



EUROPEAN
SEALING
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Seals for industry

SILICONE CELLULAIRE

CELLULAR SILICONE ELASTOMER

Technical data sheet



European Sealing Technology - Industrial sealing solutions

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Cellular Silicone Elastomer

Temperature range: -60°C to 200°C

Availability

The range of cellular silicone elastomers is available as profile extrusions, jointed rings, sheeting (including self-adhesive backed grades), strip and punchings. They are particularly suited to high-temperature seals and gaskets where a soft, easily deformed rubber is required. Standard colours are available. Sheetting is available in standard rolls of width 1 m; other widths can be produced on request.

Other specific sponge grades available in the source sheet include flame-retardant grades 515 & 524, AFS1682, AMS3195, AMS3196 and BMS 1-60.

Specifications

The source sheet states compliance with FAR 25.853 (a)(1)(iv) and (a)(1)(v) horizontal flammability tests. The sponge is predominantly closed-cell with low water absorption.

General characteristics

Property	Value	Test method
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 @ 50 c/s	3 x 10 ⁻⁴	VDE 0303
Volume resistivity	3 x 10 ¹⁵ Ohm.cm	VDE 0303

Environmental resistance

Silicone rubber products have excellent resistance to ozone, oxidation, ultraviolet light, corona discharge, cosmic radiation, ionising radiation and weathering in general. The source sheet also states that, during testing to ATS 1000.001, HCN, CO, NO, NO₂, SO₂, H₂S, HF and HCl were not produced in detectable amounts.



Mechanical properties

Values reproduced from the source EST datasheet. Grades are identified by nominal density.

Property	Units	200 spec	200 typ.	250 spec	250 typ.	Test method
Density	kg.m-3	200 ±40	195	250 ±40	256	BS EN ISO 845
Hardness	Shore OO	35 ±5	35	45 ±5	45	ASTM D2240
Hardness	Shore A	<5	-	5 ±2	-	ASTM D2240
Compression stress 40% strain	kPa	50 ±40	50	90 ±40	90	BS EN ISO 3386 part 1,2
Tensile strength	N.mm-2	0.5 min.	0.9	0.75 min.	1.2	BS EN ISO 1798
Elongation to failure	%	75 min.	120	100 min.	200	BS EN ISO 1798
Compression set 22 h @ 70°C	%	20 max.	16	15 max.	10	BS EN ISO 1856 Type A

Property	Units	400 spec	400 typ.	530 spec	530 typ.	Test method
Density	kg.m-3	400 ±40	400	530 ±40	550	BS EN ISO 845
Hardness	Shore OO	65 ±5	64	80 ±5	82	ASTM D2240
Hardness	Shore A	17 ±3	-	30 ±10	-	ASTM D2240
Compression stress 40% strain	kPa	160 ±40	160	580 ±150	584	BS EN ISO 3386 part 1,2
Tensile strength	N.mm-2	1.0 min.	1.6	1.5 min.	3.2	BS EN ISO 1798
Elongation to failure	%	75 min.	150	100 min.	190	BS EN ISO 1798
Compression set 22 h @ 70°C	%	15 max.	10	15 max.	10	BS EN ISO 1856 Type A