SEM Solve or Zero VOC Surface Cleaner if necessary. Always use lint-free towels when cleaning surfaces to avoid particle contamination. Bonding surfaces should be clean, dry and free of debris.

#### EQUALIZE
Equalize cartridge by dispensing product until both parts flow evenly. Install Static Mixer. Purge a small amount of material to ensure proper mix. Cut tip to desired size.

#### APPLICATION
Apply a 3/8” – 1/2” bead of Multi-Purpose Panel Adhesive or Weld-Bond Adhesive to both bonding surfaces and tool with a spreader or acid brush, covering all exposed bare metal. Use enough material to completely fill the joint when parts are clamped.

#### BONDING
Clamp panel into place. Wipe away excess material. To assure maximum bond strength, surfaces must be mated within the adhesive’s working time.

#### RIVET BONDING
Clamp panel into place. Install rivets per manufacturer’s recommendations during adhesive’s working time. Clamps may be removed after rivets have been installed. Wipe away excess material.

#### Temperatures below 55°F (13°C) will slow the cure rate.

#### Temperatures above 85°F (29°C) will accelerate the cure rate.

#### To minimize cure time, heat to 120° – 140°F (49° – 60°C) for 1 hour.

### INNER PANEL REFINISHING

#### CLEAN
Clean surface with SEM Solve or Zero VOC Surface Cleaner.

#### SAND
Sand with 320 grit sandpaper or scuff with a gray scuff pad.

#### RE-CLEAN
Re-clean surface with SEM Solve or Zero VOC Surface Cleaner.
Use a clean tack rag to remove any dust or contaminants from the surface.

#### APPLY EZ COAT™
Shake aerosol for a minimum of 1 minute. Apply 2 – 3 medium coats of 1K HS Clear or until hiding is achieved. Allow 2 – 4 minutes flash time between coats.

#### APPLY FACTORY PACK™
Use a clean tack rag to remove any dust. Shake aerosol for a minimum of 1 minute. Apply 2 – 3 medium coats of Factory Pack or until hiding is achieved. Allow 2 – 4 minutes flash time between coats.

#### APPLY 1K HS CLEAR
Use a clean tack rag to remove any dust. Shake aerosol for a minimum of 1 minute. Apply 2 full coats or 3 medium coats allowing 3 – 5 minutes flash time between coats.

### Because of its size, a radiator support will flash as you are finishing the part. For smaller parts, be sure to allow adequate flash time.
### SOUND DAMPENING

<table>
<thead>
<tr>
<th>Step</th>
<th>Image</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><img src="image1.png" alt="Image" /></td>
<td><strong>CLEAN</strong>&lt;br&gt;Clean surface thoroughly with SEM Solve or Zero VOC Surface Cleaner.</td>
</tr>
<tr>
<td>2</td>
<td><img src="image2.png" alt="Image" /></td>
<td><strong>SAND &amp; RE-CLEAN</strong>&lt;br&gt;<strong>FOR BARE METAL</strong>&lt;br&gt;Sand bare metal with 80 grit sandpaper.&lt;br&gt;<strong>FOR PRIMED SURFACE</strong>&lt;br&gt;Sand primed surface with 400 grit sandpaper or gray scuff pad. Re-clean with SEM Solve or Zero VOC Surface Cleaner. Blow off and tack clean to remove lint and dust.</td>
</tr>
<tr>
<td>3</td>
<td><img src="image3.png" alt="Image" /></td>
<td><strong>EQUALIZE</strong>&lt;br&gt;Equalize cartridge by dispensing product until both parts flow evenly. Install Static Mixer. Purge a small amount of material to ensure proper mix. Cut tip to desired size.</td>
</tr>
<tr>
<td>4</td>
<td><img src="image4.png" alt="Image" /></td>
<td><strong>APPLY</strong>&lt;br&gt;Apply to necessary areas, duplicating existing texture. There is no need to apply in coats.</td>
</tr>
</tbody>
</table>
**SEM Solve**
A virgin solvent blend to clean panels prior to repair or refinish.

- Removes wax, grease and solvent soluble contaminants
- Leaves no residue

**Zero VOC Surface Cleaner**
A water-based cleaner designed to eliminate surface contaminants prior to refinishing.

- Removes dirt, oil, grease and silicone
- VOC compliant everywhere
- Eliminates static for better blends
- Non-flammable
- Environmentally friendly

**ADHESIVES**

**Dual-Mix™ Multi-Purpose Panel Adhesive**
A two-component epoxy for panel bonding
steel, aluminum, SMC and fiberglass.

- **Dual-Mix™ Forever Warranty**
- Superior impact and peel strength
- Excellent corrosion resistance
- Glass beads for consistent bond line thickness
- Non-sag formula
- 90 minute working time

**Dual-Mix™ Weld-Bond Adhesive**
A two-component, acrylic adhesive formulated to bond steel and aluminum surfaces without the use of an external primer.

- **Dual-Mix™ Forever Warranty**
- Superior impact and peel strength
- Glass beads for consistent bond line thickness
- Excellent environmental resistance
- 60 minute working time

**Dual-Mix™ Door Skin & SMC Adhesive**
A two-component epoxy that quickly bonds any combination of steel, aluminum, SMC and fiberglass.

- **Dual-Mix™ Forever Warranty**
- Non-sag formulation
- Excellent corrosion protection
- Bonds multiple substrates
- 30 minute working time

**Dual-Mix™ Patch Panel Adhesive**
A two-component, acrylic adhesive for quickly bonding metal panels without the use of an external primer.

- **Dual-Mix™ Forever Warranty**
- Superior impact and peel strength
- Non-sag formula
- Excellent corrosion resistance
- 10 minute working time

**Dual-Mix™ Non-Sag Fast Set Adhesive**
A two-component epoxy based adhesive for fast bonds on most surfaces.

- **Dual-Mix™ Forever Warranty**
- Superior adhesion
- Bonds multiple substrates
- 3 minute working time

**Dual-Mix™ Quick Set 20**
A fast, opaque, two-component urethane adhesive that sets in 20 seconds.

- **Dual-Mix™ Forever Warranty**
- For bonding most small plastic, metal and aluminum parts
- High strength and sandable
- Non-sag formula

**Dual-Mix™ Quick Set 50**
A fast, black, two-component urethane adhesive that sets in 50 seconds.

- **Dual-Mix™ Forever Warranty**
- For bonding most small plastic, metal and aluminum parts
- High strength and sandable
- Non-sag formula
**SEAM SEALING**

<table>
<thead>
<tr>
<th>Part</th>
<th>Product</th>
<th>Size</th>
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<tbody>
<tr>
<td>39310</td>
<td>Kit</td>
<td>3 oz.</td>
</tr>
<tr>
<td>39311</td>
<td>Insta-Bond Adhesive</td>
<td>1 oz.</td>
</tr>
<tr>
<td>39322</td>
<td>Insta-Bond Accelerator</td>
<td>1 oz.</td>
</tr>
</tbody>
</table>

**MINI-MAX™ General Purpose Adhesive**
A two-component, epoxy based adhesive for fast bonds on most surfaces.

**MINI-MAX™ Clear Fast Set Adhesive**
A two-component, clear epoxy for an invisible bond on plastic, metal, fiberglass and wood.

**SOUND DAMPENING**

<table>
<thead>
<tr>
<th>Part</th>
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<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>39357</td>
<td>Dual-Mix™ Flexible Urethane Foam</td>
<td>7 oz. Cartridge</td>
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<tr>
<td>39997</td>
<td>Dual-Mix™ Rigid Urethane Foam</td>
<td>7 oz. Cartridge</td>
</tr>
<tr>
<td>39977</td>
<td>Dual-Mix™ Panel Vibration Control Material</td>
<td>7 oz. Cartridge</td>
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</table>

**SEAM SEALING**

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<thead>
<tr>
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<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>39377</td>
<td>Dual-Mix™ Seam Sealer</td>
<td>7 oz. Cartridge</td>
</tr>
<tr>
<td>39387</td>
<td>Dual-Mix™ Self Leveling Seam Sealer</td>
<td>7 oz. Cartridge</td>
</tr>
<tr>
<td>39777</td>
<td>Dual-Mix™ High-Build Self Leveling Seam Sealer</td>
<td>7 oz. Cartridge</td>
</tr>
<tr>
<td>40977</td>
<td>Dual-Mix™ Sound &amp; Seal Sprayable Coating</td>
<td>7 oz. Cartridge</td>
</tr>
</tbody>
</table>
## FILLERS & GLAZES

### Carbo Fill+
An enriched filler with exceptional qualities for repairing SMC, FRP, HPA and PPO/PA, aluminum and metal.
- Carbon fiber for added strength
- Prevents swelling
- Resists staining and shrinkage
- Helps eliminate halo effect
- Easy to sand
- Excellent corrosion control

### Metal Bite
A two-component, polyester finishing glaze that quickly fills sand scratches and other minor imperfections.
- Fast drying to a tack-free finish
- Seals the repair area and prevents staining
- Exceptional sanding and feather edge
- Outstanding adhesion
- Use on aluminum, steel, SMC and fiberglass

## PRIMERS

### World Class™ DTM Primer
A VOC compliant, two-component epoxy that provides bare metal adhesion and filling in one product.
- 2.1 VOC compliant
- 4:1 Mix
- Outstanding adhesion on steel, aluminum and fiberglass
- Excellent corrosion control
- Builds quickly, sands easily
- Excellent color holdout

### World Class™ Acrylic Primer Surfacer
A VOC compliant coating for quick and easy priming of spots or complete panels.
- 2.1 VOC compliant
- 1:1 Mix with urethane reducer
- Excellent filling properties
- Sands quickly

### World Class™ HS Urethane Primer
A premium, high build, two-component, urethane primer formulated for use on automotive substrates.
- 4.2 VOC compliant
- 4:1 Mix
- Outstanding adhesion
- Excellent filling properties
- Sands quickly
- Excellent color holdout
- Available in gallons and quarts
Factory Pack™ DTM High Build Primer
A two-component epoxy primer for use on metal, aluminum, SMC and fiberglass.
- Superior adhesion
- Outstanding corrosion protection
- Exceptional filling properties
- High build formula
- Sealer mixing option
- Easy to sand

Ez Coat™
A unique, direct-to-metal coating that matches factory primers and e-coat colors.
- Duplicates factory appearance
- Direct-to-metal
- Quick curing and hiding
- Available in 7 popular OEM colors
- Paintable with most automotive base coats
- Excellent corrosion control

Self Etching Primer
A first step coating that provides excellent adhesion to bare substrates.
- Excellent adhesion to steel, aluminum and stainless steel
- Quick drying
- Black, gray and green colors available
- Comes in gallons, quarts and aerosols
- Bulk products VOC compliant

High Build Primer Surfacer
An elastomeric coating for priming automotive steel, aluminum, urethane and plastics.
- Provides superior adhesion
- Excellent filling properties
- Works on flexible or rigid substrates
- Easy to sand
- Topcoat with most refinish material

Metalock™ DTM High Build Primer
- Paintable with most refinish materials
- Should be clear coated

UNDERCOATINGS

Undercoating & Low VOC Undercoating
For corrosion protection, chip resistance and sound dampening on automotive frames, wheel wells and undercarriage areas.
- Asphalt based aerosol coatings
- Uniform final appearance
- Excellent adhesion
- Economical

Rubberized Undercoating & Low VOC Rubberized Undercoating
Premium, paintable, textured coatings for sound dampening, chip resistance and corrosion protection.
- Asphalt free
- Uniform final appearance
- Paintable without bleed through
- Fast-drying
- Aerosols include straw for tight spots

TOP COATINGS

Factory Pack™
A unique, time-saving line of basecoat colors for use on jambs, cut-ins, small accessories, and touch ups.
- Lower material cost
- Reduces booth bottlenecks
- Increases production
- Superior adhesion, flexibility and hiding
- Compliant everywhere
- Aerosol matched to OEM standards
- Should be clear coated

Trim Paint
Acrylic coatings formulated to restore the OEM finish on automotive trim components. For use on plastic, steel, aluminum, stainless steel and chrome.
- Excellent adhesion and durability
- No primer required
- Matches OEM appearance
- Retains flexibility
- Great coverage
- Professional results

Promax™
A multi-purpose enamel for exterior or interior use on steel, wood, fiberglass and aluminum.
- Outstanding coverage
- Excellent filling properties
- Durable, fast drying finish
- Great adhesion
- Professional finish

Ez Coat™
- Reduce labor up to 85%
- Paintable with most automotive base coats
- Excellent corrosion control

Self Etching Primer
- Paintable with most automotive base coats
- Excellent corrosion control

High Build Primer Surfacer
- Paintable with most refinish material
- Should be clear coated

Metalock™ DTM High Build Primer
- Should be clear coated

Undercoating & Low VOC Undercoating
- Economical

Rubberized Undercoating & Low VOC Rubberized Undercoating
- Paintable without bleed through
- Fast-drying
- Aerosols include straw for tight spots

Factory Pack™
- Should be clear coated

Trim Paint
- Professional results

Promax™
- Professional finish
Dual-Mix™ Forever Warranty

We know our products work great. And to prove it, our DUAL-MIX cartridges come with a lifetime warranty.

When used according to directions, SEM Products GUARANTEES to the purchaser that all DUAL-MIX products will perform to specifications forever. This warranty covers reasonable costs for labor, loss of use of the vehicle, parts and materials only and excludes consequential or incidental damages.