



TECHNICAL DATA SHEET

Cellular Silicone Elastomer – Extrusions & Sheeting

Grades: SE510, SE515, SE524 & SE533

Temperature Range: -60°C to 230°C

AVAILABILITY

The SE range of cellular silicone elastomers is available as profile extrusions, jointed rings, sheeting, which can be self-adhesive backed, strip and punchings. They are particularly suited to use in high temperature seals and gaskets, where a soft, easily deformed rubber is required. There is a full range of standard colours available and Silicone Engineering has the capability to colour match to customer requirements. Sheeting is available in standard rolls of width 1m; other widths can be produced upon request.

** Other specific sponge grades available include Flame retardant grades, SE515 & SE524 AFS1682, AMS3195, AMS3196 & BMS 1-60**

SPECIFICATIONS

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 tests.

Grades SE515, SE524 and SE533 have been approved by the WRAS (Water regulations advisory service) as materials for use in contact with potable water at temperatures up to 85°C. The listing number is 0212511.

The sponge is predominately-closed cell with low water absorption

GENERAL CHARACTERISTICS FOR CELLULAR SILICONE ELASTOMER

Brittle Point	-80°C (-112 °F)	ASTM D746
Limiting Oxygen Index	24.0 %	BS 2872 Part 1
Thermal Conductivity (SE515)	$6.4 \times 10^{-2} \text{ W.m}^{-1}.\text{K}^{-1}$	BS 874 Part 2
Radiation Resistance	$>10^5$ Grays (10^7 Rads) typical	

Environmental Resistance

Silicone rubber products have an excellent resistance to ozone, oxidation, ultraviolet light, corona discharge, cosmic radiation, ionising radiation and weathering in general.

Silicone rubber products produce very low levels of toxic fume when burnt. During testing to ATS 1000.001 none of the following gases were produced in detectable amounts: HCN, CO, NO, NO₂, SO₂, -H₂S, HF, HCl.

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

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



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MECHANICAL PROPERTIES

Property	Units	SE510		SE515		SE524		SE533		Test Method
		Specification Limits	Typical Value	Specification Limits	Typical Value	Specification Limits	Typical Value	Specification Limits	Typical Value	
*Density	kg.m ⁻³	200 ±40	195	250 ±40	256	400 ±40	400	530 ±40	550	BSENISO 845
**Hardness	Shore OO #Shore A	-	35 ±5 <5	-	45 ±5 5 ±2	-	65 ±5 17 ±3	-	80 ±5 30 ±10	ASTM D2240
***Compression Stress 40% strain	kPa	50 ±40	50	90 ±40	90	160 ±40	160	580 ±150	584	BSENISO 3386 part 1,2
Tensile Strength	N.mm ⁻²	0.5 min.	0.9	0.75 min.	1.2	1.0 min.	1.6	1.5 min.	3.2	BSENISO 1798
Elongation to failure	%	75 min.	120	100 min.	200	75 min.	150	100 min.	190	BSENISO 1798
Compression Set 50% compression 22 hours @ 70°C 24 hours recovery	%	20 max.	16	15 max.	10	15 max.	10	15 max.	10	BSENISO 1856

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

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

***Compression Stress measured on samples as defined in BSENISO 3386. The compressive stress on samples of different dimensions, especially thickness may vary from that quoted here.

#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 for other sample sizes, please contact the technical department.