

TECHNICAL DATA SHEET
10GP1
SILICONE RUBBER
TEMPERATURE RATING: -60°C TO 230°C



PRODUCT FORM

MOULDINGS

APPLICATIONS

The very low hardness of this grade is an attractive feature in engineering applications.

APPROVALS

Translucent, blue and red iron oxide variants of 10GP1 silicone rubber contain only ingredients that are listed by the American Food and Drugs (FDA) under the 21 CFR number 177-2600.

FLAMMABILITY CHARACTERISTICS

10GP1 complies with the following flammability specifications.
FAR 25/JAR 25/CS 25 Appendix F, Part 1, (a)(1)(iv) and (a)(1)(v) horizontal flammability tests.

THERMAL PROPERTIES

10GP1 is suitable for continuous use at 230°C but can withstand temperatures as high as 300°C for short periods of time. 10GP1 is also suitable for temperatures as low as -60°C.

PROPERTY	TYPICAL VALUE	TEST METHOD
Thermal conductivity	0.86 Kjm ⁻¹ hr ⁻¹ K ⁻¹ (0.24 Wm ⁻¹ K ⁻¹)	VDE 0304
Brittle point	-80°C	ASTM D 746

ELECTRICAL PROPERTIES

PROPERTIES	TYPICAL VALUE	TEST METHOD
Dielectric strength	23 KV/mm	VDE 0303
Dielectric constant	2.9	VDE 0303
Dissipation factor at 50 HZ (tan delta)	3 x 10 ⁻⁴	VDE 0303
Volume resistivity	3 x 10 ¹⁵ ohm/cm	VDE 0303
Power factor	1.8 x 10 ⁻³	ASTM D 150

ENVIRONMENTAL RESISTANCE

10GP1 has excellent resistance to ozone, oxidation, ultraviolet light, corona discharge, cosmic radiation, ionising radiation and weathering in general. Typical radiation resistance is greater than 10⁵ grays (greater than 10⁷ rads).

PIGMENTABILITY

10GP1 is available in a range of translucent colours and can be colour matched to suit customer requirements.

CHEMICAL COMPOSITION

10GP1 is a polydimethylsiloxane, which has been cross-linked with an organic peroxide. In the pigmented grades, it also contains a heat stable pigment in a polysiloxane base.

MECHANICAL PROPERTIES

PROPERTY	SPECIFICATION LIMITS	TYPICAL VALUE	TEST METHOD
Hardness Shore A	11+/- 5	11	
Tensile strength MPa	3.0 Min	3.6	BSISO 37
Tear strength N/mm	4.0 Min	6.5	BSISO 34-1 method C
Elongation to break %	800 Min	1000	BSISO 37

Grades of silicone rubber available from Silicone Engineering are:

- * General purpose grades
- * High tear grades
- * Cable grades
- * Cellular silicone products
- * Flame retardant grades
- * Low compression set grades
- * High temperature grades
- * Low combustion hazard grades
- * Injection and compression moulded silicone products.

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

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