Varnish PVB 60

Protective varnish for PCBs and electronics
User manual · 50 ml · ART.AGT-199



Highly flammable liquid. Causes serious eye damage. Read Chapter 3 before use.

www.rotorama.com

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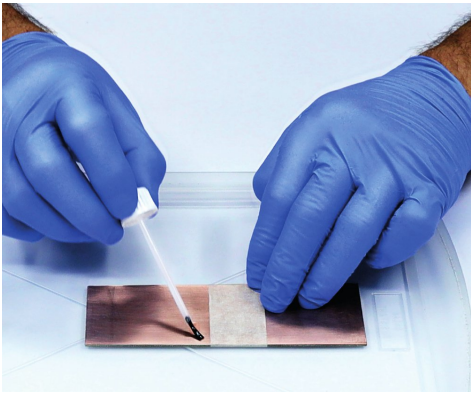
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1. Product description

1.1 What it is for

Varnish PVB 60 from the Polish manufacturer AG TermoPasty is a colourless protective varnish for printed circuit boards and electronics. Once dry, it forms a transparent insulating layer that protects the board against moisture, oxidation and chemical contaminants and prevents stray currents, short circuits, sparking and corona discharge. In FPV it is most often used to protect the **flight controller (FC)**, **electronic speed controllers (ESC)**, **video transmitter (VTX)** or receiver against moisture, dew and water.

The varnish comes in a bottle with a brush in the cap, so it can be applied precisely only where protection is needed. It dries quickly and, according to the manufacturer, **can be soldered directly through the varnish layer**, so repairs and component replacement remain possible after coating.



Applying the varnish to a PCB with a brush (photo: AG TermoPasty)

1.2 Technical data and package contents

Parameter	Value
Appearance	transparent (colourless) liquid
Density at 20 °C	≈ 0.80 g/cm³
Viscosity at 20 °C	≈ 50 cP
Drying time	40–45 min
Application temperature	−40 °C to 60 °C
Operating temperature of the coating	−50 °C to 150 °C
Volume resistivity	> 1.0 × 10¹⁴ Ω·m

Parameter	Value
Surface resistivity	> 1.1 × 10^{14} Ω
Electrical strength	> 89 kV/mm
Coverage	50 ml ≈ 0.25 m^2
Application method	brush, dipping, spraying
Thinner	PVB Solvent
Shelf life	3 years
Standards stated by the manufacturer	IPC-CC-830B, IPC-TM-650, PN-88/E-04405, PN-EN 60243-1, -2
Package contents	1× 50 ml bottle of varnish with a brush in the cap
Not included	PVB Solvent thinner, protective gloves, safety glasses, cleaning agents
Product designation	Varnish PVB 60, 50 ml, code ART.AGT-199
EAN	5901764327844
UFI	RH20-M0YR-U00E-0J55
Manufacturer	AG TermoPasty Grzegorz Gąsowski, Kolejowa 33 E, 18-218 Sokoły, Poland, info@termopasty.pl, www.termopasty.com

Data according to the manufacturer's technical and safety data sheets.

2. Use

The varnish is a highly flammable liquid, its vapours may cause drowsiness or dizziness and contact with the eyes may cause serious eye damage. Read Chapter 3 before first use.

2.1 Preparation

① Work outdoors or in a well-ventilated room, away from open flames, sparks and hot surfaces. Switch off your soldering iron or hot-air station while coating.

② Put on safety glasses and protective gloves.

③ **Disconnect the electronics from the battery** and from USB. Apply the varnish only to de-energised equipment.

④ The board must be **clean, dry and free of grease**. Remove flux residues, dust and grease; after cleaning, let the board dry completely.

⑤ Mask (e.g. with tape) or leave out the areas you do not want to coat – see 2.2.

2.2 What not to coat

The varnish is an insulator. Do not apply it where an electrical contact must be made or where the layer would prevent proper function:

- connectors and their mating parts (USB, JST, service header pins, antenna connectors u.FL/IPEX, MMCX, SMA),
- buttons (e.g. BOOT), memory card slot,
- the pressure sensor (barometer) opening and optical parts – camera lenses, LEDs that must shine through,
- solder pads to which you are going to solder wires (soldering through the layer is possible, but a clean pad is easier to solder),
- moving parts – do not flood motor bearings and windings with varnish.

2.3 Application

① Apply a **thin, even layer** with the brush. Wipe off excess varnish on the bottle neck so that it does not run under components and into connectors.

② Make sure the varnish also covers component leads and solder joints. Coat both sides of the board if necessary.

③ **Close the bottle tightly** immediately after use – the solvent evaporates quickly and the varnish thickens.

④ If the varnish is too thick (e.g. for spraying), it can be thinned with **PVB Solvent** (sold separately).

2.4 Drying and putting into operation

According to the manufacturer, the drying time is **40–45 minutes**. During this time do not connect the electronics to a battery, do not install it in an enclosed space and let it dry in a ventilated place. If you apply another layer, let the previous layer dry first. After drying, check that the varnish has not run into connectors or onto the areas listed in 2.2.

2.5 Repairs and soldering after coating

According to the manufacturer, you can solder **directly through the varnish layer** without removing it first. During soldering the layer around the joint heats up – work in a well-ventilated area. After the repair, coat the repaired spot again.

2.6 What the varnish cannot do

- The varnish protects against moisture, dew and dirt, **but it does not make the electronics waterproof**. Do not immerse coated electronics in water, and after landing in water or wet grass always disconnect the battery and let the electronics dry.
- The varnish does not protect against mechanical damage or against a short circuit caused by a conductive object (e.g. a carbon frame) at uncoated spots.
- The varnish does not remove moisture or corrosion already present on the board – coat only a clean and dry board.

3. Safety, first aid and storage

3.1 Hazardous properties

The mixture is classified as **hazardous** according to Regulation (EC) No 1272/2008 (CLP). It contains acetone, butan-1-ol and isopropanol.

Signal word	**Danger**
Hazard pictograms	GHS02 (flame), GHS05 (corrosion), GHS07 (exclamation mark)
H225	Highly flammable liquid and vapour.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H336	May cause drowsiness or dizziness.

▶ Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261	Avoid breathing mist/vapours/spray.
P264	Wash hands and exposed parts of the body thoroughly after handling.
P280	Wear eye protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a doctor.
P312	Call a POISON CENTER if you feel unwell.

3.2 Safe working practices

- Use only outdoors or in a well-ventilated area. Solvent vapours are heavier than air and accumulate near the floor, where they may form an explosive mixture with air.
- Do not smoke and do not work near open flames, sparks or hot surfaces (a switched-on soldering iron, hot-air gun).
- Avoid contact with skin and eyes. Wear protective gloves resistant to the product and safety glasses.
- Do not eat, drink or smoke while working. Wash your hands thoroughly with soap and water after work.
- Keep out of the reach of children.

3.3 First aid

If inhaled	Stop the exposure and move the person to fresh air. If irritation, shortness of breath or other symptoms persist, seek medical attention.
On skin contact	Remove contaminated clothing and wash the affected area with plenty of water. If irritation persists, seek medical advice.
On eye contact	Immediately rinse the eyes with running water with the eyelids held open and remove contact lenses. **Always seek medical attention**, even after minor contact.
If swallowed	**Do not induce vomiting.** Rinse the mouth with water. If health problems occur, seek medical attention.

Show the doctor the product packaging or the safety data sheet. **Czech Toxicological Information Centre** (Prague, 24/7): **+420 224 919 293** or **+420 224 915 402**. Outside the Czech Republic, call the poison centre of your country.

3.4 Storage and transport

- Store in the tightly closed original bottle in a cool, dry and well-ventilated place, out of the reach of children.
- Protect from heat and ignition sources and from direct sunlight. Do not expose to temperatures above **50 °C**.
- Keep away from strong acids, alkalis and oxidising agents.
- According to the manufacturer, the shelf life is **3 years**.
- The product is dangerous goods for transport: **UN 1993**, FLAMMABLE LIQUID, N.O.S. (acetone), class 3, packing group III. Observe the regulations for the transport of dangerous goods.

3.5 Safety data sheet

Detailed information (composition, exposure limits, personal protective equipment, measures in case of spillage and fire) is given in the manufacturer's **safety data sheet**. You can find it on the product page at www.rotorama.com and on the manufacturer's website www.termopasty.com.

4. Information for the EU and Czech Market

4.1 Importer and responsible person in the EU

The product is placed on the European Union market by the importer stated below, who is at the same time the responsible person within the meaning of Article 16 of Regulation (EU) 2023/988 of the European Parliament and of the Council on general product safety (GPSR).

Importer / responsible person in the EU	Rotorama, s.r.o.
Company ID (IČO)	051 57 692
VAT ID (DIČ)	CZ05157692
Registered office	Okrajová 1351, 674 01 Třebíč, Czech Republic
E-mail	info@rotorama.cz
Phone	+420 252 252 098
Website	www.rotorama.com

4.2 Disposal

- Unused varnish and packaging contaminated with its residues are **hazardous waste**. They must not be disposed of together with mixed municipal waste.
- **Do not pour** varnish residues **into drains**, soil or watercourses.
- Hand over the unused product and contaminated packaging in the closed bottle at a hazardous waste collection point (e.g. your municipal collection yard) or to a person authorised to dispose of waste. Thoroughly cleaned packaging can be handed over for recycling.
- European Waste Catalogue code for the packaging: **15 01 10*** – packaging containing residues of or contaminated by hazardous substances (hazardous waste).
- Outside the Czech Republic, follow the waste regulations of the country in which you use the product.

5. Warranty and rights arising from defective performance

The rights and obligations of the contracting parties are governed by Czech law, in particular by Act No. 89/2012 Coll., the Civil Code, and Act No. 634/1992 Coll., on consumer protection.

- The seller is liable to the buyer for the product being free of defects on receipt. If the buyer is a consumer, a defect may be notified **within two years of receipt** of the product (Section 2165 of the Civil Code).
- If a defect appears within **one year** of receipt, the product is deemed to have been defective already at the time of receipt (Section 2161(5) of the Civil Code).
- When purchasing online, a consumer has the right to **withdraw from the contract within 14 days** of receiving the goods without giving a reason (Section 1829 of the Civil Code).
- Claims should be made with the retailer from whom you purchased the product. The importer's contact details are given in Chapter 4.1.
- The competent body for out-of-court settlement of consumer disputes is the **Czech Trade Inspection Authority**, Štěpánská 796/44, 110 00 Prague 1, www.coi.cz.