

# F-12

## Silicone Foam Rubber

**Saint-Gobain® Norseal® F-12** silicone foam combines unique flame retardancy and low toxic gas emission properties with excellent compression set resistance, conformity and low density. Combining two or all of these properties makes F-12 the ultimate fireblocking silicone foam for fire- and heat-resistant gaskets, seals and cushioning, as well as radiant heat shields and insulation blankets.

F-12 offers a high degree of design flexibility. Lightweight and easy to process, it can be laminated to seat cover fabrics and carpeting as a backing for added flame resistance in passenger compartment furnishings. For aircraft and aerospace applications, F-12's very low density allows for weight savings, which increases aircraft fuel efficiency. As lamp gaskets for high intensity lighting, F-12's compression set, fire resistance and excellent weathering properties allow for safe, continuous outdoor operation and low maintenance.

**Norseal F-12** is specially designed to provide the following features:

- Meets industry standards: FAR 25.856 (A-1 and B), Bombardier Smp 800-C, UL 94 V-0
- Withstands 2100°F flame for 10 minutes
- Low levels of toxicity and smoke generation
- Excellent compression set resistance
- Lightweight
- Meets requirements of FDA extractables 21.CFR 177.2600 for food contact
- Can be cast onto various substrates, including heat shielding materials, tear-resistant materials and vapor barriers
- Available as a pressure-sensitive adhesive tape under the **Norseal** Silicone SNS 512AF product line

### Available Sizes

Standard thickness: .063, .125, .188, .25, .375, .50, .75 and 1 in. (1.6, 3.2, 4.8, 6.4, 9.6, 12.7, 19 and 25.4 mm)

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



## APPLICATIONS

- Trains
- Medical equipment
- Aerospace
- Street lamps

## Norseal F-12 - Properties

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

Property	Unit of Measure	Value	Test Method
<b>PHYSICAL</b>			
Colors	-	Gray (Std.), White, Black, Brown	-
Tensile Strength	psi	25	ASTM D412
Elongation at Break	%	60	ASTM D412
Density	lb/ft <sup>3</sup>	12	ASTM D3574
Compression Deflection	psi	3.0	ASTM D1056
Compression Set (50% for 22 hrs. at 212°F)	%	5	ASTM D1056
Surface Description	-	Textured one side	Visual

### FLAMMABILITY

Flame Spread Index, Radiant Panel	Is	12.1	ASTM D3675
Limiting Oxygen Index	%	34.0	ASTM 2863
Boston Fire Dept. Chair Test, January 1986	-	In compliance	-
FAR 25.856 (A-1 and B)	-	Pass	-
Bombardier SMP 800-C	-	Pass	-
UL 94 V-0	-	Pass	-
Smoke Density D <sub>s</sub> 4 min. D <sub>s</sub> 1.5 min.	-	< 50 < 20	ASTM E662 ASTM E662
Flame Spread Index	Is	(Is) / < 35	ASTM E162

### ENVIRONMENTAL

Temperature Range	F° (°C)	-60 to +400 (-51 to +204)	
FDA Extractables, 21 CFR177.2600	-	Pass	-
Noise Reduction Coefficient	NRC	0.3	ASTM C423
Products of Combination, Hydrogen Cyanide	PPM	0	ASTM E662

### ELECTRICAL AND THERMAL

Thermal Conductivity	BTU-in./hr.-ft <sup>2</sup> -F (K factor)	0.42	ASTM C177
Dielectric Constant	at 100 Hz	1.31	ASTM D150
	at 1 KHz	1.30	ASTM D150
	at 1 MHz	1.32	ASTM D150
Arc Resistance	Seconds	1.2	ASTM D495
Insulation Resistance	ohms	2.3 x 10 <sup>14</sup>	ASTM D257

### 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 (for optional PSA, see other data pages).

**IMPORTANT:** It is the user's responsibility to ensure the suitability and safety of Saint-Gobain Performance Plastics products for all intended uses and that the materials to be used comply with all applicable regulatory requirements. Saint-Gobain Performance Plastics 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 Performance Plastics 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 PERFORMANCE PLASTICS DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

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