Moulded parts for outdoor use

Made of the indigenous renewable resource, beechwood

Resistant to the effects of the weather and fungus

Not treated chemically

OWI-THERMOFORMHOLZ®

New possibilities for design

Attractive accents of colour and gloss

OWI-THERMOFORMHOLZ®

Tempered by heat
Moulded wood with improved characteristics

We temper the independence of moulded items made of rotary cut beechwood veneers, so that without any surface treatment, they are reliable even outdoors: true to form, elegant, weatherproof.

Beech plywood
A wonderful material

Parts made of moulded beech plywood are aesthetically pleasing, versatile, and provide the basis for all sorts of ergonomically favourable seating.

They are made from an indigenous renewable resource. Their grace and versatility allow them to be used in many different ways, providing optimum conditions for design.

It has not been possible until now to use moulded objects made from beechwood veneers outdoors: their take-up and giving off of moisture means that they "work" and age visibly. This has meant up to now that they have been passed over in favour of solid teak furniture. The availability and ecology of tropical timber is however an increasingly controversial issue.

For use in interiors, conventional moulded wooden parts made of beechwood are carefully worked and refined with elegant face veneers to give alterations in colour or to lend gloss.

The process:
Thermal tempering

Without any further surface treatment, thermal finishing also gives the moulded parts exotic accents of colour, making them attractive for use in interior design.

Thermo-wood, or thermally modified timber (TMT) to be more precise, has been produced industrially for approximately ten years.

Thanks to thermal modification, the structure of the cell is altered in such a way that the uptake of moisture and equilibrium moisture content are crucially reduced. Swelling and shrinking are reduced by approx. 50 %. Bacteria and wood-destroying fungus lose their source of nutrients, as the hemi-cellulose – short-chained sugars – is broken down.

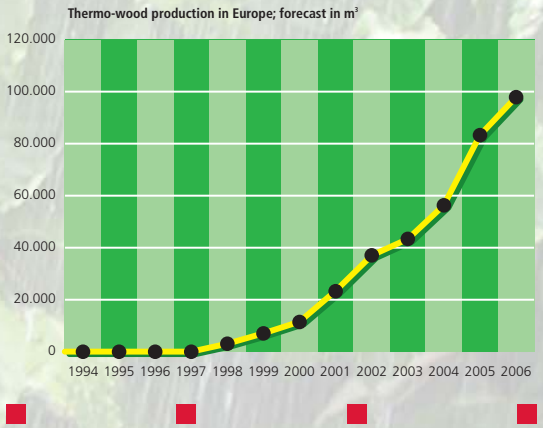
OWI has applied this knowledge to beechwood veneers and tempers them using a special thermal process.

For objects to be used outdoors, an adhesive containing melamine resins is also used. Melamine resins increase the durability of the surface and are well-known for their use e.g. in kitchen worktops.

Because of the excellent characteristics of thermally modified timber, its production is expanding rapidly.

Thermo-wood
The alternative to tropical timber

Its optically attractive variation in colour makes thermo-wood an alternative to tropical timbers for use in interior design, too.
Nowadays thermo-wood applications in solid wood are often already to be found in façade cladding, in garden and landscape design (e.g. patios), and in wellness areas. For garden and outdoor furniture, their use has however been limited up to now.



Moulded wood and plastic

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Durability Classes/Resistance to wood-destroying fungus according to DIN EN 350-2

Class	1	2	3	4	5
Durability	very durable	durable	moderately durable	slightly durable	not durable
Wood variant	teak, intsia OWI-Thermo-formholz®	yellow balau oak	Dark red meranti oak larch	spruce pine larch	European beech ash

XENON-test

Control sample

XENON 500 h

XENON 1000 h

XENON 1500 h

Resistance/Durability

Untreated beechwood is classed under Durability Class 5 (not durable) according to DIN EN 350-2.
Thanks to our thermal processing of rotary cut veneer, we have been able to achieve Durability Class 1 (very durable). External weathering and xenon tests have shown that the bonding is absolutely firm even after 1500 test hours, which corresponds to 12 years' use. The surface becomes silvery grey, as is the case with teak.

The advantages

- Increased durability
- Improved shape retention and dimensional stability
- Optically attractive accents of colour and gloss
- Greater resistance to weather and fungus
- New design possibilities for moulded items for outdoor use
- Indigenous wood from renewable resources
- More economic than solid wood
- No chemical treatment
- Complete protection throughout the cross-section thanks to layered structure

Uses

- Garden furniture
- Furniture in wellness and wet areas
- Play equipment
- Furniture "for inside and out"
- Stadium seating

Promoted by the Bavarian Technology Promoting Programme (BayTP)

OWI Thermoformholz 06.06 E