

Silicone potting compound 019

The product is a liquid filling, two-component material. Hardening occurs at a room temperature. The material provides thermal conductivity and low expansion. Ideal for pouring or filling joints in heat-generating electronic components with metal housings or radiators. It has an excellent fluency at dosing and filling. After hardening, it does not tear off as a result of cyclic heating from a surface, to which it is attached. Hardened product is dry to the touch.

Technical data:

Parameters	A
Appearance	liquid paste
Colour	milky
Specific gravity at 25 °C	ok. 1,2 g/cm ³
Viscosity at 25 °C	~45000 cP
pH	6 to 8
Catalyst dose (weight part per 100 weight parts of filling compound)	6

Properties of the mixture after mixing the ingredients 100:6	
Gęstość w 25 °C	ok. 1,2 g/cm ³
Content of volatiles	3 %
Expiry date at 25 °C	approx. 30 min
Gelation time at 25 °C	max. 48 h
Operating temperature	-50 °C to 180 °C
pH of aqueous extract	7±1

BTest of cross-linking samples, seasoning for at least 100 hours at a room temperature from a hardening time.		
Parameter	Unit	Result
Cross resistivity at 20 ± 5°C and air relative humidity of 65±5% (ASTM D257)	[Ωxcm]	1x10 ¹²
Surface resistivity at 20 ± 5°C and air relative humidity of 65±5% (ASTM D257)	[Ω]	1x10 ¹³
Dielectric loss factor (tg δ) (ASTM D150) at a frequency of 10 ⁶ Hz	-	0,015
Dielectric permeability (ε _r) (ASTM D150) at a frequency of 10 ⁶ Hz	-	3
Dielectric durability at 20 ± 5°C and air relative humidity of 65±5% (PN-EN 60243-1)	[kV/mm]	15,0
Resistance to creepage currents (PN-EN 60112:2003)	CTI [V]	600
Hardness based on Shore scale	[A]	58

Application:

Encapsulation of electronic/electrical systems. Energy converters. Power semiconductors. Power supplies. Automotive electronics. Motion control. Telecommunication. Computers and peripheral devices. The application of condensation filling compound in a closed system can cause the occurrence of unharmed white coating, which does not influence on the operation of the system.

Preparation of filling compound:

The use of silicone filling compound of 019 type is to prepare the filling composition and the system, and then fill the system and season it for approximately 100 hours at a room temperature.

To do this:

1. Weigh filling compound 019 in a dry and clean vessel having a volume 5 times the volume of weighed silicone. Vessels with special requirements are not required; e.g. plastic vessels can be applied.

We do not recommend weighing large amount of filling compound. It may be the reason for extending the time of each operation, i.e. the time of mixing the components (filling compound with the catalyst), the time of venting of the composition, the filling time with a prepared mass, which in turn may lead to hardening of the composition in a vessel, in which it is prepared.

2. Weigh a recommended dose of the catalyst.

3. Mix the ingredients.

The catalyst must be uniformly distributed throughout the mass, because it influences on the completed protection quality.

It is recommended to place the prepared composition in a vacuum chamber (30-60 mm Hg) to vent it. During this procedure, which should be short (no more than 5 minutes), firstly, the composition foams, and increases its original volume to approx. 5 times, then it returns to the parent volume (output); if this has occurred, turn off vacuum and remove the vessel from the chamber with the composition being ready to use.

It is also possible to make a protection with a composition that has not been subjected to venting in the vacuum chamber. In this case, the end result depends inter alia on the type and diligence of a making person.

Systems protection:

Before filling, clean, degrease and dry the system. Such prepared system should be placed in a housing or a form and filled with the composition, then leave the system open to be cross-linked, and season for approx. 100 hours. Air circulation is very important, because during cross-linking, ethyl alcohol is separated, which must be freed from a hardened mass, otherwise adverse phenomenon of reversion can occur. In the event of e.g. under-filling, one can cut out pieces of rubber (filling compound), and re-fill such places. In addition, in the case of damage of filled electronic components, one can cut out surrounding filling compound, and after replacing, re-fill the composition of the same kind.

Packagings:

Volume	Collective packaging	Item Code
100g (100g A + 6g B)	4	ART.AGT-201
1kg (1kg A + 60g B)	1	ART.AGT-261

Storage:

Store in original packaging in dry warehouses, at a temperature not higher than 30°C.

Guarantee period: 12 months from the production date.

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.

