



PLASTIC REPAIR AND REFINISHING PROCEDURES

Each year, over two billion pounds of automotive plastic parts roll off the OEM assembly lines and onto the street. Over time, many of these fenders, bumper covers, dashboards and interior trim panels need to be repaired and refinished.

In the past, the technician could not start the repair until he identified the plastic from which the damaged part was made. **SEM** eliminates this step by identifying three basic plastic categories: flexible, rigid and extra rigid, and then prescribes specific procedures and necessary products for repairing each type of plastic.

FLEXIBLE PLASTICS

PUR Polyurethane

TPUR Thermoplastic Polyurethane

RIM Reaction Injection Molded Urethane

And similar plastics

RIGID PLASTICS

ABS Acrylonitrile Butadiene Styrene

E/P-TPO Ethylene/Propylene Thermoplastic

PC Polycarbonate

PP Polypropylene

TPO Thermoplastic Olefin

TPE Thermoplastic Elastomer

UP Polyester Thermoset

EPDM Ethylene Propylene Diene Monomer

And similar plastic

EXTRA RIGID PLASTICS

SMC Sheet Molding Compound

FRP Fiberglass Reinforced Polyester

PC/ABS

HPA Honda Polymer Alloy

PPO/PA Rigid Polymer Alloy

GTX Alloy blend of nylon

And similar plastics



REPAIRING FLEXIBLE AND RIGID PLASTIC

SEM PREP MATERIALS



3833()
SCUFF & CLEAN



3835()
PLASTIC/LEATHER PREP
or
38464
WORLD CLASS™
VINYL/PLASTIC PREP



Gray scuff pads



80-180 grit sandpaper



Lint free towels



Grinder with 24 grit disc

SEM REPAIR PRODUCTS

For
ABS,
TPO,
PP,
PPO,
EPDM,
TEO or
TPE
use:



3976() PROBLEM PLASTIC REPAIR MATERIAL
or
68422 MINI MAX BUMPER REPAIR MATERIAL

For
PUR,
RIM or
TPUR
use:



39927 FLEXIBLE SEM WELD
or
39708 FLEXIBLE SEM WELD

Features

- State of the art epoxy technology adheres to substrates other repair materials cannot
- Superior adhesion for a strong and long lasting repair
- Does not shrink or pinhole which speeds up the repair process
- Zero VOC
- Excellent sanding and feather edge qualities for flawless repairs
- Saves money and time - no adhesion promoter necessary



39458
FLEXIBLE
POLYESTER PUTTY

Fills small imperfections such as sand scratches or abrasions and may be used as a finish coat on most automotive plastics and metal.



39482
FLEXIBLE
POLYESTER GLAZE

Skims over multiple substrates filling sand scratches and other minor imperfections. 39482 dispenses easily and spreads smoothly.



70006
PLASTIC REPAIR
REINFORCING TAPE

REPAIRING FLEXIBLE AND RIGID PLASTIC

- 1** Clean first with **3833() SCUFF & CLEAN** and a gray scuff pad. Rinse with water and dry. If contamination still exists after cleaning, water will bead on the surface. Repeat until beading no longer occurs.



- 2** Clean with **3835() PLASTIC/LEATHER PREP** using a clean lint free towel and wiping in one direction. Or, apply **38464 WORLD CLASS™ VINYL/PLASTIC PREP** and scrub with a clean gray scuff pad. Rinse **38464** with water and dry.

TECH TIP

Wiping in one direction will remove contaminants from the surface, rather than smearing contaminants.



NOTE: If the part to be repaired has been refinished, use **77713 XXX BUMPER STRIPPER** or **39913 URETHANE BUMPER STRIPPER** to remove the refinish material.



- 3** Cut or grind away ragged edges. Sand with 80 grit paper 2-3" around damaged area.



- 4** At low RPM, using a 24 grit disc, gradually "V" groove or dish out the damaged area.

NOTE: Grinding at high speed can create excess heat which may seal the pores of the plastic making adhesion difficult. If the substrate starts to smear or melt due to excessive grinding, blow off entire repair area to remove dust and clean again with **3835()**.



- 5** Reinforce large holes with **70006 PLASTIC REPAIR REINFORCING TAPE**. In such cases, clean the back side of the repair as outlined in steps 1 and 2. Cut or grind away ragged edges. Grind 3-4" around the damaged area using a 24 grit disc at low speed. Lay **70006** over the damaged area. Dispense repair material 2-3" beyond the repair area. Use a putty knife or spreader and press repair material firmly into repair area to eliminate air pockets.



- 6** Fill the front side of the repair area with repair material. Use a putty knife or spreader and press firmly into repair area to eliminate air pockets. Overfill repair material higher than surrounding area to allow for sanding.



- 7** Allow repair material to cure for 15-20 minutes before sanding with 80 grit paper. Finish sand with 180 grit paper.

- 8** For slight imperfections, reapply a skim coat of repair material, **39458 FLEXIBLE POLYESTER PUTTY** or **39482 FLEXIBLE POLYESTER GLAZE**. Re-sand with 180 grit sandpaper and clean with **3835()**.



- 9** Apply refinishing system of choice. See pages 6-7 for details.

TECH TIP

If the type of plastic being repaired is unknown, grind the plastic with a 24 grit disc at high speed. If the plastic begins to smear and melt, use **3976() PROBLEM PLASTIC REPAIR MATERIAL** or **68422 MINI MAX BUMPER REPAIR MATERIAL** to complete your repair. If the plastic is flexible and powders when you grind it, use **39927 FLEXIBLE SEM WELD** or **39708 FLEXIBLE SEM WELD** to complete the repair.

REPAIRING EXTRA RIGID PLASTIC

SEM PREP MATERIALS



**3833()
SCUFF & CLEAN**



**3835()
PLASTIC/LEATHER PREP
OR
38464
WORLD CLASS™
VINYL/PLASTIC PREP**



Gray scuff pads



80-180 grit sandpaper



Lint free towels



Grinder with 36-40 grit disc

SEM REPAIR PRODUCTS



39542 CARBO-FILL

OR

39492 NO SWELL PLASTIC PANEL FILLER

Formulated for exceptional cosmetic and structural repair for SMC, FRP, HPA and PPO/PA. They eliminate the risk of swelling the substrate, which is typically viewed as a "bull's eye" or "halo" by providing the same expansion and contraction characteristics as the original substrate. **39542** is carbon fiber enriched for extra strength and durability.

Features of 39542 and 39492

- Prevents swelling for invisible repairs
- Resists staining and shrinkage
- Easy to sand formulas save time and labor
- Quick cure time – sand in only 10-15 minutes



39337 DOOR SKIN & SMC ADHESIVE

A non-sag, two component adhesive for bonding door skins to door frames as well as SMC and SMC to metal.

Working time: 25-30 minutes

OR

4050() QUICK SET 50

A fast curing, general purpose urethane adhesive designed for automotive plastic repair.

Working time: 45-60 seconds



Application Guns Available:

- 70029 7 OZ DUAL-MIX APPLICATOR GUN**
- 70039 7 OZ PNEUMATIC DISPENSING GUN**
- 70073 2:1 MANUAL APPLICATOR GUN**
- 70083 2:1 PNEUMATIC DISPENSING GUN**
- 70019 1.7 OZ MANUAL APPLICATOR GUN**



**70006
PLASTIC REPAIR
REINFORCING TAPE**

REPAIRING EXTRA RIGID PLASTIC

- 1** Clean thoroughly with **3833 () SCUFF & CLEAN** and a gray scuff pad. Wipe off with a damp towel and dry.



- 2** Clean with **3835 () PLASTIC/LEATHER PREP** using a clean, lint free towel and wiping in one direction. Or, use **38464 WORLD CLASS™ VINYL/PLASTIC PREP** and scrub with a clean gray scuff pad. Wipe off **38464** with a damp towel and dry.



NOTE: Use caution during cleaning process and avoid saturating exposed fibers with water or solvent.

- 3** Sand with 80 grit 2-3" around damaged area. Using a 36-40 grit disc, gradually "V" groove or dish out the damaged area making a gradual taper, 1 1/2" wide leaving no sharp edges. Blow off to remove dust and clean again with **3835 () PLASTIC/LEATHER PREP**. Blow off again to ensure surface is completely dry.



NOTE: For cosmetic repairs, skip to step 6. For structural repairs, such as a puncture, continue to step 4.

- 4** Large holes should be reinforced with **70006 SEM REINFORCING TAPE** or a backer panel made from scrap SMC, fiberglass or similar plastic. Cut and fit scrap material to be used as a backer panel, making certain the original contour of the panel being repaired is followed as closely as possible. Bond backer panel in place with **39337 DOOR SKIN & SMC ADHESIVE** or **4050 () QUICK SET 50**. **39337 or 4050 () MUST BE USED FOR STRUCTURAL REPAIRS.**



- 5** Clean out all excess adhesive from the area to be filled. This is most easily done just after set time with a scraper or razor blade. Otherwise, carefully grind out with a 36-40 grit disc. If this material is not removed, it could cause swelling commonly known as a "bull's eye" or "halo."



- 6** Mix a 1" ribbon of cream hardener with a golf ball sized amount of **39542 CARBO-FILL** or **39492 NO SWELL PLASTIC PANEL FILLER**. Do not over catalyze or mix more than can be used in 3-5 minutes. Mix thoroughly to a uniform color.

- 7** Fill repair area with chosen repair material. Use a putty knife or spreader and press firmly into repair area to eliminate air pockets. Apply repair material higher than surrounding area to allow for sanding.



- 8** Allow repair material to cure for 10-15 minutes before sanding with 80 grit paper. Finish sand with 180 grit paper.



- 9** For slight imperfections, reapply a skim coat of repair material and finish sand with 180 grit sandpaper.

- 10** Apply refinishing system of choice. See pages 6-7 for details.

REFINISHING

SEM PREP MATERIALS



3835()
PLASTIC/LEATHER PREP
 or
 38464
WORLD CLASS™
VINYL/PLASTIC PREP



Gray scuff pads



320-400 grit sandpaper



Lint free towels

SEM REFINISHING PRODUCTS



39113
FLEXIBLE BUMPER SEALER

Formulated to form a barrier coat that eliminates sand scratch swelling and lifting of feather edges on repaired automotive bumper areas.



38203
GUIDE COAT BLACK

Gives the autobody technician a visual guide to a smooth surface when sanding most primer surfacers.



3913()
FLEXIBLE PRIMER SURFACER,
 420()3
HIGH BUILD PRIMER SURFACER

or
 39624
WORLD CLASS™
FLEXIBLE PRIMER SURFACER

	Flexible	Easy to Sand	High Build	Plastics	Metal and Aluminum	Water Based
3913()	•	•		•		
420()3	•	•	•	•	•	
39624	•	•		•		•

DUPLICATING A TEXTURED FINISH

3985() **TEXTURE COATING** and 4085() **CLEAR TEXTURE COATING** allows you to duplicate the original finish on plastic bumpers, instrument panels, dashes, consoles and other textured and vinyl parts. Textures ranging from a very fine, almost undetectable pattern to a heavy or waxy effect can be achieved simply by altering the distance to the surface, the speed of application or when applied with a spray gun, the fluid tip size.

When applying **TEXTURE COATING**, with either a spray gun or aerosol, it is important not to pull or release the trigger or valve over the surface being textured. This can result in an inconsistent texture. Allow sufficient flash times between coats to avoid losing texture. Once **TEXTURE COATING** is dry to touch, lightly sand area with a gray scuff pad or 400 grit sandpaper to achieve uniform texture.

TEXTURE COATING must be topcoated. 3985() and 4085() are compatible under most topcoats, but best results are achieved when used with **SEM COLOR COAT** or **BUMPER COATERS**.



REFINISHING

- 1** Blow off surface. Clean with **3835() PLASTIC/LEATHER PREP** using a clean, lint free towel and wiping in one direction. Or, use **38464 WORLD CLASS™ VINYL/PLASTIC PREP** and scrub with a clean gray scuff pad. Rinse **38464** with water and dry.



- 2** For flexible and rigid plastic repairs only, apply 2 medium wet coats of **39113 FLEXIBLE BUMPER SEALER** allowing 5-10 minutes flash time between coats. Allow 30 minutes drying time before priming.



- 3** To fill sand scratches and prepare the surface for painting, apply **3913() FLEXIBLE PRIMER SURFACER**, **420() 3 HIGH BUILD PRIMER SURFACER** or **39624 WORLD CLASS FLEXIBLE PRIMER SURFACER** per directions.

NOTE: 39624 does not require the use of 39113 FLEXIBLE BUMPER SEALER.



- 4** Allow primer to dry according to directions. Apply **38203 GUIDE COAT BLACK** per directions.



- 5** Dry sand with 320-400 grit paper. Blow off surface and tack clean with a tack cloth.

NOTE: Do not wet sand.



- 6** After priming and sanding, apply the paint system of choice.

NOTE: SEM BUMPER COATER AEROSOLS are available in many OEM colors to match most contrasting domestic and foreign bumpers.



When additional flexibility is required, SEM offers **39728 SUPER SEM FLEX**. **39728** is universal and is compatible with most major paint companies' materials.

TECH TIP

If the plastic part is too damaged to repair, aftermarket parts or OEM replacements may be used. Many of these parts are made from TPO, PP, EPDM and similar thermoplastics. **7772() XXX ADHESION PROMOTER** and **3986() PLASTIC ADHESION PROMOTER** promote adhesion of topcoat materials to these problem plastics ensuring a quality repair.



SEM SCHOOL



SEM School graduates
April 1,
2007

The better trained you are, the more profit your shop turns. That's why we offer comprehensive training programs to our customers. SEM School, a nationally known training program, is available at no charge to professionals who use and sell SEM products. Classes fill up fast! Visit our website, www.sem.ws to learn more!

BUMPER TAB REPAIR

SEM PREP MATERIALS



3833()
SCUFF & CLEAN



3835()
PLASTIC/LEATHER PREP
or
38464
WORLD CLASS™
VINYL/PLASTIC PREP

1 Clean thoroughly with 3833() **SCUFF & CLEAN** and a clean gray scuff pad. Rinse with water and dry.



2 Clean with 3835() **PLASTIC/ LEATHER PREP** using a clean lint free towel and wiping in one direction.

3 Drill 1/8" holes approximately 1/2" apart into the repair area. This will help lock the repair material in place.



NOTE: For application on TPO, EPDM, PP and other similar thermoplastics, use 3986() **PLASTIC ADHESION PROMOTER** or 7772() **XXX ADHESION PROMOTER** per directions.

ADDITIONAL PREP ITEMS



Gray scuff pads



Drill with 1/8" bit



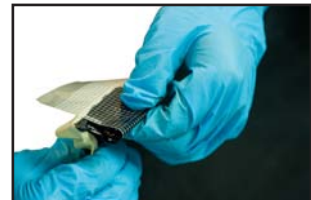
Lint free towels



Grinder with 36-40 grit disc

4 Cut a piece of 70007 **PLASTIC REPAIR CONTOURING TAPE** twice the length of the repair.

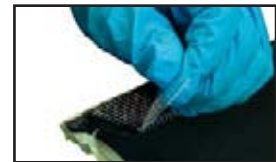
5 Dispense 4020() **QUICK SET 20** or 4050() **QUICK SET 50** onto 70007. Quickly apply 70007 and repair material to the repair area and mold into shape using your hands or a spreader.



NOTE: Work quickly - the repair material will set in 15-30 seconds using 4020() and 45-60 seconds using 4050().

CAUTION: 4020() and 4050() can get very hot while curing.

6 Allow the repair to cure for 5 minutes before removing plastic film.



SEM REPAIR PRODUCTS



3986() **PLASTIC ADHESION PROMOTER**
or
7772() **XXX ADHESION PROMOTER**



4020() **QUICK SET 20**
or
4050() **QUICK SET 50**



70007
PLASTIC REPAIR CONTOURING TAPE

7 Sand with a 36 grit disc to desired shape and drill as needed.



SEM SUPPORT

For technical information, application questions, assistance placing an order or help finding our products **CALL 800-831-1122.**



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