



Scotch-Grip™

Rubber & Gasket Adhesives

847 • 847-L • 847-H

Technical Data

July, 1996

(Supersedes May, 1, 1992)

Features

- 3M™ Scotch-Grip™ Rubber & Gasket Adhesives provide strong flexible bonds.
- **847 Adhesive** – Medium viscosity grade for many brush or flow applications.
- **847-L Adhesive** – Low viscosity grade for many brush or spray applications.
- **847-H Adhesive** – High viscosity grade for many brush or flow applications requiring gap filling or reduced soak-in.
- Quick drying.
- Excellent resistance to many fuels and oils.
- Bond leather, nitrile rubber, most plastics, gasketing materials to a variety of substrates.
- May be heat cured to obtain excellent physical properties.

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.

	847 Adhesive	847-L Adhesive	847-H Adhesive
Viscosity (approx.): Brookfield RVF @ 80°F (27°C)	1500-3200 cps. (#3 sp @ 20 rpm)	175-350 cps. (#2 sp @ 20 rpm)	35,000-90,000 cps. (#6 sp @ 4 rpm)
Solids Content (by wt.):	33-39%	22-26%	45-52%
Base:	Nitrile Rubber	Nitrile Rubber	Nitrile Rubber
Color (wet & dry):	Dark Brown	Brown	Dark Brown
Net wt. (approx.): (lbs/gallon)	7.4-7.8 lbs/gal	7.2-7.4 lbs/gal	7.5-7.9 lbs/gal
Flashpoint (closed up):	0°F (-18°C)	0°F (-18°C)	0°F (-18°C)
Solvent:	Acetone	Toluene, Acetone and Methyl Ethyl Ketone (MEK)	Acetone
Bonding Range: (10 mil wet film 2 surfaces)	Up to 15 minutes	Up to 20 minutes	Up to 10 minutes

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Handling/Application Information

Directions for Use:

- 1. Surface Preparation:** Remove all dust, dirt, oil, grease, wax, loose paint, etc. Wiping with a solvent such as 3M™ Scotch-Grip™ Solvent No. 3, methyl ethyl ketone (MEK) or 3M™ Citrus Base Cleaner will aid in preparing the surface for bonding.*
- 2. Application Temperature:** For best results the temperature of the adhesive and surfaces to be bonded should be at least 65°F (18°C).
- 3. Application:** Stir well before using
Porous Surface(s): Brush, flow or spray a thin, even coat of adhesive to one or both surfaces. Coating both surfaces is preferred since it gives greater strength and permits longer open time before bonding. Very absorbent materials may require more than one coat. Bond while adhesive is still wet or aggressively tacky. Join surfaces with firm pressure.
Non-Porous Surfaces: Brush, flow or spray a thin, even coat of adhesive to both surfaces. Allow adhesive to dry until tacky. Join surfaces with firm pressure.
- 4. Drying Time:** Drying time depends on temperature, humidity, air movement, and porosity of the materials bonded. Greater immediate strength may be obtained by heat or solvent reactivation. See Reactivation below.
- 5. Reactivation:** To solvent reactivate, coat both surfaces with adhesive. Allow to dry tack-free. Lightly wipe one surface with a solvent such as Scotch-Grip Solvent No. 3 or Methyl Ethyl Ketone (MEK)* Complete bond within 30 seconds.
To heat activate, coat both surfaces with adhesive. Allow adhesive to dry completely. Reactivate by heating one or both surfaces to a minimum of 180°F (82°C). Assemble immediately (while hot), using firm pressure to ensure contact.
- 6. Curing:** These products may be heat cured to obtain excellent properties. Cure assembled parts at time and temperature listed using 100 psi pressure on the bond line.

Temperature of Bondline	Time for Minimum Cure
200°F (93°C)	120 minutes
240°F (115°C)	40 minutes
280°F (138°C)	12 minutes
320°F (160°C)	8 minutes
360°F (182°C)	5 minutes
400°F (204°C)	2 minutes

- 7. Cleanup:** Excess adhesive may be removed with a solvent such as Scotch-Grip Solvent No. 3 or methyl ethyl ketone (MEK) or acetone, preferably while adhesive is still wet.*

***Note:** When using solvents, extinguish all sources of ignition and follow the manufacturer's precautions and directions for use when handling such materials.

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Application Equipment Suggestions

Note: Appropriate application equipment can enhance adhesive performance. We suggest the following application equipment for the user's evaluation in light of the user's particular purpose and method of application.

1. Pumping:

Scotch-Grip 847 and 847-H Adhesives.

5 Gallon Pail Dispensing System:

1. Pump – 4:1 double acting ball type check pump, 4 cu. in./cycle 3 in. air motor.
2. Pail cover required to reduce solvent loss.

55 Gallon Drum Dispensing System:

1. Pump – 4:1 ratio double acting ball type check pump, 4 cu. in./cycle 3 in. air motor, bung style pump.

Accessories:

1. Hose – nylon lined, 500 psi working pressure minimum.

Scotch-Grip™ 847-L Adhesive: A 2:1 divorced design pump is recommended.

Synthetic materials in contact with these adhesives must be resistant to ketone and aromatic solvents. Compar®, Nylon® and Teflon® coatings are recommended.

Packings and glands in contact with these adhesives should be made with Teflon® coatings.

2. Spray: Scotch-Grip 847-L Adhesive Production Type Spray Equipment

Spray Applicator	Air Cap	Fluid Tip	Air Pressure	Approximate Air Requirement*	Fluid Flow**
DeVilbiss JGA or AGB	704	FX	50 psi	14½ CFM	3 fl. oz./min.
Binks No. 62, No. 610	63PB	63B	40 psi	12½ CFM	1-2 fl. oz./min.

Airless Spray:

This adhesive is not recommended for airless spraying.

*2 H.P. Compressor for intermittent use.

3 H.P. Compressor for continuous use.

**To Measure Fluid Flow: Pressurize fluid source only; pull trigger; flow material into measuring device for 60 seconds; increase or decrease fluid source pressure to obtain desired fluid flow.

All material hoses should be Nylon® or PVA lined.

3. Brush: Typical brushes designed for oil based paints may be used.

Typical Adhesive Performance Characteristics

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180° Peel Strength Canvas/Steel			Overlap Shear Strength 1/8 in. / 1/8 in. Birch (Room temperature aged for 3 weeks)	
Time @ 75°F (14°C)	Test Temp	Value (piw)	Test Temp	Value (psi)
1 day	75°F (14°C)	13	30°F (1°C)	152
3 days	75°F (14°C)	23.5	75°F (14°C)	200
5 days	75°F (14°C)	27.5	150°F (66°C)	20
7 days	75°F (14°C)	31	180°F (82°C)	9
2 weeks	75°F (14°C)	35		
3 weeks	75°F (14°C)	40		
3 weeks	30°F (1°C)	20		
3 weeks	150°F (66°C)	16		

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Storage and Shelf Life

Storage: Store product at 60-80°F (15-27°C) for maximum storage life. Higher temperatures reduce normal storage life. Lower temperatures cause increased viscosity of a temporary nature. Rotate stock on a “first in-first out” basis.

Shelf Life: When stored in the original unopened container, under the conditions recommended, these products have a shelf life from date of shipment as follows:

3M™ Scotch-Grip™ 847 Adhesive	15 months
3M™ Scotch-Grip 847-L Adhesive	15 months
3M™ Scotch-Grip 847-H Adhesive	7 months

Precautionary Information

Refer to Product Label and Material Safety Data Sheet for Health and Safety Information before using this product.

For Additional Information

To request additional product information or to arrange for sales assistance, call toll free 1-800-362-3550. Address correspondence to: 3M Adhesives Division, 3M Center, Building 220-8E-05, St. Paul, MN 55144-1000. Our fax number is 651-733-9175. In Canada, phone: 1-800-364-3577. In Puerto Rico, phone: 1-787-750-3000. In Mexico, phone: 5-270-2180.

Important Notice

3M MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of application. Please remember that many factors can affect the use and performance of a 3M ITSD product in a particular application. The materials to be bonded with the product, the surface preparation of those materials, the product selected for use, the conditions in which the product is used, and the time and environmental conditions in which the product is expected to perform are among the many factors that can affect the use and performance of a 3M ITSD product. Given the variety of factors that can affect the use and performance of a 3M ITSD product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M ITSD product to determine whether it is fit for a particular purpose and suitable for the user's method of application.

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ISO 9002

This Industrial Tape and Specialties Division product was manufactured under a 3M quality system registered to ISO 9002 standards.

For Additional Product Safety and Health Information, See Material Safety Data Sheet, or call:



Adhesives Division

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