

Technical Data Sheet

Silicone Rubber Sponge

High Temperature (270°C)



Material

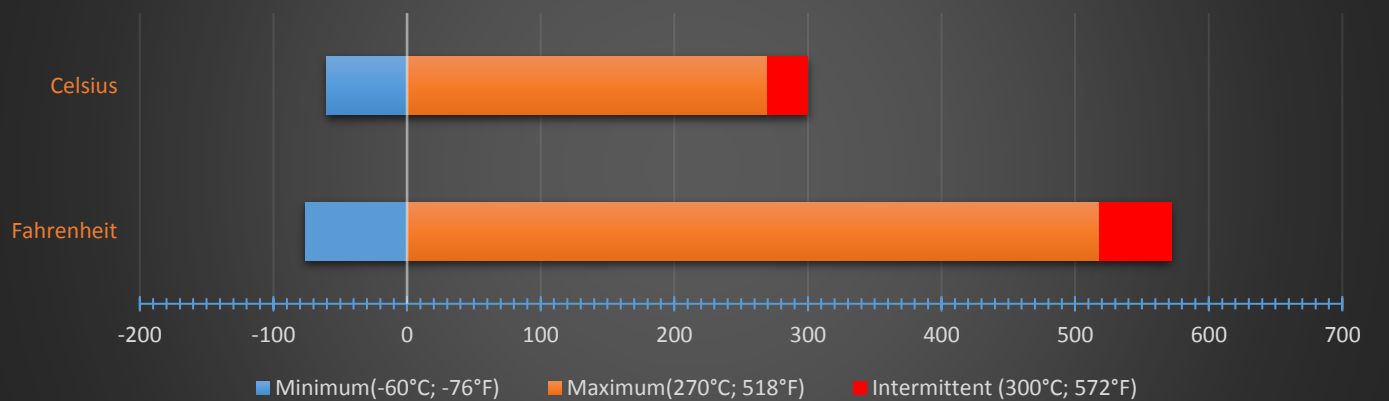
Closed cell Silicone Sponge for high temperature applications

Available Grades

SIL10HT, SIL16HT, SIL20HT, SIL24HT, SIL33HT

Temperature

Temperature Range



General Information

These products meet the flammability requirements of FAR 25/JAR 25/CS 25 Appendix F, Part 1, (a)(1)(iv) and (a)(1)(v) horizontal flammability test and Automotive Standard PART 571FMVSS302.

The sponge is closed cell with low water absorption and dust ingress protection up to IP65, subject to design.

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 SILICONES LIMITED

Unit 10, Oakhanger Farm Business Park, Oakhanger, Hampshire, GU35 9JA, Tel 0044 1420 470 360, Fax 0044 472 802
E-Mail: info@silex.co.uk, Website: www.silex.co.uk, Registered in England No. 1951973
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Availability Format

EXTRUSIONS

- ✓ Cord, section, strip, profiles
- ✓ Joined rings and gaskets
- ✓ Pressure sensitive adhesive backing
- ✓ Full range of standard colours
- ✓ Capability to colour match

SHEETING

- ✓ Supplied in rolls or individual sheets
- ✓ Widths up to 1000mm
- ✓ Pressure sensitive adhesive backing
- ✓ Punched/Water jet gaskets
- ✓ Full range of standard colours
- ✓ Capability to colour match

Typical Applications

- ❖ Automotive
- ❖ Electronics
- ❖ Energy
- ❖ Construction
- ❖ Heating and Ventilation (HVAC)
- ❖ Industrial
- ❖ Insulations
- ❖ Lighting and Marine

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Mechanical Properties

EXTRUSIONS		SIL 10HT	SIL 16HT	SIL 20HT	SIL 24HT	SIL 33HT	
Property	Units	Typical Value	Typical Value	Typical Value	Typical Value	Typical Value	Test Method
Density *	kg.m ³ lb.ft ³	219 13.7	263 16.4	310 19.3	387 28.1	579 36.2	BSENISO 845
Hardness **	Shore OO Shore A	19.1 ±5 1.9	51.3 ±5 9.7	57 ±5 11	63.1 ±5 12.8	86.2 ±5 35	ASTM D2240
Compression Stress 40% strain ***	kPa PSI	32 4.6	84.2 12.2	115 16.6	121 17.6	428 62.1	BSENISO 3386 part 1, 2
Tensile Strength	MPa PSI	0.23 33.4	0.44 63.8	0.40 58.0	0.39 56.6	1.26 182.8	BSENISO 1798 ASTM D412
Elongation to failure	%	400	148.9	140	142.9	144	BSENISO 1798
Compression Set 50% Compression 24hrs Recovery. 22hrs @ 70°C (158°F)	%	10.0	0.6	1.2	1.0	4.3	BSENISO 1856
Compression Set 50% Compression 24hrs Recovery. 22hrs @ 100°C (212°F)	%	13.8	3.5	4.9	4.0	6.9	BSENISO 1856

In-house capabilities for extensive industry specific testing available on request

*Density measured on 25mm diameter cord sample. The density of samples of different sizes will be different from that stated here.

**Hardness measured on 10mm thick samples. At less than 10mm the measured hardness will increase with density.

***Compression Stress measured on samples as defined by BSENISO 3386. The compressive stress on samples of different dimensions, especially thickness, may vary from that quoted here. For further information about physical properties for other sample sizes, please contact the technical department.

It is not possible to perform a Shore A hardness test on sponge material. These values are provided as a guideline for comparison to solid materials and as such are not designed for use in specifications.

For further information about physical properties of other sample sizes, please contact the technical department.

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SHEETING		SIL 10HT	SIL 16HT	SIL 20HT	SIL 24HT	SIL 33HT	
Property	Units	Typical Value	Typical Value	Typical Value	Typical Value	Typical Value	Test Method
Density *	kg.m ³ lb.ft ³	220 14.0	250 16.0	310 19.0	390 24.0	550 34.3	BSENISO 845 ASTM D3574
Hardness **	Shore OO Shore A	35 ±5 <5	42 ±5 5	57 ±5 15	63 ±5 17	86 ±5 30	ASTM D2240
Compression Stress 40% strain	kPa	50	90	120	165	470	BSENISO 3386 part 1, 2
Compression Stress 25% strain	PSI	4.6	6.4	8.3	9.0	34.8	ASTM D1056
Tensile Strength	MPa PSI	0.6 87	0.6 87	0.8 116	0.8 116	2.0 290	BSENISO 1798
Elongation to failure	%	140	145	120	120	130	BSENISO 1798
Compression Set 50% Compression 24hrs Recovery. 22hrs @ 70°C (158°F)	%	10.0	1.0	1.0	1.0	4.0	BSENISO 1856
Compression Set 50% Compression 24hrs Recovery. 22hrs @ 100°C (212°F)	%	22.0	4.0	5.0	4.0	10.0	ASTM D1056

In-house capabilities for extensive industry specific testing available on request

*Density measured on 25mm diameter cord sample. The density of samples of different sizes will be different from that stated here.

** Hardness measured on 10mm thick samples. At less than 10mm the measured hardness will increase with density.

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General Characteristics

Test	Result	Standard
Brittle Point	-80°C (-112 °F)	ASTM D746
Limiting Oxygen Index	24.0 %	BS 2782 Part 1
Thermal Conductivity	0.24 W.m ⁻¹ .K ⁻¹	VDE 0304
Radiation Resistance	>10 ⁵ Grays (10 ⁷ Rads) typical	
Dielectric Strength	23 kV.mm ⁻¹	VDE 0303
Dielectric Constant	2.9	VDE 0303
Dissipation factor	3x10 ⁻⁴	VDE 0303
Volume Resistivity	3x10 ¹⁵ Ω.cm	VDE 0303

Accreditations

- ❖ FAR 25/JAR 25/CS 25 Appendix F, Part 1, (a)(1)(iv)(a)(1)(v) horizontal flammability test
- ❖ Automotive Standard PART 571FMVSS302
- ❖ REACH compliant and ROSH compliant

Additional Information

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