

# F-20 FOR EV

## Silicone Foam

**Saint-Gobain® Norseal®** F-20 for EV is a premium, medium-grade foam solution for packing prismatic lithium ion cells and for sealing battery packs. F-20 has outstanding water-sealing properties, excellent compression set and higher compression deflection than F-12. In addition, F-20 provides excellent thermal insulation. F-20 is silicone polymer based, providing excellent temperature tolerance, and is UL94 V-0 rated for flame resistance.

**Norseal** F-20 for EV is specially designed to provide the following features:

- Flame retardant, UL94 V-0 rated in thicknesses down to and including 1/16" (1.6 mm)
- Meets key industrial standards for flame resistance: ASTM E162 and ASTM E662
- Non-toxic, low smoke generation and low flame spread
- Smooth surface on both sides for excellent sealing against air, dust, light and moisture
- Excellent compression set resistance
- Excellent resistance to UV light, ozone and extreme temperature ranges
- Non-corrosive for use with metals and in hostile environments
- Available in combination with pressure-sensitive adhesives
- Provided in roll-stock for ease of conversion

## Available Sizes

Standard thickness: .063, .125, .188, .25, .375 and .50 in.  
(1.6, 3.2, 4.8, 6.4, 9.6 and 12.7 mm)

Master roll size: 36 in. (914 mm) width. Length varies with thickness.

Special thickness and roll sizes also available.



## APPLICATIONS

- Lithium ion cylindrical cell cushioning battery pack
- Electronic modules for power devices/supplies
- Automotive electronics
- Electrical insulation
- Vibration mounts

**Norseal F-20 — Properties**

(Formerly known as ProtectiON® SF70)

Performance tests are run using standard test procedures. The values presented are typical values and should not be used for specification purposes.

| Property                                                   | Test Method    | Value                                                               |
|------------------------------------------------------------|----------------|---------------------------------------------------------------------|
| Color                                                      | —              | Gray                                                                |
| Thickness: in.                                             | —              | .063, .125, .188, .25, .375, .50<br>(1.6, 3.2, 4.8, 6.4, 9.6, 12.7) |
| Tensile: psi                                               | ASTM D412      | 30                                                                  |
| Elongation: %                                              | ASTM D412      | 45                                                                  |
| Compression Deflection: psi                                | ASTM D1056     | 10                                                                  |
| Compression Set: %                                         | ASTM D1056 "D" | 5                                                                   |
| Thermal Insulation (R-value): ft <sup>2</sup> ·h·°F/Btu·in | ASTM C518      | 1.9                                                                 |
| Temperature Range: °F                                      | —              | -60 to 400                                                          |
| Density: lb/ft <sup>3</sup>                                | ASTM D3574     | 20                                                                  |
| Flame Spread Index: L1                                     | ASTM E162      | 14                                                                  |

**Important Instructions**

Because **Saint-Gobain** cannot anticipate or control every potential application, we strongly recommend testing of this product under individual application conditions prior to commercial use.

**Shelf Life**

10 years after the date of sale for base material when stored in original packaging at temperatures up to 70°F (21°C) and 50% relative humidity.

**Saint-Gobain Tape Solutions**

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**IMPORTANT:** It is the user's responsibility to ensure the suitability and safety of Saint-Gobain products for all intended uses and that the materials to be used comply with all applicable regulatory requirements. Saint-Gobain assumes no responsibility for any product failures that occur due to misuse of the materials it provides arising out of the design, fabrication or application of the products into which the materials are incorporated.

**WARRANTY:** For a period of 6 months, Saint-Gobain warrants this product(s) to be free from defects in manufacturing. The only obligation under any applicable product warranty will be to replace any portion proving defective, or at our option, to refund the purchase price thereof. SAINT-GOBAIN DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

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