



General technical information

we turn waste into QUALITY products



1. material

The material consists of **100% post-consumer recycled plastics** (PCR), mainly sourced from the food and packaging industry. It is carefully sorted and washed.

Composition consisting mainly of:
LDPE (Low-Density Polyethylene)
HDPE (High-Density Polyethylene)
PP (Polypropylene)

All of our products are certified according to the QA-CER recycled content quality standard of BQA (Belgian Quality Association). This certificate confirms that the raw materials used in the production of all our plastic profiles are 100% derived from PCR material. **The QA-CER certificate** is available upon request.

2. production

The different plastics are **ground, mixed and compressed into moulds**. During production, the material is coloured throughout the mass to obtain a homogeneous colour.

3. general properties

recycled quality	designed for outdoors	long-lasting appearance	higher flexibility
 100% plastic waste	 Weather-proof	 Low maintenance	 Slightly flexible
 Completely recyclable	 UV-stabilized	 Graffiti-resistant	 Easy to machine
 Coloured throughout	 Sound-insulating	 Grained texture	 Splinter-free
 Solid core	 Non-absorbing	 Rot-proof	 Impact-resistant
 Systematically tested	 Non-slip material	 Easy scratch removal	
	 Very long service life		

4. finish & appearance

STANDARD: the surface is knot-free, uniform in colour, and shows a grained, slightly glossy texture. Small imperfections may occur due to the recycled material.

IMPRESS: the surface has a permanent wood-grain texture.

BASIC: both the material itself and the surface are rougher than the STANDARD finish.



5. available colours



Ural Black



Atlas Beige



Rainbow Blue



Quartz Brown



Mineral Grey



Rainbow Red



Canyon Brown



Ash Grey



Rainbow Yellow



Sand Beige



Andes Green



Rainbow Green

not all colours are available for every Govaplast product group

6. practical properties

6.1 dimensional tolerance

- Plastic materials are subject to thermal expansion and contraction. The linear coefficient of thermal expansion shall therefore be considered in the design and application of the product (see Section 9.2).
- Posts and boards may exhibit dimensional variations of up to approximately $\pm 2\%$ as a result of the moulding process.
- The machining tolerance for internal cutting operations is ± 1 mm.

6.2 machinability

The material is easy to machine and can be worked using conventional woodworking tools and techniques. Operations such as screwing, nailing, sawing, drilling, planing, milling and stapling can be carried out in a similar manner to wood. Recommendations:

- Drill at low speed
- Pre-drill pilot holes before inserting screws
- Preferably use a low-speed circular saw fitted with tungsten carbide (TCT/WIDIA) teeth
- The product may deform or warp when cut longitudinally.

Screw retention performance (pull-out test):

Pull-out resistance of screw: 4365 N

The measured pull-out resistance indicates excellent screw-holding performance. The material is suitable for applications where screws are used as structural fastening elements.

6.3 slip resistance decking boards

Test method DIN 51130

ramp test Govadeck 'Smooth' R-classification: R10

ramp test Govadeck 'Classic with grooves' R-classification: R11

Interpretation: R10 = normal slip potential, R11 = low slip potential

Test method EN 1341

pendulum test Govadeck 'Classic with grooves' **wet**:

Slip resistance parallel with grooves: SRV = 29-33/ Perpendicular to grooves: SRV = 44-47

pendulum test Govadeck 'Classic with grooves' **dry**:

Slip resistance parallel with grooves: SRV = 86-89/ Perpendicular to grooves: SRV = 90-96

Interpretation: SRV 25-35 = normal slip potential, SRV 36+ = low slip potential

6.4 sound insulation

Test method EN-ISO 140-3

Result classification according to EN ISO 717-1:

Sound reduction index $R = 38 \text{ dB}$ $\approx$ DLR = 35 dB

Interpretation: The material offers good acoustic performance and meets the requirements of the widely used EN 1793 standard, where a DLR value of ≥ 25 is required.

7. physical properties

7.1 tensile test

Test method ISO 527

Young's modulus/ Tensile modulus: 400-800 Mpa

Yield stress: 9,5 Mpa

Tensile strenght: 16 Mpa

Elongation at break: 50%

Interpretation: The material exhibits relatively high elasticity. Govaplast boards are known for their resistance to breakage.

7.2 flexural test

Test method ISO 178

Flexural modulus: 500-750 Mpa

Flexural strenght: 22 MPa

Creep

Under sustained static loads (including self-weight), the material may exhibit time-dependent deformation (creep). The magnitude of this deformation depends on factors such as load level, temperature, span length, and service duration.

Interpretation: The material is relatively elastic, and Govaplast boards are known for not breaking easily.

7.3 hardness

Test method ISO 2039-2 32,09HB

Test method ISO 868 Shore D: 55-59

Interpretation: Govaplast material exhibits excellent dimensional stability and wear resistance.

7.4 impact

Test method ISO 179-1 25 - 32 kJ/m²

Interpretation: Govaplast material demonstrates good energy absorption and robust behaviour when subjected to impact loads.

7.5 compression test

In-house test method

6.33 N/mm² (64 kgf/cm²)

Material starts to deform, yield strength is reached.

14.87 N/mm² (151 kgf/cm²)

The maximum stress the material can withstand before failure

Interpretation: Govaplast material is suitable as a load-distribution beam on level ground with adequate compressive strength and load-bearing capacity.

7.6 density

Test method ISO 1183-1: 0.98 g/cm³

Interpretation: The dense structure of Govaplast material, combined with its favourable strength-to-weight ratio, makes it suitable for use in noise barriers and other acoustic insulation applications

8. fire performance tests

Test method ISO 13823, classification according to ISO 13501-1 (waste-bin fire)

Fire class **E_{fl}**

Test method ISO 11925-2, classification according to ISO 13501-1 (small-flame test)

Fire class **E**

Interpretation: Govaplast material is composed of plastics and is therefore inherently combustible. Nevertheless, it offers a basic degree of fire resistance when exposed to small flames for a short period of time.

9. thermal properties

9.1 Vicat temperature

Test method ISO 306: 115.2°C

Interpretation: Govaplast material exhibits good thermal dimensional stability.

9.2 linear coefficient of thermal expansion

In-house test method: 0.1 mm/m/°C

***Interpretation:** Govaplast material expands at higher temperatures and contracts at lower temperatures. To ensure safe installation and operation, we recommend allowing a clearance of **7 mm per linear meter**, consisting of **+3.5 mm for expansion** and **-3.5 mm for contraction**. This recommendation is based on installation at an ambient temperature of **15°C**, with the board temperature varying between **-10°C and +50°C**.*

*Fasteners (screws) installed at **500 mm intervals or less** will generally accommodate the expansion and contraction of the material. If the spacing between fasteners is greater, sufficient clearance must be provided to allow the board to expand and contract freely without inducing excessive stresses.*

9.3 thermal conductivity

In-house test method: 0.15-0.20 W/m.K

Interpretation: Govaplast material has low thermal conductivity, which limits heat transfer.

10. chemical properties

10.1 moisture absorption

Test method ISO 62: 0.29%

Interpretation: Govaplast material is virtually water-repellent, as water molecules are unable to bond with or penetrate its polymer structure. As a result, the material is not susceptible to rot, decay, or biological degradation, contributing to its long-term durability and low maintenance requirements.

10.2 chemical resistance

Govaplast material is chemically inert, making it well suited for use in saline environments, such as coastal areas. Water and dissolved ions cannot penetrate its polymer structure, preventing chemical interactions with the material. This inertness has been verified through compatibility testing with several commercial products that may come in contact with the boards.

In-house test method

Room temperature 20°, test duration 24 h, visual assessment

Commercial product	Chemical substance	Results
liquid bleach	NaOCl (min. 36°)	No discoloration or modification
lubricating oil	synthetic engine oil	No discoloration or modification
salad oil	corn oil	No discoloration or modification
degreaser	acetone / butanone / tetrachloroethylene / diluted sulphuric acid / diluted soda	No discoloration or modification
pool water	saturated solution of trichloroisocyanic acid	No discoloration or modification
white spirit	mixture of aliphatic hydrocarbons	No discoloration or modification
moss killer	saturated solution of iron sulphate and disodium - EDTA	No discoloration or modification
frying oil	heated deep-frying oil at 180°C	Slight discoloration due to superficial melting of the plastic.

10.3 REACH

The material was tested by an accredited external laboratory. Based on the test results, the product **complies with the applicable REACH requirements** regarding the presence of Substances of Very High Concern (SVHC), with all detected concentrations below the established threshold values. The **REACH test report** is available upon request.

11. CO₂ and environmental impact

11.1 cumulative energy extraction from the natural environment CEENE

CEENE = 49.4 MJex per kg

Interpretation: The Cumulative Energy Extraction from the Natural Environment (CEENE) of Govaplast material is slightly higher than that of wood due to the energy required for its processing. However, it is significantly lower than that of steel and virgin plastics, as the production of Govaplast does not require the extraction of new petroleum resources.

11.2 environmental product declaration EPD

Environmental Product Declaration (EPD)

Prepared according ISO 14025 and 15804+A2 NMD assessment method 1.1.

Production stage A1–A3 (cradle-to-gate)

Global Warming Potential (GWP-total): = 0.1 kg CO₂-eq per kg of product

Associated LCA

Environmental Cost Indicator (ECI) for production phase A1–A3 (cradle to gate)

Environmental Cost Indicator (ECI - MKI): = €0.027 per kg of product

*Interpretation: The Global Warming Potential (GWP) of Govaplast material is among the lowest within its material category. For comparison, impregnated pine has a GWP of approximately **0.3 kg CO₂-eq per kg**, hardwood approximately **0.4 kg CO₂-eq per kg**, and steel approximately **2.0 kg CO₂-eq per kg**. The Environmental Cost Indicator (MKI), which integrates multiple environmental impacts into a single indicator, is likewise favourable. These results demonstrate that Govaplast material is a highly sustainable solution within its material category.*