

# Technical Data Sheet

Silicone Rubber Thermally Conductive Sponge SIL-X-600-FFF



## Material

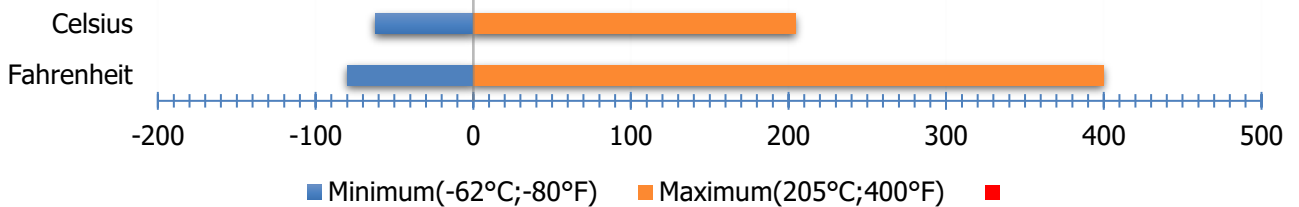
Predominately closed cell  
Thermally Conductive Silicone  
Sponge



## Available Grades

SIL-X-600-FFF

## Temperature Range



## General Information

Silex SIL-X-600-FFF series is a thermally conductive closed-cell silicone sponge rubber. This material offers thermal conductivity, electrical isolation and compression set resistance (vibration absorption).

SIL-X-600 FFF is the superior choice for battery pack gap filling, optimizing the efficiency and extending the service life of the individual battery cells.

Its unique features make it an ideal gap filler for vibration-sensitive heat transfer application.

## Environmental Resistance

Silicone rubber products have an excellent resistance to:

- Ozone
- Oxidation
- Ultraviolet light
- Corona discharge
- Cosmic radiation
- Ionising radiation
- Weathering in general

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SILEX LTD

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E-Mail: [sales@silex.co.uk](mailto:sales@silex.co.uk), Website: [www.silex.co.uk](http://www.silex.co.uk), Registered company number: 1951973. Place of registration: England & Wales.

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## Availability Format

- Thicknesses of 0.8, 1.6, 2.4, 3.2, 4.8, 6.35mm (1/32, 1/16, 3/32, 1/8, 3/16, 1/4 inch)
- Supplied in rolls or individual sheets (6.35mm in sheet form only 914mm x 914mm)
- Widths up to 914mm
- Pressure sensitive adhesive backing\*
- Punched/Water jet gaskets
- Available in light green colour
- Rolls up to 4.5m long

## Typical Applications

- Lithium ion battery pack for electric vehicles
- Computers
- Telecommunications
- Electrical insulation
- Military
- Medical
- Heat pipe assemblies
- Vibration mounts
- Press pads
- Decal transfer

## Mechanical Properties

Sheeting		SIL-X-600 FFF	
Property	Units	Typical Value	Test Method
Density	kg.m <sup>3</sup> lb.ft <sup>3</sup>	1105 69	ASTM D297
Compression Deflection 25% Compression	kPa (psi)	152 (18)	ASTM D1056
Compression Set	% typical	15	ASTM D1056
Tensile Strenght	kPa (psi)	828 (120)	ASTM D412
Dielectric Strenght	Volts / mil	100	ASTM D149
Elongation	%	150	ASTM D412

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Sheeting		SIL-X-600 FFF	
Compression	Pressure PSI	Thermal Conductivity (W/mK)	Thermal Impedance (°C/in <sup>2</sup> -w)
Contact	<1	0.30	6.0
10%	5	0.40	4.5
25%	12	0.45	2.5
50%	34	0.65	1.0

## Accreditations

- REACH compliant and ROHS compliant

## Features

- Silicone based, for long life and temperature stability
- Closed-cell sponge structure provides compression set resistance, critical for vibration control
- Thermally conductive
- Electrically isolative
- Conforms to irregular (cylindrical and other) surfaces
- Meets FDA 21 CFR 177.2600

## Additional Information

- **Options (subject to minimum order requirements):**

Adhesive base: Low tack silicone pressure-sensitive adhesive and solvent-resistant acrylic pressure-sensitive adhesive on one side. (PSA increases thermal resistance by 0.05 C/W.)

- **Important instructions:**

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

For PSA options, surfaces must be clean and free of oil, grease, moisture, dust and dirt. Isopropyl alcohol is good for cleaning the surface.

Recommended service temperature of base fabric is -80°F to 400°F (-62°C to 205°C).

- **Shelf life:**

10 years after the date of manufacture when stored in original packaging at temperatures up to 95°F (35°C) and 70% relative humidity (see applicable data sheets for pressure-sensitive adhesive option).

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