

# 3M™ Scotch-Weld™ Elastomeric Coating EC-5816

## Technical Data Sheet

### Product Description

3M™ Scotch-Weld™ Elastomeric Coating EC-5816 is a one-part, abrasion and chemical resistant coating designed for the protection of fragile, porous, insulation materials (polyurethane foam, glass wool, cork, etc.). Scotch-Weld EC-5816 can be applied to primed metal substrates.

### Features

- Forms a tough, flexible, abrasion resistant coating.
- Resists heat, flame, and weathering.
- Resists gasoline, aircraft fuel, hydraulic oil and water.
- Can be applied by spraying, brushing or flow coating.

### 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>	Synthetic Elastomer
<b>Color</b>	White
<b>Density</b>	8.1 to 8.7 lb/gal (0.97 to 1.04 g/cc)
<b>Consistency</b>	Thin liquid
<b>Viscosity</b> (Brookfield RVF #2 at 20) rpm	50-500 cps
<b>Solids Content</b>	26.5 – 30.5%

### Handling/Application Information

Prior to application, 3M™ Scotch-Weld™ Elastomeric Coating EC-5816 should be thoroughly agitated for 3-5 minutes on a paint shaker to insure proper dispersion of pigments.

For application to foam, spray application is recommended. Apply approximately a 3 to 5 mil coating by multiple spray coats. Allow at least 5 minutes dry between coats.

Scotch-Weld EC-5816 dries to a tack free condition in approximately 30 minutes. The coating should dry a minimum of 48 hours prior to placing in service. Accelerated drying at 160°F (71°C) for 2 hours is recommended to remove residual solvent in order to avert blistering if the coating is exposed to 200 to 300°F (93.3-149°C) service.

Coverage is approximately 50 sq. ft./gallon for a 5 mil film. Surfaces to be coated must be clean, dry and free of oil or grease. Clean up can be accomplished with methyl ethyl ketone (MEK)\*.

**\*Note:** When using solvents, be sure to follow the manufacturer's precautions and directions for use.

### Application Equipment Suggestions

#### Equipment

Gun: HVLP

Fluid Tip/Air Cap: 1.1 to 1.8 mm

SPRAY IN CLOSED, WELL VENTILATED AREA

#### Spray Procedure

1. Apply moderate to heavy continuous coats using the following settings.

Atomization Pressure:	45 psi (3.1 bar)
Pot Pressure:	10-12 psi (.69-.83 bar)
Fan:	Medium to Wide
Target:	6-10 inches (15-25 cm)

Allow a minimum of five minutes to a maximum of four hours dry time before proceeding to Step #2.

2. Apply repeated coats until a void free surface is obtained (approximately 3-5 mils dry), using the following settings:

Atomization Pressure:	30 psi (2.1 bar)
Pot Pressure:	3-5 psi (.21-.34 bar)
Fan:	Medium
Target:	10-12 inches (25-30 cm)

**Note:** It is very important that this application is void free before applying additional coats.

Allow a minimum dry time of five minutes to a maximum of 24 hours before applying additional coating.

3. Apply additional coating as specified in Step #1. Apply 2-4 coats and allow to dry a minimum of 20 minutes to a maximum of 24 hours before applying additional coating. If sagging occurs, the coating thickness per application is too heavy; reduce material output or the number of coats per application. Heavy coats can also result in porosity; if porosity develops, repeat Step #2.

4. Repeat Step #3 until desired dry film thickness is obtained.

### Typical Coating Performance Characteristics

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

#### Fluid Resistance:

**Procedure:** Polyurethane foam was coated with 3M™ Scotch-Weld™ Elastomeric Coating EC-5816 and cured for 7 days at 77 ± 2°F (25 ± 1°C). The coated foam was immersed in the following test fluids for 24 hours at 77 ± 2°F (25 ± 1°C).

Fluid	Result after 24 hours Immersion
Distilled H <sub>2</sub> O	No effect
Mil-S-8802 Reference Fluid	No effect
Mil-L-3136A Hydrocarbon Fluid	No effect
JP-4, Commercial	No effect
Skydrol® 500 Hydraulic Oil	Some swelling of coating and some adhesion loss to foam
Mil-L-7808D Oil	No effect
Reg. Gasoline	No effect
5% H <sub>2</sub> SO <sub>4</sub>	No effect
5% NaOH	No effect

**Physical Properties:**

Procedure: Scotch-Weld EC-5816 was coated on a release surface to give approximately a 5 mil film when dried. After curing for 4 days at 77 ± 2°F (25 ± 1°C) the following tests were run:

Test	Typical Value
Tensile Strength (ASTM D-638)	2000 psi (13.8 MPa)
Elongation (ASTM D-638)	350%
Tear Strength	250 lb/in (1112 N/25 mm)
Abrasion Index CS-17 Wheel, 1000 g. load, 100 cycles	10.0 milligrams
Moisture Vapor Transmission ASTM-E-96-63T, Procedure A	10.0 grams/sq. meter/24 hours

**Additional Tests:**

Fire Retardancy: Cured Scotch-Weld EC-5816 is self-extinguishing when applied to flame retardant urethane foam and tested per ASTM D 1360.

Heat Resistance: A film of Scotch-Weld EC-5816 when exposed 300 hours at 300°F (149°C) or 50 hours at 355°F (179°C) will discolor but the film retains flexibility to temperature as low as -65°F (-54°C).

Salt Spray Resistance: Scotch-Weld EC-5816 applied to 3M™ Scotch-Weld™ Structural Adhesive Primer EC-1945 B/A primed aluminum exhibits no appreciable blistering, softening, or loss of adhesion after 1000 hours exposure in a 20% salt fog environment.

Weathering: When subjected to 500 hours in an Atlas Twin Arc Weather-O-Meter, Scotch-Weld EC-5816 exhibits moderate yellowing and slight chalking. The physical integrity of the coating does not appear to be adversely affected.

**Shelf life and Storage Conditions:**

The shelf life of 3M™ Scotch-Weld™ Elastomeric Coating EC-5816 is 6 months from the date of shipment when stored at 80°F (27°C) or below in the original unopened container.

**Precautionary Information**

Refer to product label and Safety Data Sheet (SDS) for health and safety information before using this product. For SDS visit our website [https://www.3m.com/3M/en\\_US/company-us/SDS-search/](https://www.3m.com/3M/en_US/company-us/SDS-search/).

**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 representative.

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

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