

3M

Scotch-Seal™

Industrial Sealant

800

Technical Data

September, 2002

Features

3M™ Scotch-Seal™ Industrial Sealant 800 is a reddish brown, brushable sealant that air dries to a flexible seal that resists water, oils and fuel and adheres to many metallic surfaces and has a useful temperature range of -65° to 200°F (-54 to 93°C).

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.

Base:	Nitrile
Solvent:	Methyl Ethyl Ketone, Methyl Isobutyl Ketone
Color:	Reddish brown
Net Weight: (approx.)	8.4 - 8.8 lbs./gal.
Flash Point:	+20°F / -6.7°C
Solids Content: (by wt. - approx.)	50 - 59%
Consistency:	Heavy syrup
Viscosity: (approx.) Brookfield Viscometer:	25,000 - 45,000 cps RVF #6 sp. @ 20 rpm @ 77°F (25°C)
Coverage: (per gallon)	1500 lineal feet of 1/8 inch diameter wet bead 375 lineal feet of 1/4 inch diameter wet bead
Tack Free Time: (approx.)	5 - 10 minutes
Dry Time: (approx.)	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 + 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 3M™ 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.

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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Precautionary Information

Refer to Product Label and Material 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.

For Additional Information

To request additional product information or to arrange for sales assistance, call toll free 1-800-362-3550 or visit www.3M.com/adhesives. Address correspondence to: 3M Engineered Adhesives Division, 3M Center, Building 220-7E-01, 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: 52-70-04-00.

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ISO 9002

This Engineered Adhesives Division product was manufactured under a 3M quality system registered to ISO 9002 standards.

3M

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