

Silicone potting compound 047

Two-component silicone cross-linking filling compound within the additive system with thermal conductivity of 1.5 W/mK. The filling compound perfectly protects electronics against adverse environmental conditions and protects sensitive modules against vibrations. After curing it becomes a hard, white solid. It provides an excellent electrical insulation. The material protects electronic and telecommunication systems against environment and is used for stiffening and securing. The cross-linking time may be shortened by using a higher temperature (6h ~ 70 °C). It is perfect for flooding and filling. The operating range in variable temperatures from -50 °C to 180 °C.

Technical data:

Parameters	A	B
Appearance	liquid of low viscosity	liquid of low viscosity
Colour	white	white
Specific gravity at 25 °C	approx. 1,20 g/cm ³	approx. 1,20 g/cm ³
Viscosity at 25 °C	2500 ± 500 cP	3500 ± 500 cP

Properties of the mixture after mixing the ingredients 1÷1

Viscosity at 25 °C	2500 ± 500 cP
Expiry date at 25 °C	approx. 70 minutes
Gelation time at 25 °C	max. 24 h
Thermal conductivity	1,5 W/mK
Operating temperature	od -50 °C do 180 °C
Consistency post cross-linking	solid (white rubber)

Test of cross-linked sampled seasoned in a room temperature for 48 hours in laboratory conditions.

Parameter	Unit	Result
Specific volume resistivity at temp. 20 ± 5 °C and relative air humidity of 65 ± 5% (ASTM D257)	ρ_v [Ω xm] [Ω xcm]	1,3x10 ¹¹ 1,3x10 ¹³
Specific surface resistivity at temp. 20 ± 5 °C and air relative humidity of 65 ± 5% (ASTM D257)	ρ_s [Ω]	2,2x10 ¹³
Dielectric loss factor (tg δ) (ASTM D150) at the frequency of: 120 Hz 1 kHz 10 kHz 100 kHz	-	0,112 0,069 0,019 0,005
Dielectric permittivity (ϵ_r) (ASTM D150) at the frequency of: 120 Hz 1 kHz 10 kHz 100 kHz	-	4,38 3,85 3,65 3,66
Dielectric strength (PN-EN 60243-1)	[kV/mm]	14,4
Creeping current resistance (PN-EN 60112:2003)	CTI [V]	600

Application:

Air-tight sealing and environmental protection of electronic and telecommunication systems, optoelectronic elements (e.g. solar/photovoltaic cells), energy converters, power supplies, automotive electronics, motion control, telecommunications.

Instructions for use:

1. The system must be cleaned, degreased and dried.
2. Combine the contents of two containers and carefully mix them together.
3. Fill the system and season it for approx. 24 hours at a room temperature.
4. Mix the two ingredients in a given ratio (1:1) mechanically or manually. It is recommended to place the filling compound in a vacuum chamber (30-60 mm of mercury) in order to remove air from the elastomeric compound. During this procedure, which should last approximately 5 minutes, the material will foam at first, increasing its original volume by approximately 5 times, and then it will return to its previous volume. Wait 2 more minutes before removing the material from the chamber. Fill the element with a composition prepared this way and wait for curing. After complete cross-linking, the compound becomes a white, hard solid. It is possible to prepare the mixture without deaeration in a vacuum chamber. In this case, the final result depends on, e.g., the type, and the diligence of the person performing the procedure.

Package:

Volume	Collective packaging	Item Code
100g (50g A + 50g B)	4	ART.AGT-317
1kg (500g A + 500g B)	1	ART.AGT-314

Storage:

Store in original sealed packages at a temperature from 5 to 25°C.

Safety:

The product does not cause any hazard. It is not subject to ADR/RID regulations.

Data contained in this document are consistent with the current state of our knowledge. They describe typical product properties and applications. However, it is up to the user to examine the suitability of this product for specific applications. We deny liability for the obtained results on the grounds that application conditions lie beyond our control.

