

3M™ Scotch-Weld™ Nitrile High Performance Rubber & Gasket Adhesive EC-847

Technical Data Sheet

Description

3M™ Scotch-Weld™ Nitrile High Performance Rubber & Gasket Adhesive EC-847 is a quick drying contact adhesive that provides a strong, flexible bond. This adhesive may be used to bond metal, wood, most plastics, and rubber. It has high immediate strength and excellent heat resistance.

Benefits

- Medium viscosity for many brush or flow applications.
- May be heat cured to obtain higher ultimate performance.
- Heat Resistance: 250°F (121°C) Cured, 160°F (71°C) uncured.
- Quick drying.
- Excellent fuel and oil resistance.
- Bond range (10 mil wet film 2 surfaces): up to 15 minutes.

Typical Physical Properties

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

3M™ Scotch-Weld™ Nitrile High Performance Rubber & Gasket Adhesive EC-847	
Viscosity (approx.): Brookfield RVF @ 80°F (27°C)	1500 to 3200 cps. (Spindle #3 at 20 rpm)
Solids Content (by wt.):	33 to 39%
Base:	Nitrile Rubber
Color (wet & dry):	Dark Brown
Net wt. (approx.): (lbs/gallon)	7.2 to 7.6
Solvent:	Acetone

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 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 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: 3M™ Scotch-Weld™ Nitrile High Performance Rubber & Gasket Adhesive EC-847 may be heat cured to obtain improved physical 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 methyl ethyl ketone (MEK) or acetone, preferably while adhesive is still wet.*

*When using solvents, extinguish all ignition sources, including pilot lights, and follow the manufacturer’s precautions and directions for use.

Typical Adhesive Performance Characteristics

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

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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 (24°C)	Test Temp	Value (piw)	Test Temp	Value (psi)
1 Day	75°F (24°C)	13	30 (-1°C)	152
3 Days	75°F (24°C)	23.5	75°F (24°C)	200
5 Days	75°F (24°C)	27.5	150°F (66°C)	20
7 Days	75°F (24°C)	31	180°F (82°C)	9
2 Weeks	75°F (24°C)	35		
3 Weeks	75°F (24°C)	40		
3 Weeks	30°F (-1°C)	20		
3 Weeks	150°F (66°C)	16		
3 Weeks	180°F (82°C)	9		

Shelf Life and Storage

The shelf life of 3M Scotch-Weld Nitrile High Performance Rubber & Gasket Adhesive EC-847 is 15 months from the date of shipment from 3M when stored at 60 to 80°F (15 to 27°C) in original unopened container. Higher temperatures reduce normal storage life. Lower temperatures cause increased viscosity of a temporary nature.

Precautionary Information

Refer to Product Label and Safety Data Sheet for health and safety information before using this product. For additional health and safety information, call 1-800-364-3577 or (651) 737-6501, and visit www.3m.com/3M/en_US/company-us/SDS-search/

For Additional information

In the U.S., call toll free 1-800-235-2376, or fax 1-800-435-3082 or 651-737-2171. For U.S. Military, call 1-866-556-5714. If you are outside of the U.S., please contact your nearest 3M office or one of the following branches:

Authorization to Use

Ensure products meet all applicable specifications, standards, and maintenance manual requirements for the platform being worked on and validate all aircraft approvals against current technical documentation.

**These products were manufacture under a 3M Quality Management System registered to the AS9100 standard*

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