

# 3M

## Scotch-Seal™

### Industrial Sealant

#### 800

Technical Data

June, 1995

(Supersedes March 1, 1987)

#### Features

- A reddish brown, brushable sealant. Air dries to a flexible seal that resists water, oils and fuel.
- Useful over a temperature range of -65° to 200°F (-54 to 93°C).
- Has excellent adhesion to many metallic surfaces.

#### 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.

|  |   |
|--|---|
| <b>Base:</b>   | Nitrile   |
| <b>Solvent:</b>  | Methyl Ethyl Ketone, Methyl Isobutyl Ketone   |
| <b>Color:</b>  | Reddish brown   |
| <b>Net Weight: (approx.)</b>                           | 8.2 - 8.6 lbs./gal.   |
| <b>Flash Point:</b>                                    | +20°F / -6.7°C  |
| <b>Solids Content: (by wt. - approx.)</b>              | 48 - 55%  |
| <b>Consistency:</b>                                    | Heavy syrup   |
| <b>Viscosity: (approx.)<br/>Brookfield Viscometer:</b> | 25,000 - 40,000 cps<br>RVF #7 sp. @ 20 rpm @ 80°F (27°C)  |
| <b>Coverage: (per gallon)</b>                          | 1500 lineal feet of 1/8 inch diameter wet bead<br>375 lineal feet of 1/4 inch diameter wet bead |
| <b>Tack Free Time: (approx.)</b>                       | 5 - 10 minutes  |
| <b>Dry Time: (approx.)</b>                             | 1 - 3 days  |

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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.

**Pump** – 5 to 1 ratio, double acting, ball type check valves, divorced design. Approximately 6 cubic in. per cycle with 3 in. air motor.

### 5 Gallon Pail Dispensing System:

**Primer** – Disc type follower plate.

### 55 Gallon Drum Dispensing System:

**Primer** – Single post elevator with disc type follower plate.

**Flow Gun** – Tip seal type.

**Pressure Filling Caulking Guns** – Same equipment as listed above.

**Manual Caulking Gun Filling:** Kenmar Model 4T caulking gun filler, Semco Model 330 Vaculoader, Graco Model 225-975 caulking gun filler .

**Hose** – Nylon lined hose, 500 psi working pressure.

### Reference Information:

**Material Temperature:** 40°F (4°C)    **Flow Gun:** 1/4 in. diameter Tip

| Hose Assembly:  | Material Pressure psi | Output Lb./Min. | Material Pressure psi | Output Lb./Min. |
|---|-----------------------|-----------------|-----------------------|-----------------|
| Ten Foot Length 3/4 I.D. Hose                                       | 270                   | 4.0             | 270                   | 4.0             |
| Twenty Foot Length 3/4 I.D. Hose                                    | 360                   | 4.0             | 270                   | 2.3             |
| Twenty Foot Length 3/4 I.D. Hose +<br>Ten Foot Length 1/2 I.D. Hose | 630                   | 5.2             | 270                   | 1.3             |
| Twenty Foot Length 1/2 I.D. Hose                                    | 585                   | 3.8             | 270                   | 1.2             |
| Ten Foot Length 1/2 I.D. Hose                                       | 450                   | 4.7             | 270                   | 1.6             |

**Note:** Material Pressure = Operating Air Pressure x Pump Ratio

**Note:** The solvent in this material attacks most materials except Nylon, Polysulfide, or Teflon.®

## Handling/Application Information

### Directions for Use

**Surface Preparation:** Best results are obtained on clean, dry surfaces. Oil, grease and other contaminants may be removed by wiping with solvent such as Scotch-Grip™ Solvent No. 3 (methyl ethyl ketone):\*

**Application:** Production dispensing is best achieved with pressure flow equipment. A minimum 5:1 ratio pump with follower plate is suitable. A hand caulking gun or brush may also be used.

**Drying Time:** Surface dries tack free in approximately 5 minutes after application. Complete drying, depending upon temperature and air movement, is obtained in approximately 1-3 days.

**Cleanup:** Equipment and excess sealer may be cleaned with a solvent such as Scotch-Grip Solvent No. 3 (methyl ethyl ketone):\*

**Coverage:** Approximately 1500 lineal ft./gal. for a 1/8 in. diameter bead.  
Approximately 375 lineal ft./gal. for a 1/4 in. diameter bead.

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

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## Typical Performance Characteristics

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

**Tensile/Elongation:** Test specimens were cut from 30 mil dry films of sealant and tested on an Instron at 20 in. per minute per Federal Standard No. 601. Methods 4111 and 4121.

| Conditioning                   | (psi) Tensile/Elongation (%) |
|--------------------------------|------------------------------|
| 1 week at 77°F (25°C)/50% R.H. | 180/1040                     |
| 1 week at 160°F (71°C)         | 200/1370                     |
| 4 weeks at 160°F (71°C)        | 215/750                      |
| 7 weeks at 160°F (71°C)        | 210/860                      |

**Weathering Resistance:** After 12 months exposure to an ocean atmosphere (Miami, Florida) sealant remained flexible and fairly soft, but did exhibit some shrinkage and pinholing.

After 500 hrs. exposure in an accelerated weathering unit (Weatherometer), sealant remained flexible and rubbery.

**Moisture Vapor Transmission:** When tested per Federal Standard UU-P-31B, Method 182, 800 Industrial Sealant in a 0.035 in. film has a moisture vapor transmission rate of 3.1 grams/sq. meter/24 hours.

**Low Temperature Flexibility:** a 0.010 in. dry film of 800 Industrial Sealant on a 1 in. x 6 in. by 0.020 in. thick aluminum panel can be bent at -55°F (-48.1°C) around a 2 in. radius without loss of adhesion or other signs of failure.

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## Storage and Shelf Life

**Storage:** Store product at 60-80°F (16-27°C) for maximum storage life. Higher temperatures reduce normal storage life. Lower temperatures may 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 at the storage conditions suggested this product has a shelf life of 15 months from date of shipment.

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## For Additional Information

To request additional product information or to arrange for sales assistance, call toll free 1-800-227-5933. Address correspondence to: 3M Industrial Tape and Specialties Division, 3M Center, Building 220-8E-04, St. Paul, MN 55144-1000. Our fax number is 612-736-4776. In Canada, phone: 1-519-451-2500. In Puerto Rico, phone: 1-809-750-3000. In Mexico, phone: 5-728-0400.

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## Precautionary Information

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

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## 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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## Limitation of Remedies and Liability

If the 3M product is proved to be defective, THE EXCLUSIVE REMEDY, AT 3M'S OPTION, SHALL BE TO REFUND THE PURCHASE PRICE OF OR TO REPAIR OR REPLACE THE DEFECTIVE 3M PRODUCT. 3M shall not otherwise be liable for loss or damages, whether direct, indirect, special, incidental, or consequential, regardless of the legal theory asserted, including negligence, warranty, or strict liability.

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:

# 3M

Adhesive Systems  
Industrial Tape and Specialties Division

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