

TECHNICAL DATA SHEET

Flame Retardant Solid Silicone Rubber – Mouldings & Extrusions

Grades: SE40FR SE50FR SE60FR SE70FR & SE80FR

Temperature Range: -60°C (-76°F) to 230°C (446°F)

AVAILABILITY

The SE range of Silicone Rubbers is available in the form of mouldings and profile extrusions, which can be jointed or self-adhesive backed. They are particularly suited to use as seals and gaskets, in areas where public safety is critical. There is a full range of standard colours available and Silicone Engineering has the capability to colour match to customer requirements.

Other materials available at silicone engineering include solid sheeting, sponge sheeting, sponge extrusion, customer compounding and cable grades

SPECIFICATIONS

These products meet the flammability requirements of FAR 25/JAR 25/CS 25 Appendix F, Part 1, (a)(1)(i), (a)(1)(ii) vertical and (a)(1)(iv), (a)(1)(v) horizontal flammability tests.

SE60FR has been tested to and complies with the requirements of ABD0031.

They also meet the requirements of UL94 V0, V1, and V2. However, these materials do not hold UL approval.

GENERAL CHARACTERISTICS FOR SILICONE RUBBER

Brittle Point	-80°C (-112 °F)	ASTM D746
Limiting Oxygen Index	24.0 %	BS 2872 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 @ 50c/s	3x10 ⁻⁴	VDE 0303
Volume Resistivity	3x10 ¹⁵ Ω.cm	VDE 0303

Environmental Resistance – Silicone rubber products have an excellent resistance to ozone, oxidation, ultraviolet light, corona discharge, cosmic radiation, ionising radiation and weathering in general. Typical radiation resistance is > 10⁵ grays (>10⁷ rads)

Other grades of silicone rubber available from Silicone Engineering are:

- * General Purpose Grades
- * Cellular silicone Products
- * High Temperature Grades
- * High Tear Grades
- * Flame Retardant Grades
- * Low Combustion Hazard Grades
- * Custom Compounds

This wide range of grades and production capability in silicone rubber is only available from



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MECHANICAL PROPERTIES

Property	Units	SE40FR		SE50FR		SE60FR		SE70FR		SE80FR		Test Method
		Specification Limits	Typical Value	Specification Limits	Typical Value	Specification Limits	Typical Value	Specification Limits	Typical Value	Specification Limits	Typical Value	
Hardness	Shore A	40 ±5	43	50 ±5	52	60 ±5	62	70 ±5	72	80 ±5	80	ASTM D2240 DIN 53505
Tensile Strength	MPa	4.0 min.	6.5	5.5 min.	7.5	5.5 min.	8.0	6.0 min.	9.1	6.0 min.	8.4	BSISO 37 DIN 53504 die S1 ASTM D412 die C
	psi	580 min.	943	798 min.	1088	798 min.	1160	870 min.	1320	870 min.	1218	
Elongation to Failure	%	300 min.	450	250 min.	330	250 min.	300	200 min.	280	200 min.	250	BSISO 37 DIN 53504 die S1 ASTM D412 die C
Tear Strength	N/mm	8.5 min.	12.0	10.0 min.	15.0	12.5 min.	15.0	12.5 min.	14.0	10.0 min.	12.5	BSISO 34-1 Method C ASTM D624 die C
	lb/in	48.5 min.	85.6	57.1 min.	102.8	71.4 min.	102.8	71.4 min.	97.1	57.1 min.	91.3	
Compression Set 24 hours @ 150°C	%	30 max.	25	30 max.	14	30 max.	10	30 max.	12	30 max.	16	BS 903 pt A6 type B DIN 53517 type II
		30 max.	22	30 max.	12	30 max.	10	30 max.	11	30 max.	17	
22 hours @ 300°F		30 max.	22	30 max.	12	30 max.	10	30 max.	11	30 max.	17	ASTM D395 method B type 2

*other information regarding the physical properties of these materials is available on request