

# TECHNICAL DATA SHEET

20GP1/SE20

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, white, blue and red iron oxide variants of 20GP1/SE 20 silicone rubber contain only ingredients that are listed by the American Food and Drugs (FDA) under the 21 CFR number 177-2600.

## FLAMMABILITY CHARACTERISTICS

20GP1/SE20 complies with the following flammability specifications. FAR 25/JAR 25/CS 25 Appendix F, Part1, (a)(1)(iv) and (a)(1)(v) horizontal flammability tests.

## THERMAL PROPERTIES

20GP1/SE 20 is suitable for continuous use at 230°C but can withstand temperatures as high as 300°C for short periods of time. 20GP1/SE 20 is also suitable for temperatures as low as -60°C.

PROPERTY	TYPICAL VALUE	TEST METHOD
Thermal conductivity	0.86 Kjm <sup>-1</sup> hr <sup>-1</sup> K <sup>-1</sup> (0.24 Wm <sup>-1</sup> K <sup>-1</sup> )	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 <sup>-4</sup>	VDE 0303
Volume resistivity	3 x 10 <sup>15</sup> ohm/cm	VDE 0303
Power factor	1.8 x 10 <sup>-3</sup>	ASTM D 150

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## ENVIRONMENTAL RESISTANCE

20GP1/SE 20 has excellent resistance to ozone, oxidation, ultraviolet light, corona discharge, cosmic radiation, ionising radiation and weathering in general. Typical radiation resistance is greater than  $10^5$  grays (greater than  $10^7$  rads).

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## PIGMENTABILITY

20GP1/SE 20 is available in a range of translucent colours and can be colour matched to suit customer requirements.

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## CHEMICAL COMPOSITION

20GP1/SE 20 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	20+/- 5	20	
Tensile strength	3.0 Min	3.6	BSISO 37
MPa			
Tear strength	4.0 Min	6.5	BSISO 34-1
N/mm			method C
Elongation to break	800 Min	1000	BSISO 37
%			

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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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