SMC/Fiberglass Repair Adhesive - 90
08274

Technical Data Sheet **June, 2014**

3M Part No.(s)	3M Part Descriptor(s)
08274	3M™ SMC/Fiberglass Repair Adhesive - 90

Product Description

3M™ SMC/Fiberglass Repair Adhesive - 90, PN 08274, is a two part epoxy adhesive. It has an extended work time that can be accelerated with heat if needed. It has excellent adhesion to a wide variety of substrates including aluminum, steel, and rigid plastics such as Sheet Molded Compound (SMC), Fiber Reinforced Polyester (FRP) i.e. fiberglass, and Metton®.

Features

- Paintable
- Can be heat cured
- Contains glass beads to maintain a 10 mil bond line
- Corrosion inhibiting additives
- Metered static mixing

Typical Physical Properties

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

	Part A	Part B
Container	400 ml dual cartridge	
Base	Epoxy	Amine
Density lbs/Gallon (Appx.)	8	10
Color	Black	Butterscotch
Solids Content (Appx.)	100%	100%
Consistency	Viscous Liquid	Viscous Liquid
Mix Ratio by Weight	172 Parts	100 Parts
Mix Ratio by Volume	200 Parts	100 Parts

Product Uses

3M™ SMC/Fiberglass Repair Adhesive - 90 is used to bond SMC and FRP to each other and to aluminum and steel.

Use with the following applicators; PN 08280 or PN 08284.
Use with the following 3M™ Mixing Nozzles; PN 08193 or PN 08194.

3M™ SMC/Fiberglass Repair Adhesive - 90
08274

Typical Performance Properties

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

The following times have been determined with ambient air temperature and substrate temperature @ 73°F (23°C) and are considered typical values.

MIX NOZZLE DWELL TIME:
20 minutes

WORK TIME:
90 minutes

CLAMP TIME
4 hours

SAND TIME:
24 hours

CURE TIME:
24 hours

PAINT TIME:
24 hours

Overlap Shear Adhesion

Adhesion to Various Substrates

Typical overlap shear strength of bonds with 10 to 12 mil bondlines are reported below as pounds per square inch (psi). All materials except aluminum, E-Coat, and two-part epoxy primed steel, were abraded with a 50 grit coated abrasive and solvent wiped with 3M™ General Purpose Adhesive Cleaner, P.N. 08984. Aluminum samples were abraded with a Scotch-Brite™ Rivet Cleaning Disc, P.N. 07410 and solvent wiped. E-Coat samples were solvent wiped. No extra surface preparation was performed on the epoxy primed steel. The bonds were allowed to cure for 7 days at 73°F and then tested on a Sintech tester at a joint separation rate of 0.5 inches/minute.
*****all adhesion values in psi

Substrate	-40°F	73°F	180°F
0.057" Steel/0.057" Steel	4003(C)	3935(C)	
0.036" Steel/0.036" Steel	3309(C)	2904(C)	1259(A)
0.035" E-Coat Primed Steel/0.035" E-Coat Primed Steel		3514(S)	
0.036" Galvanized Steel/0.036" Galvanized Steel		3008(C)	
Two-Part Epoxy Primed 0.036" Steel/Two-Part Epoxy Primed 0.036" Steel		2183	
0.062" Aluminum 6111/0.062" Aluminum 6111		3144(C)	
0.063" Aluminum 5754/0.063" Aluminum 5754		2152(A)	
0.057" Steel/0.062" Aluminum 6111		3795(C)	
FRP (Fiber Reinforced Polyester)/FRP		1283(S)	
SMC (Sheet Molded Compound)/SMC		785(S)	
ABS (Acrylonitrile butadiene styrene)/ABS		942(S)	
Acrylic (Plexiglas)/Acrylic		345(A)	
Polycarbonate (Lexan)/Polycarbonate		733(S)	
PVC (Polyvinyl Chloride)/PVC		578(A)	
HIPS (High Impact Polystyrene)/HIPS		122(A)	
Polystyrene/Polystyrene		116(A)	
Polypropylene/Polypropylene		435(A)	
HDPE (High Density Polyethylene)/HDPE		311(A)	
LDPE (Low Density Polyethylene)/LDPE		176(A)	
SBR (Styrene-Butadiene Rubber)/SBR		104(S)	

*(S) = Substrate Failure
(A) = Adhesive Failure
(C) = Cohesive Failure

Typical Performance Properties *(continued)*

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

Adhesion to Steel at Varying Bondline Thickness

*****all adhesion values in psi

Bondline Thickness	0.036" thick steel	0.057" thick steel
10 mils	2690	3935
20 mils	2638	3863
32 mils	2653	3693
41 mils	2601	3510
47 mils	2432	3268

Rate of Strength Buildup at Various Temperatures (0.057" Steel)

*****all adhesion values in psi

Cure Time	Cure Temperature				
	50°F	73°F	100°F	150°F	200°F
10 min				262	3061
20 min			22	1562	3707
40 min			32	3316	3786
1 hr			172	3569	
2 hr			1382	3833	
4 hr		78	2836		
5 hr		569			
6 h		865			
8 hr	24	1756			
16 hr	592	2920			
1 day	1413	3273			
7 days	2774	3935			

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08274

Directions for Use

SURFACE PREPARATION

1. Wash the surface with soap and water to remove water soluble contaminants. Clean with an appropriate 3M VOC compliant product to remove remaining surface contaminants. Reference the 3M Automotive Aftermarket catalog for a suitable VOC compliant product.
2. Sand the bonding surfaces with a P80 grit 3M abrasive.
3. Remove the dust from the surface using clean, compressed air and a clean rag.
4. Adhesion promoter should not be used on aluminum, steel, SMC or FRP. If repairing Metton®, apply a light, consistent coat of 3M™ Polyolefin Adhesion Promoter, PN 05907, to the repair area. Allow promoter to dry for 5 minutes before applying adhesive.

PRODUCT PREPARATION

1. Insert the cartridge into the applicator gun.
2. Remove the retaining collar and plug from the end of the cartridge. Discard the plug. Save the retaining collar.
3. Equalize the cartridge by extruding a small amount of product until both parts A and B dispense equally.
4. Attach the 3M™ Mixing Nozzle, PN 08193 or 08194 to the cartridge and lock it in place with the retaining collar.
5. Dispense a small amount of material out of the nozzle and discard.

GENERAL REPAIR PROCESS

1. Dry fit parts to ensure good fit.
2. Apply a continuous bead of adhesive to both parts.
3. If bare metal, spread adhesive across the entire repair surface with a 3M™ Spreader, PN 05842 or an acid brush for corrosion protection.
4. Mate the parts and clamp in place for 4 hours at 73ºF (or 15 minutes at 150ºF).

APPLICATION WARNINGS

1. If bonding flexible plastics or Metton®, apply a light, consistent coat of the 3M™ Polyolefin Adhesion Promoter, PN 05907, to the bonding surface as the last surface preparation step. Allow promoter to dry for 5 minutes before applying adhesive.

CLEAN-UP:

1. Remove excess PN08274 prior to complete cure by using an appropriate VOC compliant adhesive remover suitable for most surfaces, such as 3M™ Specialty Adhesive Remover (PN38984 / PN38987). Reference the 3M Automotive Aftermarket Catalog for the full line of suitable VOC compliant products.

Applications

See “Product Uses” on page 1.

3M™ SMC/Fiberglass Repair Adhesive - 90
08274

Storage and Handling

When stored at the recommended conditions in original, unopened containers, this product has a shelf life of at least 12 months from the date of manufacture. Store at room temperature. Rotate stock on a “first-in-first-out” basis. After use, leave the mix nozzle in place to seal the cartridge.

Precautionary Information

Refer to Product Label and Material Safety Data Sheet for Health and Safety Information before using this product. MSDS Doc# 09-4514-7.

Technical Information

The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

Product Use

Many factors beyond 3M’s control and uniquely within user’s knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user’s method of application.

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For Additional Health and Safety Information

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This is the last page