

Epoxy potting compound 141

Two-component resin for filling and hermetisation of all components in electronics, telecommunications and radio-technics. It is characterized by excellent electric insulation and good adhesion to virtually all groups of materials. Epoxy resin is an excellent material with a very wide range of applications:

- for castings and covers to protect electrical components, such as coils, transformers, capacitors, resistors,
- cable ends connectors,
- excellent adhesion to a wide variety of substrates,
- good connection strength even in difficult weather conditions.

It retains its properties at high temperatures. Filling compound 041 is applied to: filling of entire components in electronics, electrical encapsulation and as an insulating and structural material, filling of capacitors, resistors, connectors, cable ends.

NOTE! Filling compound 041 cannot be applied for filling and bonding parts with styroflex, as a contained modifier dissolves polystyrene.

Technical data:

Parameter	A
Appearance	liquid
Colour	yellow
Specific gravity at 25 °C	1,16 g/cm ³
Viscosity at 25 °C	900-1500 cP
Epoxy number	min. 0,410 mol/100g

Basic parameters of hardener:

Parameter	B
Amino number	min.1100 mg KOH/g
Density at 25 °C	~0,98 g/cm ³

Properties of the mixture after mixing the ingredients 100:10

Density at 25 °C	1,16 g/cm ³
Temperature resistance	50 °C
Working life at 25 °C	~33 min
Consistency post cross-linking	hard solid

For hardening at a room temperature, such proportion of hardener is applied:

Filling compound 141 100 parts by weight + Hardener 10 parts by weight

Surface preparation

Clean a surfaces from mechanical impurities with an abrasive paper, and then degrease (e.g. with acetone) – in the case of metals, apply chemical etching in appropriately selected bath.

Preparation

Thoroughly mix the components at a room temperature, in provided proportions. Prepare small portions that will be used within several minutes.

Hardening

Hardening can be:

Single-stage: at a room temperature; full strength is achieved by a weld after 7 days or:
 In two steps: 12 hours at a room temperature, and then 6 hours at a temperature of 80 °C.

Chemical resistance (exposure time 1 month):

Aggressive environment	Component A+B
Tap water	+
Sodium hydroxide 10%	+
Sodium hydroxide 30%	+
Sodium hydroxide 40%	+
Hydrochloric acid 10%	+
Hydrochloric acid, concentrated	-
Sulphuric acid 20%	+
Phosphoric acid 10%	+
Nitric acid 10%	+
Acetic acid 5%	-
Citric acid 10%	+
Sodium carbonate 10%	+
Common salt 20%	+
Ethanol 45%	+
Ethanol 96%	-
Toluene	+
Xylene	-
Acetone	-
Gasoline	+
Perhydrol 3%	+
Ammonia 10%	+

Chemical resistance of Filling compound 141 after hardening during 14 days at a room temperature.

+ – very good resistance
- – average resistance

Testing of cross-linked samples, within 7 days at a room temperature in laboratory conditions.

Parameter	Unit	Result
Breaking stress PN-EN ISO 527-1:1998 PN-EN ISO 527 2:1998	[MPa]	40-60
Bending strength PN-EN ISO 178:2006	[MPa]	80-100
Compressive strength PN-EN ISO 604:2006	[MPa]	70-90
Hardness with the method of pressing a ball PN-EN ISO 2039-1:2002	[MPa]	100-120
Deflection temperature according to Martens PN-90/C-89025:1990	[°C]	50-55
Adhesive weld strength to compression PN-EN 1465:2003	[MPa]	min. 10
Adhesive weld strength with the method of bending with shearing PN-ISO 15108:2002	[MPa]	min. 2,5
Cross resistivity at 20 ± 5°C and air relative humidity of 65±5% (ASTM D257)	[Ωxcm]	1,0x10 ¹⁵
Surface resistivity at 20 ± 5°C and air relative humidity of 65±5% (ASTM D257)	ρ _s [Ω]	1,0x10 ¹⁵
Dielectric strength (PN-EN 60243:2002)	[kV/mm]	20-25

Packagings:

Volume	Collective packaging	Item Code
100g (100g A + 10g B)	4	ART.AGT-223
1kg (1kgA + 100g B)	1	ART.AGT-258

Storage:

Store the filling compound in original, sealed packaging, in ventilated, dry storage areas, at a temperature of not more than 25°C. Do not expose the product to direct sunlight. It can also be stored in a storage tank made of stainless steel with a coil for heating. If the above storage conditions are kept, the shelf life is 2 years from the production date.

Regularly clean any equipment used to produce an epoxy coating, e.g.: ACETONE, do not allow to harden the remaining part of the composition on tools.

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.

