



degrAway  
GIVE IT BACK TO NATURE

dat1. SUCCESSOR  
OF PLASTIC



Dear Partner,

The current environmental burden of the electronics industry demands urgent technological responses. The chemical treatment of FR4-type substrates, the costly and energy-intensive recycling of e-waste, and the presence of hazardous substances are no longer sustainable in the long term.

Degraway Technologies Ltd. has developed DAT1, a next-generation, Hungarian-patented industrial insulating material that is biodegradable and water-soluble. It offers a viable alternative to current rigid PCB substrates in specific industrial applications. It contains no petroleum derivatives, metals, or microplastics.

One of DAT1's primary advantages is its compatibility with low-temperature industrial processing. Its SnBiAg-based solderability enables production below 150 °C, making it energy-efficient and suitable for more sensitive components.

Key advantages at a glance:

Home compostable (TÜV SÜD certified, fully degrades within 14 weeks)  
Dissolves in water within 48 hours – chemical-free breakdown  
Electrical insulation properties comparable to FR4 (6–9 GΩ surface resistance)  
Compatible with thick-film technology and laser processing  
Copper foil adhesion: 0.6–0.7 N/mm  
Moisture absorption: 26% (after 75 hours at 25 °C, saturated humidity)  
Surface composition remains stable under heat  
Easy to dismantle: ground material separates from components, recovery is quick and chemical-free  
Real environmental and market benefits:

No need for specialized recycling infrastructure  
Demonstrated soil-improving effect – verified through lab testing  
Processable with existing injection molding and lamination technologies  
Previous research has explored numerous alternative materials—such as paper, PLA, or cellulose-based substrates—yet these have often faced limitations in practical application. In contrast, DAT1 offers a stable, industrial-grade solution that is not only technologically viable but also enables circular production, supports environmental protection, and significantly reduces carbon emissions.

This is not a catalog item – it is a new industrial opportunity. We are seeking development partners and pilot project collaborators who wish to gain strategic advantage in the field of sustainable electronics.

If you believe the time has come for the practical introduction of sustainable technologies, we welcome the opportunity to align on detailed technical documentation and potential development pathways.

Let's shape the future of sustainable electronics together.

Best regards,  
Péter Lajter  
Head of Development  
Degraway Technologies Ltd.

## CONTACT US

📍 Degraway Technologies Kft.  
✉ Email  
peter.lajter@degroway.com  
🌐 Visit us  
www.degroway.com



100% NATURAL  
0% PLASTIC AND 0% PLA

TODAY'S POPULAR TECHNOLOGY: subtractive.

THE STARTING POINT:

Dat1 plate laminated with copper foil. DOES NOT produce any hazardous waste, virtually NO water consumption.

PURE RECYCLING WITHOUT CHEMICALS

## DAT1 MATERIAL

### Metallization and design

- Galvan technologies
- printing procedures
- laser etching
- various lamination processes

### Component fixation

- convection soldering
- vapor phase soldering
- laser soldering
- conductive bonding

After a long period of research and development, we are proud to present our patented raw material we call: DAT1.

01

Suitable for conventional thermoplastic processing (e.g. granulating, extruding).

04

Fully biodegradable, in environmental conditions (soil, waste storages) it can completely decompose in a few weeks or months.

02

It has a good film forming property, furthermore, its mechanical behaviors and tensile strength are also favorable, and its relevant material properties can be varied within a wide range.

05

After use, it dissolves in water or in wet conditions without any trace, does not create microplastic particles.

03

Fully compostable, does not put further strain on the environment.

06

An environment thriving in bacteria accelerates decomposition, thus getting it back into the natural cycle.

07

Once in soil, thanks to its hydrophilic quality, it's ability to retain water during decomposition favorably affects the water balance of the soil.