REPAIR PROCEDURES

INTER-MIX™ 60

SMC Panel Bonding Adhesive — Product # 8414

SMC Body Panel Replacement

1. Remove the damaged panel and all of the old adhesive from the vehicle. This can be accomplished by using a heat gun, putty knife and an air chisel. Be careful not to damage the vehicle structure. Mill and drill pads must be replaced if damaged and at appropriate height and length and width dimensions.
2. Remove all paint, primer, corrosion and rust from metal bonding areas using IES #7060 36 grit Abrasive Trim-Kut® Disc.
3. Straighten all metal bonding areas and temporarily clamp the replacement panel for proper alignment and fit.
4. Remove the replacement panel from the vehicle.
5. Clean the metal bonding area with IES #1700 Super Clean or IES #4700 Super Clean to remove all contaminates. Allow to dry.
6. Apply IES #1840 RUST-RAIDER Surface Prep to the metal bonding surface. Allow 30 minutes dry time. Rinse with water or wipe with a wet cloth, then wipe dry. Other bare metal areas that are not a part of the bonding area should be protected using IES #4186 Self-Etching Primer or two-part epoxy primer.
   Note: Using RUST-RAIDER Surface Prep is optional when bonding to bare metal and galvanized metal. It is necessary when bonding to aluminum. Test results show that when used, bond strength is increased by 25%.
7. Prior to sanding, clean the mating edge of the replacement panel with IES #1700 Super Clean or IES #4700 Super Clean to remove all contaminates. Allow to dry completely.
8. Using IES #7060 36 grit Abrasive Trim-Kut® Disc, scuff sand the mating edge of the new panel. Wipe clean with a clean, dry cloth.
9. Follow the enclosed directions for using Dual-Mix Cartridge products.
10. Apply IES #8414 SMC Panel Bonding Adhesive to all areas to be bonded. This means the replacement panel as well as the vehicle. Using a plastic spreader, tool out the adhesive to provide a base coat for an additional adhesive bead, ensuring all bare metal surfaces are coated.
11. Apply an IES #8414 SMC Panel Bonding Adhesive bead approximately 1/4" from the inside edge of the replacement panel.
12. Clamp the panel into its proper position within 60 minutes. When repositioning, slide the panel. Never lift the panel when repositioning. Apply clamps at 12" intervals or closer if necessary. In areas where clamps can not be applied, use sheet metal screws to draw the panel down wherever there is not a flush fit.
13. Tool any adhesive "squeeze out" to seal the outside seam along the bonded edge of the panel.
14. Clamps may be removed in 4 to 5 hours. Panel may need to remain clamped if temperature is below 73° F or if there is any tension on the panel. Cure time is 24 hours. De-clamping time and cure time can be accelerated by applying heat with a heat gun or heat lamps. Be careful not to overheat. Do not exceed 180° F.

Temp	De-clamping Time	Cure Time
73° F	4 to 5 Hours	24 Hours
140° F	2 Hours	15 Hours
160° F	1 Hour	12 Hours

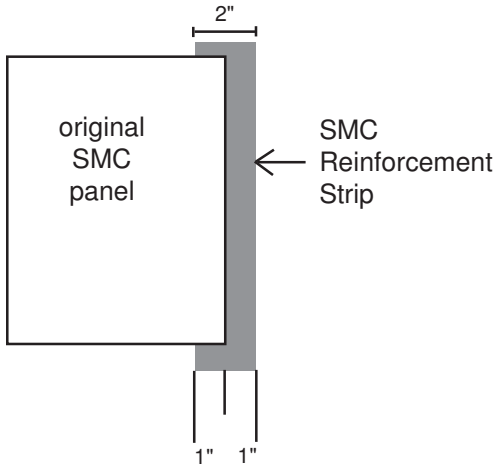
CAUTION: Although IES #8414 SMC Panel Bonding Adhesive is classified as a structural adhesive, it SHOULD NOT be used to bond structural components such as rails, core supports, pillars and rocker panels.

Sectioning Panels

Sometimes it is necessary to section body panels, especially when repairing portions of large body panels.

1. Cut the damaged panel at the point where the sectioning will occur.
2. Remove the damaged panel using a heat gun. Apply heat (about 400°F) to the bonding seams of the damaged panel and pry apart.
3. Make sure all mill and drill pads are in place. Straighten all metal bonding areas and remove all paint, primer, corrosion and rust from metal bonding areas using an IES #7060 36 grit Trim-Kut® Disc.
4. Create a reinforcement strip by cutting a 2" wide strip the length of the seam from the old panel. This reinforcement strip will be bonded to the backside of the original body panel. (1" will underlap original panel and 1" will stick out to attach to the new body panel). Ensure that the reinforcement strip is the same contour as the front panels that it is going to be bonded to.

(continued)



(drawing not to scale)

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Sectioning Panels (continued)

5. To bond the reinforcement strip to the backside of the original panel, scuff sand the backside with 36 grit sand paper in the area to be bonded. Sand the complete bond side of the reinforcement strip.
6. Wipe clean with a clean, dry cloth.
7. Pre-fit reinforcement strip to ensure proper fit. Decide whether you will use clamps or screws to hold it in place.
8. Using IES #7060 36 grit Abrasive Trim-Kut® Disc, scuff sand the mating edge of the new panel. Wipe clean with a clean, dry cloth.
9. Place adhesive cartridge in the applicator gun. Remove the mixer nut and end plugs from the cartridge. Tilting the gun back, pump the gun until both parts (A & B) are equally flowing from the cartridge. (See separate *INTER-MIX™* gun loading instructions).
10. Apply a 1/4" - 5/16" bead of IES #8414 SMC Panel Bonding Adhesive to the bond area of the reinforcement strip that will mate with the original body panel. Clamp reinforcement strip into position and allow to cure. Clamp so the adhesive will spread over the bond area. Do not over tighten, adhesive may completely squeeze out.
11. After the adhesive has cured, remove clamps and grind away all excess adhesive.
12. Follow the directions titled "SMC Body Panel Replacement" provided in the first section of these directions. Be sure to leave a 1/4" gap in-between the two panels. After you have installed the new sectioned panel, proceed to the following section titled "Applying A Bridge Patch To A Sectioned Joint".

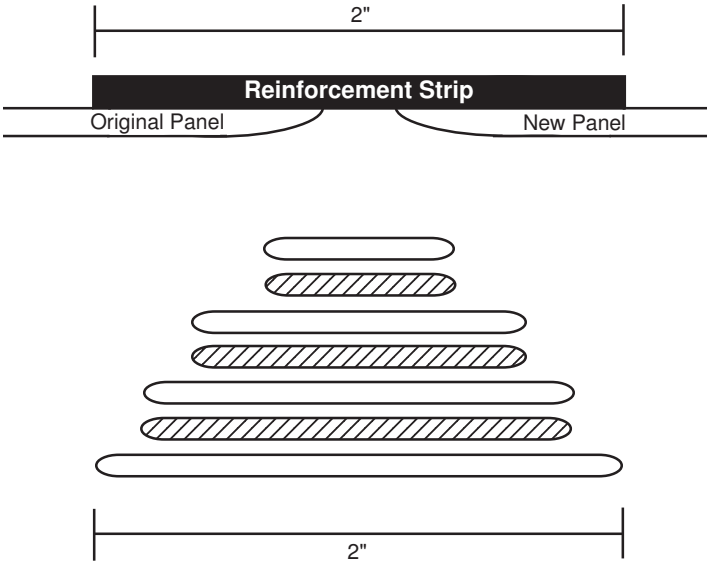
    NOTE: For smaller sections, you may want to use IES #8416 Hi-Stress Epoxy which provides a faster set up time.

Applying "Bridge Patch" To A Sectioned Joint

When completing a sectioned joint on some composites, thermal expansion must be considered as well to prevent "bull's eyes" or "read-throughs" in the final repair. To help prevent this, it is recommended to use a "Bridge-Patch".

1. In the joint area where the two body panels come together, grind down a 2" valley using IES #7060 36 grit Trim-Kut® Disc. Grind from the center of the joint down to the reinforcement strip, then a gradual taper outward, creating a valley about 2" wide.
2. Build a "Bridge Patch" using fiberglass body repair tape and *INTER-MIX™ 60* SMC Panel Bonding Adhesive. See Illustration A.
3. Begin by cutting three pieces of fiberglass tape. Start with a small width, then gradually increasing in size to just slightly smaller than the perimeter of the sanded area.
4. Wipe with a clean, dry cloth to ensure a clean surface.
5. Using IES #7060 36 grit Abrasive Trim-Kut® Disc, scuff sand the mating edge of the new panel. Wipe clean with a clean, dry cloth.
6. Place adhesive cartridge in the applicator gun. Remove the mixer nut and end plugs from the cartridge. Tilting the gun back, pump the gun until both parts (A & B) are equally flowing from the cartridge. (See separate *INTER-MIX™* gun loading instructions).
7. Apply adhesive to the joint area. Using a spreader, smooth out to a thickness of 1/16". Place the narrowest piece of fiberglass tape onto the joint. Apply another coat of adhesive and smooth out with a spreader. Continue layering fiberglass tape and adhesive until the valley has been filled.
8. Apply a flexible plastic film over the completed "bridge-patch". A roller may be used to work the adhesive into the repair. Roll from the center, out toward the sides.
9. Allow adhesive to set or heat set using a heat gun or heat lamp for 5 to 10 minutes at 180°F. Be careful not to over heat as damage may occur to the panel and the adhesive.
10. After adhesive is set and cooled, remove the plastic film and sand off all excessive adhesive. Sand the repair with 80 grit sandpaper. Make sure to cut in slightly below the SMC surface.
11. Apply a skim coat of IES #8001 Hi-Stress Epoxy or IES #8416 *INTER-MIX™* Hi-Stress Epoxy and finish.

(The reinforcement strip needs to be the same contour as the front panels it will be bonded to.)



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