

**Industrial moulded parts.**

Your ideas given shape



**werzalit®**  
LASTING. BEAUTY.



Speaker mounts for  
the automotive industry

# The ideal material for your shaped parts. From product planning to shipping

When shaped parts are created from design data, ideas come into being. In addition to form and function, the material can be a key success factor for a product.

## The optimal material for your application

As a manufacturer of wood materials, wood-polymer composites (WPC) and thermoplastic composites, WERZALIT can create for you any imaginable moulded part for any conceivable application.

We make use of various production processes – pressing, injection moulding and extrusion – in accordance with the specific material and requirements. We have the comprehensive expertise to offer you the optimal material for your application.

## From consulting to shipping

Regardless of whether you would like to obtain from us a finished product, a part for further processing or ready-made granulate – you will always profit from extensive WERZALIT know-how. With our many years of experience in the area of shaped parts, we can provide comprehensive advice already during the planning phase. Determining exact and appropriate material characteristics is only a portion of the services we offer. On request, we can take over the entire production process, from design to prototyping to manufacturing of precision end products, including quality assurance and shipping.

## Profitability and good products

A high level of profitability is calculated in. With low material costs and high quality standards, WERZALIT delivers an impressive product for a reasonable price. On the following pages, we would like to present to you the possibilities available with our materials. Let yourself be inspired! We are excited to hear your ideas.

### Your key benefits at a glance:

- ✓ **Comprehensive know-how and in-depth consulting**
- ✓ **Individually selected material for the specific application**
- ✓ **Complete process available – from the idea to shipping**
- ✓ **Profitable, attractive products**
- ✓ **Certified according to ISO 9001**



## Moulded wood particle parts – the wood that takes on any shape

With their excellent three-dimensional formability, moulded wood particle parts are unique among wood materials. This property opens up countless possibilities that go way beyond conventional wood design work.

### **In perfect form**

Moulded wood particle parts hold their shape extremely well and have very high strength. The pressing process allows a number of shapes that are not available with other wood materials, such as realising varying wall thicknesses within a single piece. The special properties are also impressive – for example, WERZALIT moulded wood particle parts satisfy fire protection class B2.

### **Everything of a piece**

Additional advantages include the comparably low material consumption and no need for subsequent processing or additional drilling. The moulded part is produced in its finished shape in a single step. This material offers you high profitability thanks to low material consumption, short production times and no need for additional processing of the pressed part.

### **Renewable and sustainable**

Environmental friendliness is another argument in favour of moulded wood particle parts. All of WERZALIT's production sites in Germany are certified according to the PEFC standard. Short transport distances and the recyclability of the raw material yield a positive eco-balance.

### **Diverse applications**

Moulded wood particle parts are now used in a wide range of areas. Pallets in the packaging industry, bungs in the paper industry and cushion mounting boards for office chairs in the furniture industry have found an optimal material in moulded particle board. Many more applications are also possible. Contact us! We would be happy to work with you to determine whether moulded particle board offers the right solution for you.



Cushion mounting board for office chairs

#### Your key benefits at a glance:

- ✓ Large shape variability, versatile application
- ✓ Dimensional stability and high strength
- ✓ Renewable resources
- ✓ No subsequent processing or extra drilling required
- ✓ PEFC-certified



Office chair body from WERZALIT for Alex Kunststoffe



AUTO

## S2 – the best of wood and plastic

The high-performance material S2 is a wood-polymer composite (WPC). It combines the best properties of both wood and plastic.

### Both plastic and wood

S2 is dimensionally stable, weather-resistant and water-resistant with low swelling, has a high flexural strength and can be worked just like wood. In its hot state, S2 is fluid but has significantly better creep properties than pure thermoplastics.

#### Your key benefits at a glance:

- ✓ Large variety of shapes, individual shape design
- ✓ Lifelike, natural look
- ✓ High innovation potential
- ✓ Weather-resistant, long-lasting and robust
- ✓ Wood from sustainable forestry

### Infinite design possibilities

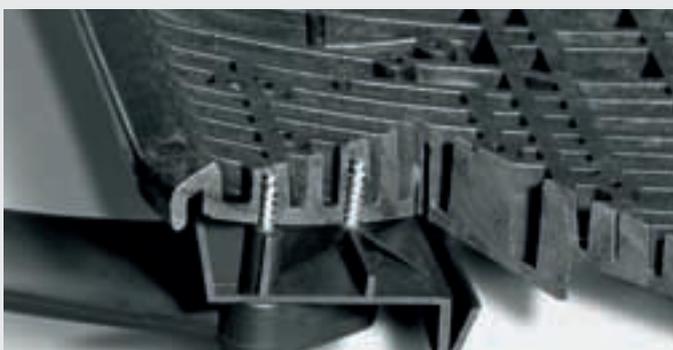
With S2, wood can be injection-moulded for the first time. This yields a warm, comfortable feel to the touch and a completely new aesthetic with a natural, lifelike appearance. The highly innovative material allows an unlimited range of shapes, such as flowing transitions and thin-walled structures. S2 offers extensive opportunities for surface design. The original matt fibre structure can be polished to a glossy sheen, glazed or laminated. It can also be brushed or stamped with textures. It is even possible to integrate dyes for a broad colour design palette.

### Environmentally friendly and innovative

S2 can be realised with a wood content even exceeding 50%. It poses no health concerns since it is free of halogens, chlorine and formaldehyde, and it can be recycled without difficulty. All in all: an environmentally friendly material with a high potential for innovation.

### For indoors and out

Thanks to its robustness and the limitless design possibilities, S2 is also very well suited for outdoor use. As terrace or façade profiles, for example, S2 offers an attractive look while remaining low-maintenance. It has also proven itself well for numerous products in the packaging, furniture and automotive industries. And the possibilities of S2 are far from exhausted. We would be happy to advise you on how to implement your new product with S2.



Lower part of an office chair



Part of a vehicle dashboard

# Thermoplastic – as individual as your product

The possibilities of thermoplastics are exceptionally diverse. We offer extensive consulting in order to identify the right material for your product.

## Individual material development

We develop materials according to the individual requirements of your product. As part of this process, we take into account all manner of criteria, such as UV protection, anti-static properties, stabilisation and colour matching. We utilise filler and reinforcing materials as well as bonding agents and compatibilisers.

## From pixels to mould

We use modern CAD software for mould design: SolidWorks, Inventor and Autocad. We have a wide range of programs at our disposal as interfaces: Iges, Step, Parasolid and Dxf. We offer other direct interfaces, such as Catia, on request.

### Your key benefits at a glance:

- ✓ Material properties matched to your individual requirements
- ✓ State-of-the-art design technology
- ✓ Production of small to large series
- ✓ Large capacities available on call

## Know-how that pays off

As a WERZALIT customer, you profit from our decades of experience in plastic processing when it comes to designing moulds. By taking both the material and the part into consideration when designing the mould, precisely estimating the shrinkage and warping as well as optimally designing the mould cooling, we ensure the best possible foundation for the production of your product while determining the most favourable manufacturing parameters.

## Extensive volume for your product

The finished moulds are used to produce the first samples for your inspection. After approval, we start the production of small to large series on injection moulding machines. Our production capabilities include machines with closing forces of up to 10000 kN, shot volumes up to 6.5 l and clamping widths up to 1690 mm × 1380 mm.

Contact us – we will implement your ideas in thermoplastics!



Even in complex assemblies, thermoplastic parts fit with high precision while offering reliable functionality.



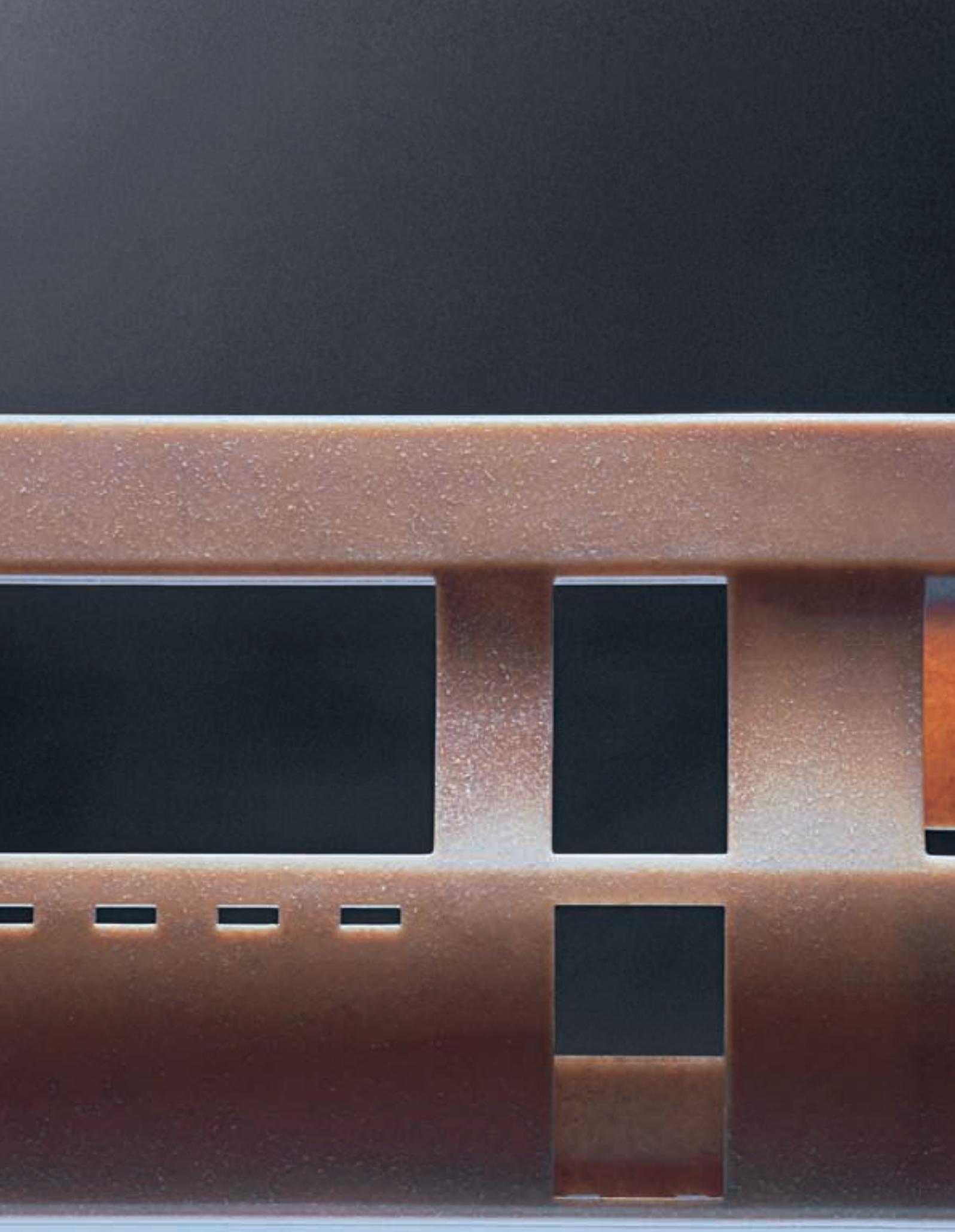
Packaging elements for various applications, such as in the food industry

## What can the various materials do? Comparison of technical details

The table below offers an overview of the capabilities of our materials. The overview shows several standard products from the broad WERZALIT product range.

| Property                            | Testing Standard        | PP (Moplen HP 400R) | S2-50 | S2-50 I | S2-30 | S2-30 HI | S2-60 | WERZALIT raw parts | Unit              |
|-------------------------------------|-------------------------|---------------------|-------|---------|-------|----------|-------|--------------------|-------------------|
| Density                             | DIN EN 323              | 900                 | 1060  | 1060    | 1000  | 1000     | 1100  | 925                | kg/m <sup>3</sup> |
| Flexural strength                   | DIN EN ISO 178          | 32                  | 80    | 51      | 60    | 50       | 85    | 30 – 40            | N/mm <sup>2</sup> |
| Modulus of elasticity (bending)     | DIN EN ISO 178          | 1350                | 5500  | 3300    | 3200  | 2500     | 5850  | 4500 – 5500        | N/mm <sup>2</sup> |
| Charpy impact resistance            | DIN EN ISO 179/1eU      | 105                 | 12    | 21      | 14    | 22       | 11    | 16                 | kJ/m <sup>2</sup> |
| Screw extraction resistance         | WERZALIT test standard* | –                   | 300   | 250     | 250   | 200      | 300   | 100 – 150          | N/mm              |
| Swelling after 24 h (wood standard) | DIN EN 317              | –                   | 1     | 1       | 0.6   | 0.6      | 1.3   | 5 – 7              | %                 |

\* Screw extraction resistance measured at 10 mm insertion depth with 4 mm particle board screw



Front panel of a household appliance, realised with highly fluid S2 with a 30 % wood share

**werzalit®**  
**LASTING. BEAUTY.**

**GB**

**England**

Industrial and building products  
11 Crescent Road  
Bromley  
London, Kent, BR1 3PN  
Phone +44 (0) 78 85/27 41 04  
E-Mail [n.shotton@werzalit.com](mailto:n.shotton@werzalit.com)  
[www.werzalit.com](http://www.werzalit.com)

**AOC**

**All Other Countries**  
[www.werzalit.com](http://www.werzalit.com)

All rights reserved. All texts, images, graphics and other information published here are under copyright by WERZALIT GmbH + Co. KG and/or protected by other laws for the protection of intellectual property. All forms of reproduction, provision of access to third parties, distribution, storage, modification and republishing of the content for commercial purposes are expressly prohibited without written permission from WERZALIT GmbH + Co. KG.

The colours/decor shown in this brochure can differ from the original tones due to printing limitations.