

PRODUCT DATA

AlphaSil

TECHNICAL BULLETIN

SILICONE SPONGE SPECIFICATION

The silicone sponge sheet that AlphaSil offered are made of a fine cellular construction composed mainly of non-interconnecting cells.

Application

Flexible, compressible silicone closed cell sponge is designed for high performance gasketing, thermal shielding, vibration mounts and press pads.

Thermal Properties

The thermal stability of silicone rubber is probably its most important asset. Components made from these rubbers are affected only to a small extent by extremes of temperature, ranging from -60°C to +250°C. It can even operate for 10 hours continuously at temperatures as high as +300°C.

Silicone rubber is an excellent electrical insulating material, its resistance to arcing, corona, ultra-violet light and ozone is good.

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, thus making less damaging to the environment.

Flammability Characteristics

SIL 16 has a limiting Oxygen Index (LOI) of 23.2 % and comply with the following specifications :-

- * FAR 25.853 (a) (1) (iv) and (a) (1) (v) horizontal flammability tests.
- * CAA specification and issue 2 (2.2) (c) and (d) horizontal flammability tests.

Moisture Absorption

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

Environmental Resistance

Silicone Rubber has excellent resistance to ozone, oxidation, ultra-violet light, corona discharge, cosmic radiation, ionising radiation and weathering in general. Typical radiation resistance is greater than 10 rads. It decomposes at 400°C to 500°C leaving an inert, non-flammable and electrically non-conductive residue.

PHYSICAL PROPERTIES	VALUE	TEST METHOD
Compression stress at 40% Kpa	90 ± 20	BS 4443 Part 1 Method 5B
Compression set (150°C for 70 hours, recovery period 48 hours, 25% compression)	6%	BS 4443 Part 1 Method 6A
Density (kg per cubic metre)	Circa 400, closed cell	

Results for Resistance to Heat Ageing (after 168 hours at 150°C)

PHYSICAL PROPERTIES	VALUE	TEST METHOD
Compression stress at 40% Kpa	90 ± 20	BS 4443 Part 1 Method 5B
Compression set (150°C for 70 hours, recovery period 48 hours, 25 % compression)	5%	BS 4443 Part 1 Method 6A

Yureka