TECHNICAL DATA SHEET
SILICONE RUBBER SPONGE

GRADES: SIL10, SIL16, SIL24, SIL33

PRODUCT FORM

Profile extrusions, sheeting, cord, joined rings, punched forms and pressure sensitive adhesive backing.

APPLICATIONS

Cellular silicone rubber is suitable where a soft, easily deformed rubber is required, for example, for high temperature seals and gaskets. The sheets and punched parts are all available with pressure sensitive adhesive backing to ease assembly.

THERMAL PROPERTIES

The range is suitable for continuous use at temperatures up to +200°C. See our “HT” grades for use up to +270°C. They are also suitable for use at temperatures as low as -60°C.

CHEMICAL COMPOSITION

This range of polydimethylsiloxane have been “free-blown” with a chemical blowing agent and crosslinked with an organic peroxide. The cellular structure is produced without the use of CFC’s thus making less damaging to the environment.

GENERAL INFORMATION


Closed Cell – can be compressed to meet IP 65
Brittle Point -80°C ASTM D746
Limited Oxygen Index 24.0% BS 2782 Part 1
Thermal Conductivity 6.4 x 10⁻² W.m⁻¹.K⁻¹ BS 874 Part 2
Radiation Resistance >10⁵ Grays (10⁷ Rads) typical
MOISTURE ABSORPTION

The range has a very low degree of moisture absorption. Mechanical properties show little change even after long periods of immersion.

PIGMENTABILITY

The product range is available in off-white as standard. Other colours, such as red oxide, are available, we can colour match to most customer requirements.

ENVIRONMENTAL RESISTANCE

Silicone rubber 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 grays (greater than 10 rads).

This information and our technical advice, whether verbal, in writing or by way of trials, is given in good faith but without warranty. This also applies where proprietary rights are involved. Our advice does not release you from the obligations to check its validity and to test our products as to their suitability for the intended use. The storage, application and use of our products are beyond our control and, therefore, entirely your own responsibility. The information contained within this data sheet is subject to change without notice.
## MECHANICAL PROPERTIES

<table>
<thead>
<tr>
<th>GRADE</th>
<th>Property</th>
<th>UNITS</th>
<th>SPEC. LIMITS</th>
<th>TYPICAL VALUE</th>
<th>SPEC. LIMITS</th>
<th>TYPICAL VALUE</th>
<th>SPEC. LIMITS</th>
<th>TYPICAL VALUE</th>
<th>SPEC. LIMITS</th>
<th>TYPICAL VALUE</th>
<th>TEST METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIL 10</td>
<td><em>Apparent Density</em></td>
<td>Kg.m⁻³</td>
<td>200 ± 40</td>
<td>195</td>
<td>250 ± 40</td>
<td>256</td>
<td>400 ± 40</td>
<td>400</td>
<td>530 ± 40</td>
<td>550</td>
<td>BSENISO 845</td>
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<tr>
<td></td>
<td></td>
<td>lb.ft⁻³</td>
<td>12.5 ± 2.5</td>
<td>12.2</td>
<td>15.6 ± 2.5</td>
<td>16.0</td>
<td>25.0 ± 2.5</td>
<td>25.0</td>
<td>33.0 ± 3.1</td>
<td>34.3</td>
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<tr>
<td></td>
<td><strong>Hardness</strong></td>
<td>Shore OO</td>
<td>-</td>
<td>335 ± 5</td>
<td>-</td>
<td>45 ±5</td>
<td>-</td>
<td>65 ± 5</td>
<td>-</td>
<td>80 ± 5</td>
<td>ASTM D2240</td>
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<tr>
<td></td>
<td></td>
<td>Shore A</td>
<td>&lt;5</td>
<td>5</td>
<td></td>
<td>17</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>***Compression Stress 40% strain</td>
<td>kPa</td>
<td>50 ± 40</td>
<td>50</td>
<td>90 ± 40</td>
<td>90</td>
<td>170 ± 40</td>
<td>165</td>
<td>450 ± 150</td>
<td>470</td>
<td>BSENISO 3386 part 1, 2</td>
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<tr>
<td></td>
<td></td>
<td>psi</td>
<td>7.3 ± 5.8</td>
<td>7.3</td>
<td>13 ± 5.5</td>
<td>13</td>
<td>24.7 ± 5.8</td>
<td>24</td>
<td>65.2 ± 22</td>
<td>68</td>
<td></td>
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<tr>
<td></td>
<td>Tensile Strength</td>
<td>MPa</td>
<td>0.5 min</td>
<td>0.6</td>
<td>0.5 min</td>
<td>0.6</td>
<td>0.6 min</td>
<td>0.75</td>
<td>1.5 min</td>
<td>2.0</td>
<td>BSENISO 1798</td>
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<td></td>
<td></td>
<td>psi</td>
<td>72</td>
<td>87</td>
<td>72</td>
<td>87</td>
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<td>108</td>
<td>217</td>
<td>290</td>
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<td>Elongation to failure</td>
<td>%</td>
<td>75 min</td>
<td>140</td>
<td>100 min</td>
<td>145</td>
<td>110 min</td>
<td>120</td>
<td>110 min</td>
<td>130</td>
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<td></td>
<td>Compression Set</td>
<td>%</td>
<td>20 max</td>
<td>15.0</td>
<td>15 max</td>
<td>12.0</td>
<td>15 max</td>
<td>10.0</td>
<td>15 max</td>
<td>9.5</td>
<td>BSENISO 1856</td>
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<tr>
<td></td>
<td>50% compression 24 hours recovery</td>
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<tr>
<td></td>
<td>22 hours @ 70°C (158°F)</td>
<td>%</td>
<td>20 max</td>
<td>18.0</td>
<td>15 max</td>
<td>14.5</td>
<td>15 max</td>
<td>12.0</td>
<td>15 max</td>
<td>12.0</td>
<td>BSENISO 1856</td>
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<tr>
<td></td>
<td>22 Hours @ 100°C (121°F)</td>
<td>%</td>
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* Density measured on 25mm diameter cord sample. The density of samples of different sizes will be different from that stated here.
** Hardness measured 10mm thick samples. At less than 10mm the measured hardness will increase with density.
The Shore A values are provided as a guild line for comparison to solid materials and as such are not designed for use in specifications.
*** Compression set 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.