TOGETHER · TWO PARTNERS, ONE PROCESS CHAIN

The process chain: from PP granulate to series-production component

1 · Continuous semi-finished material production

PP granulate is transformed into honeycomb sandwich panels in a continuous production line: extrusion, vacuum forming, edge trimming, unwinding of the surface layer, folding, lamination, cutting and stacking. A continuous, patented process with inline lamination of the fibre-reinforced thermoplastic face sheets.

2 · Component manufacturing in a one-shot process

The semi-finished material is thermoformed, with or without additional materials and components. Functional areas are selectively consolidated, decorative and functional elements are integrated in the same step, and final trimming is carried out by laser.

3 · Series-production component

The result is highly durable, lightweight structural components, already in series production in the automotive industry and suitable for a wide range of applications in other industries, for both small and large production volumes.

Your benefits from working with us

A reliable, end-to-end process chain from development through to quality assurance, experienced project teams with flat hierarchies and audited quality: IATF 16949 / ISO 9001 · TISAX Level 2 · ISO 14001 / ISO 50001 · ISO 45001 · EcoVadis / NQC

Together, we develop solutions and bring your projects into series production quickly and reliably.

GET IN TOUCH

Together, we develop solutions and bring your projects into series production quickly, reliably and with assured quality.

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an econcore group company

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ThermHex Waben GmbH at a glance

22 employees · €8 million revenue in 2025 · Headquarters and production in Halle (Saale) · Audited quality: ISO 9001 · ISO 14001

Gubesch Group at a glance

550 employees · €76 million revenue in 2025 · 6 plastics technologies · Second-generation family business · Headquarters and production in the greater Nuremberg area · Audited quality: IATF 16949 / ISO 9001 · TISAX Level 2 · ISO 14001 / ISO 50001 · ISO 45001 · EcoVadis / NQC

ThermHex
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GUBESCH GROUP

EXTREMELY LIGHT. EXTREMELY RIGID. READY FOR SERIES PRODUCTION.

Components using honeycomb sandwich technology

Rethinking materials. Advancing lightweight design.

ThermHex Waben and the Gubesch Group combine patented thermoplastic honeycomb material with series-ready component production, with development and production in Germany.

THERMHEX WABEN · THE MATERIAL

Thermoplastic honeycomb sandwich: Automated continuous production with minimal weight

Extreme lightweight design with a honeycomb core

The sandwich construction with a honeycomb core enables extremely light and extremely rigid components. Minimal material usage not only reduces weight, but also lowers material costs and conserves resources.

Continuous, patented process

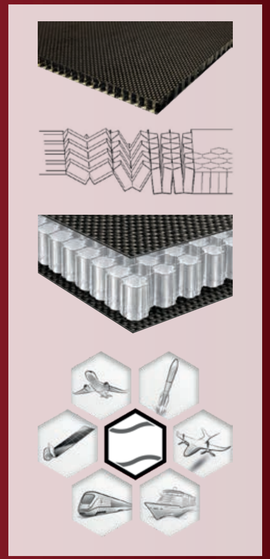
The patented ThermHex technology enables thermoplastic honeycomb cores to be produced for the first time in a continuous process: film extrusion, thermoforming, folding and inline lamination of the face sheets. The honeycomb sandwich material is produced directly from the extruder in a single production line. This reduces costs and enables automated quality control.

Optimum bonding of the face sheets

ThermHex honeycombs have a semi-closed surface, enabling optimum bonding between the core and face sheets. Cell size, material density and honeycomb core thickness can be optimised according to the specific requirements.

Broad material range

The technology is suitable for a wide variety of thermoplastic polymers, including PP, PET, PA, PC, PEI and PEEK. In combination with fibre-reinforced thermoplastic face sheets, this creates a mono-material sandwich solution. ThermHex honeycomb cores made from PEI, in particular, offer an alternative to non-recyclable phenolic resin-based honeycombs for aerospace applications.



ThermHex Waben GmbH, founded in 2009, is a licensee of EconCore NV, Leuven (Belgium).

EXTREMELY LIGHT. EXTREMELY RIGID. READY FOR SERIES PRODUCTION.

Development and production in Germany

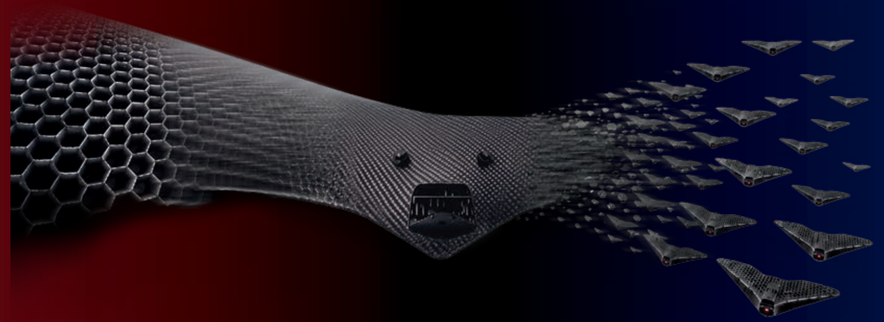


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1 The material

Patented thermoplastic sandwich material with a honeycomb core: cost-effectively produced using automated processes.

2 The Process

Production-ready process chain: One-shot forming with integrated functional areas.

3 The component

Highly resilient with minimal weight, mounting points integrated directly.

4 Your advantage

Increased payload and range. High daily output, short project lead time, and low costs.

GUBESCH GROUP · THE COMPONENT

Thermoplastic structural components From concept to series production

Extreme lightweight design with a honeycomb core

Reduce weight. Integrate functions. Optimise series-production costs. With thermoplastic structural components, the Gubesch Group develops and manufactures lightweight, durable and functionally integrated plastic solutions for aerospace, as well as for other demanding industries. Our technologies help you replace thermosets, reduce weight and achieve cost-effective series-production solutions.

Material structure with a wide range of options

The basis is a sandwich semi-finished material comprising a thermoplastic hexagonal honeycomb core and glass-fibre-reinforced thermoplastic face sheets. Honeycomb height and face-sheet configuration can be varied to tailor technical performance and weight per unit area to specific requirements. Fastening points, closed edge areas and geometries are created through local compression moulding. Additional thermoplastic materials and semi-finished products can be added to create local reinforcements, functional elements or decorative surfaces.

Series-ready one-shot process

A versatile semi-finished material is transformed into a customised structural component in just a few process steps: thermoforming with or without additional materials and components.
Tooling and process technologies are available from series-production projects. Short cycle times are achieved through optimised thermal management and low mass.

Proven in series production

Up to 20% weight saving while meeting mechanical requirements. 1.2 kg weight saving per underbody panel of the Porsche 911, implemented in a series-production component. 70% PP content, with the honeycomb core consisting of almost 100% PP: closed-loop recycling, with recycled materials suitable for use.

YOUR PLUS IN PLASTICS +