TermoPasty®

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Technical Card

EPOXY FILLING COMPOUND 041

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.

Basic parameters of filling compound:

Epoxy number	[mol/100g]	min. 0.410
Density at 25°C	[g/cm³]	1.11-1.15
Viscosity at 25°C	[mPas]	900-1500
Gelling time of 100g composition at a room temperature:		
Filling compound 41 + hardener (10ns*)		min. 60 minutes

Basic parameters of Hardener:

Amino number	[mg KOH/g,min	1100
Density at 20°C	[g/cm³]	approx. 0.978-0.983

*-hardener amount per 100 parts by weight Filling compounds

Chemical resistance:

AGGRESSIVE ENVIRONMENT	Filling compound 041 + Hardener
EXPOSURE TIME	1 month
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	+
Ethanol 45%	+
Ethanol 96%	-
Toluene	+
Xylene	-
Acetone	-
Gasoline	+
Perhydrol 3%	+
Ammonia 10%	+

Chemical resistance of Filling compound 041 after hardening during 14 days at a room temperature.
"+" — very good resistance
"-" — average resistance

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

Filling compound 041 - 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.

STRENGTH PARAMETERS

TESTED PARAMETER	Filling compound 041 + Hardener
Breaking stress, [MPa] PN-EN ISO 527-1:1998 PN-EN ISO 527 2:1998	40-60
Bending strength, [MPa] PN-EN ISO 178:2006	80-100
Compressive strength, [MPa] PN-EN ISO 604:2006	70-90
Hardness with the method of pressing a ball [MPa] PN-EN ISO 2039-1:2002	100-120
Deflection temperature according to Martens, [°C] PN-90/C-89025:1990	50-55
Adhesive weld strength to compression [MPa] PN-EN 1465:2003	Min. 10
Adhesive weld strength with the method of bending with shearing, [MPa] PN-ISO 15108:2002	Min. 2.5 -
Specific volume resistance at 20°C, [0 x cm]	PN-88/E-04405:1089 $1.0x10^{15}$
Surface surface resistance at 20°C, [0] PN 88/E-04405:1089	$1.0x10^{15}$
Dielectric strength, [kV/mm] PN-EN-60243:2002	20-25

After hardening, within 7 days at a room temperature.

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.