

Cellular Silicone Elastomer Extrusions

Grades

expansil™GP200 expansil™GP250 expansil™GP350
 expansil™GP400 expansil™GP450 expansil™GP530

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 test and Automotive Standard PART 571FMVSS302.

expansil™ is closed cell with low water absorption and dust ingress protection to IP65.

The density range in white has been approved by the WRAS (Water Regulations Advisory Service) for use in contact with potable water at temperatures up to 85°C (185°F).

The listing number is 1810553.

Temperature Range

-60°C to 230°C (-76°F to 446°F)
 and up to 250°C (482°F) intermittent

Environment Resistance

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

Availability

Mouldings	Rolls	Gaskets	Cables
○	○	●	○
Extrusions	Compound	Tubing	
●	○	●	

Availability

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

General Characteristics

Test	Result	Standard
Brittle Point	-80°C (-112 °F)	ASTM D746
Limiting Oxygen Index	24.0 %	BS 2782 Part 1
Thermal Conductivity	6.4x10 ⁻² W.m ⁻¹ .K ⁻¹	BS 874 Part 2
Radiation Resistance	>10 ⁵ Grays (10 ⁷ Rads) typical	

Typical Applications

Automotive, Electronics, Energy.
 Construction, Heating and Ventilation (HVAC), Industrial, Insulations, Lighting and Marine.

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Mechanical Properties

Property	Units	expansil™GP200	expansil™GP250	expansil™GP350	expansil™GP400	expansil™GP450	expansil™GP530	Test Method
		Typical Value	Typical Value	Typical Value	Typical Value	Typical Value	Typical Value	
*Density	kg.m ⁻³ lb.ft ⁻³	200 12.5	250 15.5	300 19	400 25.0	450 28	530 33	BSENISO 845
**Hardness	Shore OO Shore A	35 <5	42 5	55 15	65 17	70 24	80 30	ASTM D2240
*** Compression Stress 40% strain	kPa psi	50 7.3	90 13	120 17.4	165 24	230 34	470 68	BSENISO 3386 part1, 2
Compression Stress 25% strain	kPa psi	28 4	38 5.5	52 7.5	83 12	105 15	214 31	ASTM D1056
Tensile Strength	MPa psi	0.6 87	0.6 87	0.75 108	0.75 108	1.5 217	2.0 290	BSENISO 1798
Elongation to Failure	%	140	145	120	120	130	130	BSENISO 1798
Compression Set 50% compression 24 hours recovery. 22 hours @ 70°C (158°F)	%	5.0	3.8	3.6	3.0	3.0	3.0	BSENISO 1856
22 hours @ 100°C (212°F)	%	6.7	4.8	4.4	4.3	4.3	6.0	BSENISO 1856

Extra Information

* 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.

The Shore A values are provided as a guideline for comparison to solid materials and as such are not designed for use in specifications.

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