Customised Core Solutions

XPS and Lignin – Tailor-made solutions for industry

JACKON by BEWI




Tailor-made solutions for industry

JACKODUR®

Progress with XPS and Lignin – Made in Germany

Customised XPS and Lignin solutions *– as individual as your requirements and perfectly aligned with the needs of the processing industry. Available on request with a proportion of bio-based raw materials – for greater sustainability without compromise.*

We offer customised solutions *for composite elements used in construction, vehicle manufacturing, furniture production and exhibition stand construction.*
All items are manufactured at our facility in Mechau, Germany, under continuous quality monitoring. The extrusion process produces a fine, closed-cell structure – the foundation for outstanding product features.

Productcharacteristics

- Tight tolerances
- Water repellent
- Customised formats
- Light-weight
- Colors on request
- Excellent thermal insulation properties
- Easy to process
- High mechanical load bearing
- 100% recyclable material

Applications

- Sandwich elements
- Door panels
- Buildings
- Refrigerated vehicles
- Motor-homes
- CNC-milled cuts
- Custom builds

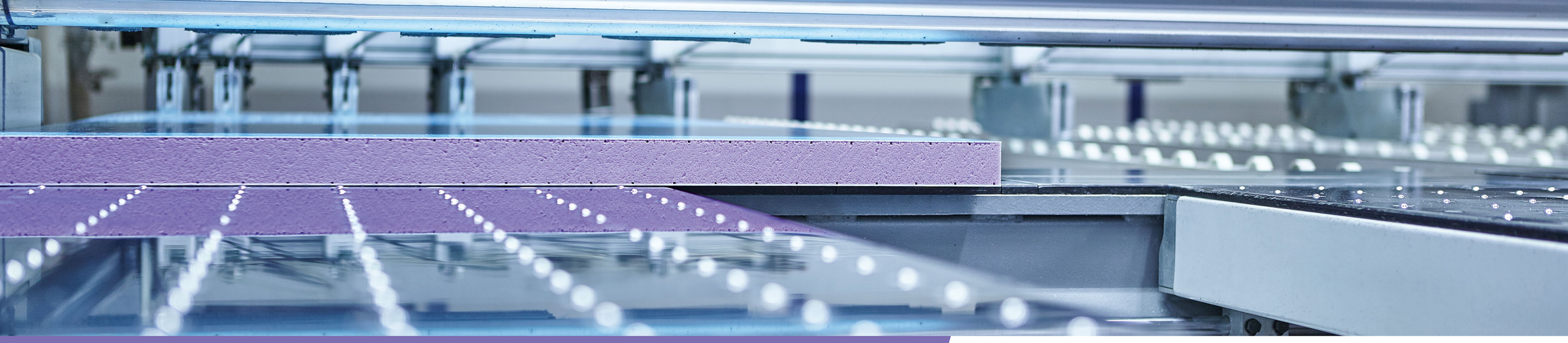
Precision-milled boards for demanding applications

Exceptionally smooth surface, ideal for ultra-thin facing layers

Regular groove patterns are perfect for components under heavy mechanical stress where high adhesive tensile values are required

Evenly distributed perforations on the surface ensure excellent tensile adhesion and create a uniform finish on the facing layer

Thanks to precision hot-wire cutting systems, ultra-thin boards (from just 2.8 mm) can be manufactured



JACKODUR® KF

The environmentally-friendly insulating slab

***JACKODUR® KF** is an environmentally-friendly, extruded polystyrene (XPS) rigid foam board offering outstanding compressive and tensile strength, excellent thermal insulation properties and resistance to moisture.*
Free from environmentally harmful blowing agents.

100%
recyclable

*Thanks to tight manufacturing tolerances and specially engineered surface textures (e.g. grooved or perforated), **JACKODUR® KF** is ideally suited for use in sandwich constructions, door panels, refrigerated vehicles and motorhomes. Its lightweight yet robust design also makes it the go-to solution for modern lightweight construction.*

Characteristics

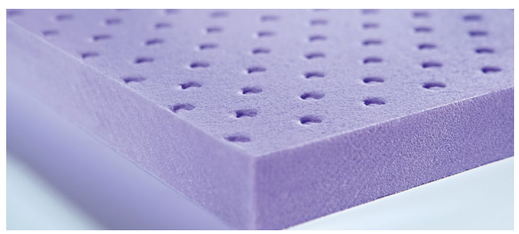
- **Milled surface**
- **Superb thermal insulation**
- **Excellent bonding properties**
- **Can be cut to size**
- **Dimensionally stable**
- **Tight tolerances**

Applications

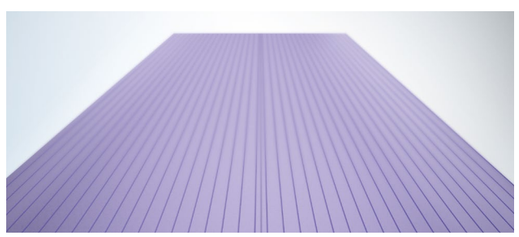
- **Sandwich elements**
- **Door panels**
- **Motorhomes and caravans**
- **Refrigerated, Special-purpose vehicles**
- **Conservatories**
- **Custom sizes**

JACKODUR® KF FT
Fine-tolerance boards (FT) are manufactured with precisely calibrated tolerances in width, length and thickness.

JACKODUR® KF FTR
Fine-tolerance board with grooves (FTR) enhances mechanical properties. Grooves are milled into the top and bottom surfaces, each 2 mm deep and wide, spaced at 40 mm intervals.



JACKODUR® KF FTS
The punched surface increases shear strength. In addition, the punching ensures a flat surface in the finished product.



JACKODUR® KF FT / FTR extrabreit
Thanks to advanced longitudinal edge-welding technology, extra-wide boards are available in formats up to 1,500 mm × 4,000 mm.

JACKODUR® KF *FT / FTR / FTS ② technical data*

JACKODUR®

Dimensions			Mechanical properties				Tolerances				Thermal conductivity
Thickness	Width	Length	Compressive strength at 10 % deformation			Tensile strength	Thickness	Width	Length	Rectangularity	λ
EN 823 [mm]	EN 822 [mm]	EN 822 [mm]	DIN EN 826 [> 300 kPa]	DIN EN 826 [> 500 kPa]	DIN EN 826 [> 700 kPa]	DIN EN 1607 [kPa]	[mm]	[mm]	[mm]	[mm/m]	EN 12667 [W/(m·K)]
> 8 - 20	450 - 1220	1200 - 4000	✓	✓	✗	≥ 600 ③	± 0,15 ④	±1 ≥ 1000 ④ ± 2,5	± 10 ≥ 3000 ④ ± 15	≤ 5	0,034
> 20 - 30	450 - 1510		✓	✓	✗						
> 30 - 100	450 - 1510		✓	✓	✓ ①						
> 100 - 240	500 - 1000	1000 - 3000	✓	✓	✓ ①						

Values	Property	Standard	Unit	Value
Characteristic values	Application temperature	-	°C	-50 / +75
	Reaction to fire	EN 11925-2	-	E
	Water absorption on long-term immersion	EN 12087	Vol.-%	≤ 1,0
	Vapour diffusion-equivalent air layer thickness	DIN EN 12086	m	3 - 16 ①
	Dimensional stability at 70 °C and 90% relative humidity	EN 1604	%	≤ 5
	Thermal expansion coefficient	-	mm/(m*K)	0,07
	E-modul, typical	DIN EN 826	N/mm^2	> 10 (≤37,5 mm) > 15 (≥37,5 mm)
	Gross density, typical	EN 1602	kg/m^3	> 35
Chemical resistance	Water / seawater / saline solutions / alcohols / liquefied inorganic gases / bases / weak and diluted acids / bitumen / water-based cold bitumen / lime / cement / gypsum / sand			
Properties of XPS	closed cell, highly compression proof, flexible, water repellent, rot-proof, resistant to environmental degradation, non-ageing, non-UV resistant			
Bonding technique	e.g. adhesion with solvent-free hot-melt, epoxy and polyurethane adhesives			
Cutting technique	Processing XPS with milling, sawing, glow wires, cutting, shearing			

JACKODUR® FREE HBCD CFC HCFC

Free of HBCD flame retardants, chloro-fluorocarbons (CFCs) and propellants containing HCFCs and HFCs.

100% recyclable

You can find more information at www.jackon-insulation.com

- Safety data sheet
- EPD

JACKODUR® KF offers all the tried and tested properties; the material is compression proof, dimensionally stable, and moisture and rot resistant.

① *Restrictions in the dimensions*
② *depending on thickness*
③ *dependent on the compressive strength*
④ *the specified tolerances can be defined as plus or minus values or as an individual composition*

Status 04/2025

JACKODUR® Plus

JACKODUR®

The environmentally-friendly high-performance insulating slab

***JACKODUR® Plus** is an innovative extruded polystyrene (XPS) rigid foam board that combines all the benefits of JACKODUR® KF with even better thermal insulation performance. Thanks to its exceptionally low lambda value of just λ = 0.025 W/(m·K) (with gas-tight facings on both sides), JACKODUR® Plus delivers up to 30% greater insulation performance. This allows for thinner insulation layers and helps to preserve valuable interior space.*

100%
recyclable

*In addition, **JACKODUR® Plus** uses a blowing agent with an extremely low Global Warming Potential (GWP), actively contributing to climate and environmental protection.*

Characteristics

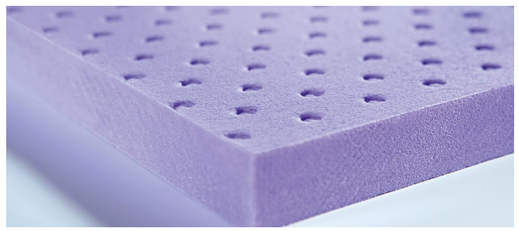
- **Milled surface**
- **Superb thermal insulation**
- **Excellent bonding properties**
- **Can be cut to size**
- **Dimensionally stable**
- **Tight tolerances**

Applications

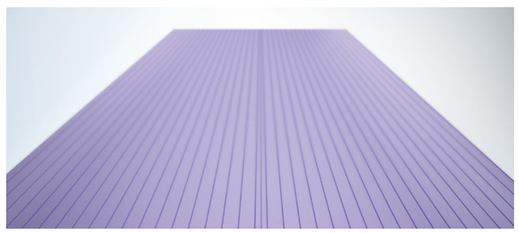
- **Sandwich elements**
- **Door panels**
- **Motorhomes and caravans**
- **Refrigerated, Special-purpose vehicles**
- **Conservatories**
- **Custom sizes**

JACKODUR® Plus FT
Fine-tolerance boards (FT) are manufactured with precisely calibrated tolerances in width, length and thickness.

JACKODUR® Plus FTR
Fine-tolerance board with grooves (FTR) enhances mechanical properties. Grooves are milled into the top and bottom surfaces, each 2 mm deep and wide, spaced at 40 mm intervals.



JACKODUR® Plus FTS
The punched surface increases shear strength. In addition, the punching ensures a flat surface in the finished product.



JACKODUR® Plus FT / FTR extrabreit
Thanks to advanced longitudinal edge-welding technology, extra-wide boards are available in formats up to 1,500 mm × 4,000 mm.

JACKODUR® Plus *FT / FTR / FTS* ② *technical data*

JACKODUR®

Dimensions ①			Mechanical properties				Tolerances				Thermal conductivity
Thickness	Width	Length	Compressive strength at 10 % deformation			Tensile strength	Thickness	Width	Length	Rectangularity	λ
EN 823 [mm]	EN 822 [mm]	EN 822 [mm]	DIN EN 826 [> 300 kPa]	DIN EN 826 [> 500 kPa]	DIN EN 826 [> 700 kPa]	DIN EN 1607 [kPa]	[mm]	[mm]	[mm]	[mm/m]	EN 12667 [W/(m·K)]
> 14 - 20	450 - 1005	1200 - 4000	✓	✗	✗	≥ 600 ③	± 0,15 ④	±1 ≥ 1000 ④ ± 2,5	± 10 ≥ 3000 ④ ± 15	≤ 5	0,027
> 20 - 30	450 - 1510		✓	✗	✗						
> 30 - 40	450 - 1510		✓	✓	✗						
> 40 - 80	450 - 1510		✓	✓	✓ ①						
> 80 - 240	500 - 1000	1000 - 3000	✓	✓	✗						

Values	Property	Standard	Unit	Value
Characteristic values	Application temperature	-	°C	-50 / +75
	Reaction to fire	EN 11925-2	-	E
	Water absorption on long-term immersion	EN 12087	Vol.-%	≤ 1,0
	Vapour diffusion-equivalent air layer thickness	DIN EN 12086	m	3 - 16 ①
	Dimensional stability at 70 °C and 90% relative humidity	EN 1604	%	≤ 5
	Thermal expansion coefficient	-	mm/(m*K)	0,07
	E-modul, typical	DIN EN 826	N/mm^2	> 10 (≤37,5 mm) > 15 (≥37,5 mm)
	Gross density, typical	EN 1602	kg/m^3	> 35
Chemical resistance	Water / seawater / saline solutions / alcohols / liquefied inorganic gases / bases / weak and diluted acids / bitumen / water-based cold bitumen / lime / cement / gypsum / sand			
Properties of XPS	closed cell, highly compression proof, flexible, water repellent, rot-proof, resistant to environmental degradation, non-ageing, non-UV resistant			
Bonding technique	e.g. adhesion with solvent-free hot-melt, epoxy and polyurethane adhesives			
Cutting technique	Processing XPS with milling, sawing, glow wires, cutting, shearing			

JACKODUR FREE HBCD CFC HCFC

Free of HBCD flame retardants, chloro-fluorocarbons (CFCs) and propellants containing HCFCs and HFCs.

100% recyclable

You can find more information at www.jackon-insulation.com

- Safety data sheet
- EPD

JACKODUR® Plus offers all the tried and tested properties; the material is compression proof, dimensionally stable, and moisture and rot resistant.

① *Restrictions in the dimensions*
② *depending on thickness*
③ *dependent on the compressive strength*
④ *the specified tolerances can be defined as plus or minus values or as an individual composition*

Status 04/2025

JACKODUR® LIGNIN

NEW 2025

LIGNIN BIOPOLYMER

Bio-based lightweight boards for industrial applications

***JACKODUR® LIGNIN** is an innovative biopolymer rigid foam, made entirely from bio-based and recycled raw materials. These lightweight construction boards are CO_2-neutral thanks to green electricity.*

100% recyclable

*By using these boards, you are helping to significantly reduce CO_2 emissions. **JACKODUR® LIGNIN** is suitable for use in sandwich elements found in construction, vehicle manufacturing, door panels, as well as furniture and exhibition stand construction.*

Characteristics

- **Milled surface**
- **Superb thermal insulation**
- **Excellent bonding properties**
- **Can be cut to size**
- **Dimensionally stable**
- **Tight tolerances**

Applications

- **Sandwich elements**
- **Door panels**
- **Motorhomes and caravans**
- **Refrigerated, Special-purpose vehicles**
- **Conservatories**
- **Custom sizes**

Benefits

- **with bio-based raw materials**
- **with recycled material**
- **CO_2 neutral produced core**

JACKODUR® LIGNIN FT

JACKODUR® LIGNIN fine tolerance boards (FT) are manufactured using a special process that enables precise widths, lengths, and, most importantly, thicknesses optimised for the respective application. The milled surface creates a completely flat surface – a crucial advantage, particularly in the construction of motorhomes and caravans.

JACKODUR® LIGNIN FTR

JACKODUR® LIGNIN fine tolerance boards with grooves (FTR) were developed to improve bonding properties. The surface of the material is milled and grooves cut into it. The grooves run across both the top and bottom surfaces of the boards, with an optimised depth and width of 2 mm and a groove spacing of 40 mm.

JACKODUR® LIGNIN *FT / FTR* *technical data*

LIGNIN BIOPOLYMER

Dimensions			Mechanical properties	Tolerances				Thermal conductivity
Thickness	Width	Length	Compressive strength at 10 % deformation	Thickness	Width	Length	Rectangularity	λ
EN 823 [mm]	EN 822 [mm]	EN 822 [mm]	DIN EN 826 [kPa]	[mm]	[mm]	[mm]	[mm/m]	EN 12667 [W/(m·K)]
> 20 – 30	550 - 900	1200 - 3000	> 200	± 0,15	± 2,5	± 10	≤ 5	0,034
> 30 – 50	550 - 900		> 300					
> 50 – 70	550 - 750		> 300					

Values	Property	Standard	Unit	Value
Characteristic values	Application temperature	-	°C	-50 / +75
	Reaction to fire	EN 11925-2	-	E
	Water absorption on long-term immersion	EN 12087	Vol.-%	≤ 5,0
	Vapour diffusion-equivalent air layer thickness	EN 12086	m	3 - 16
	Dimensional stability at 70 °C and 90 % relative humidity	EN 1604	%	≤ 5
	Tensile strength	EN 1607	kPa	≥ 400
	Gross density, typical	EN 1602	kg / m³	≥ 30
	Thermal expansion coefficient	-	mm/(m·K)	0,07
Chemical resistance	Water / seawater / saline solutions / alcohols / liquefied inorganic gases / bases / weak and diluted acids / bitumen / water-based cold bitumen / lime / cement / gypsum / sand			
Properties of Lignin Polymer Foam	closed cell, highly compression proof, flexible, water repellent, rot-proof, resistant to environmental degradation, non-ageing, non-UV resistant			
Bonding technique	e.g. adhesion with solvent-free hot-melt, epoxy and polyurethane adhesives			
Cutting technique	Lignin polymer foam can be worked with milling cutters, saws, hot wires, blades and cutters			

JACKODUR FREE HBCD CFC HCFC

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100% recyclable

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- Safety data sheet
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JACKODUR® LIGNIN offers all the tried and tested properties; the material is compression proof, dimensionally stable, and moisture and rot resistant.

Status 04/2025

Sandwich elements

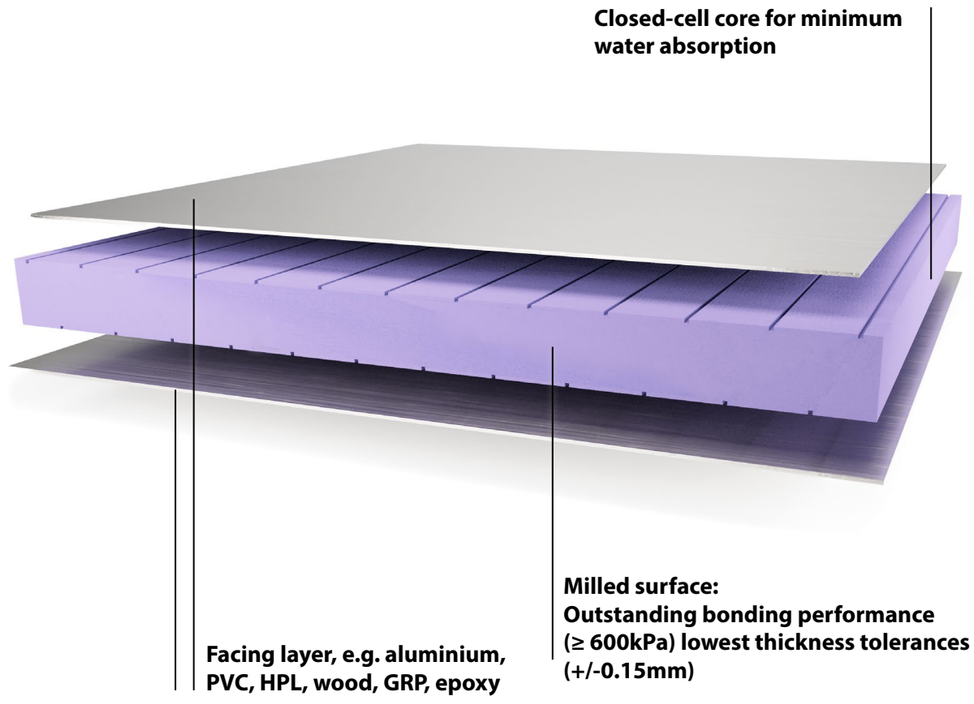
JACKODUR®

A bond that lasts -
a stable element at every level

Sandwich elements *are made up of a functional core and two facing layers. With its outstanding mechanical properties, JACKODUR® forms the perfect core, while the specially grooved surface offers the best possible base for bonding with different materials.*

Benefits

- **Outstanding mechanical properties**
- **Lightweight**
- **High bond strength**
- **Flexible material combinations**
- **Wide range of applications**



The fine, milled grooves allow adhesive to spread evenly across the surfaces to be bonded. Excess adhesive can escape through the grooves, preventing the formation of air pockets and avoiding blistering. The grooves are milled into both the top and bottom surfaces of the board, spaced 40 mm apart, with optimised dimensions of 2 mm in both depth and width.

Excellent thermal insulation properties

High mechanical load bearing

Water repellent

Door panels

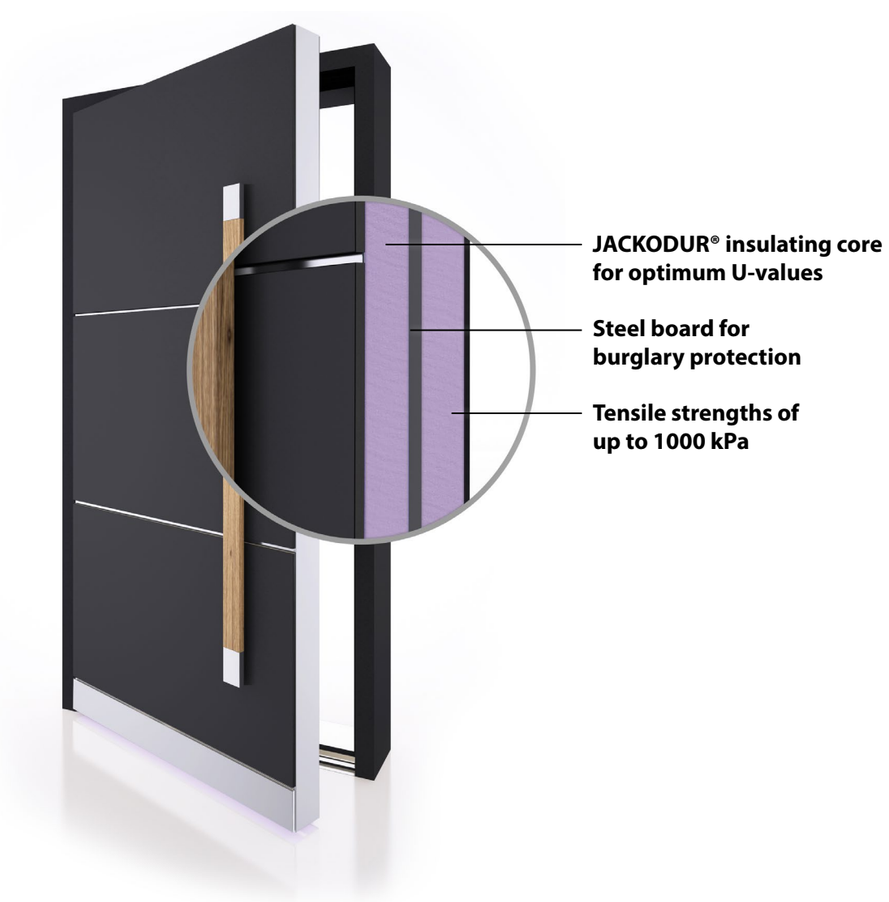
JACKODUR®

For welcoming front doors that are secure, energy-efficient and built to last

***Door panels** must meet high standards for thermal insulation and security. JACKODUR® offers excellent thermal insulation, exceptional compressive strength and enables a robust, durable door construction. This contributes to both energy efficiency and long-term structural stability.*

Benefits

- **Meets Passive House standards**
- **Robust thanks to its homogeneous structure**
- **Custom formats available**
- **Thin core layers possible from just 2.8 mm**
- **Clean, dust-free processing**



Excellent thermal insulation properties

High mechanical load bearing

Water repellent

Buildings

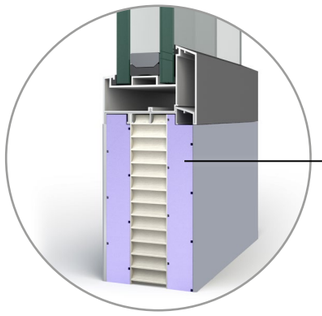
JACKODUR®

Robust bonding combined with excellent insulation performance – for good energy efficiency

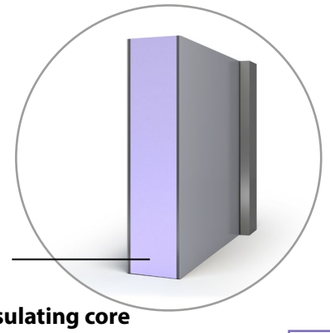
Composite boards with a JACKODUR® core combine outstanding thermal insulation with high mechanical strength. The closed-cell foam structure ensures the component remains dimensionally stable and moisture-resistant over time – the ideal foundation for premium-quality sandwich constructions.

Benefits

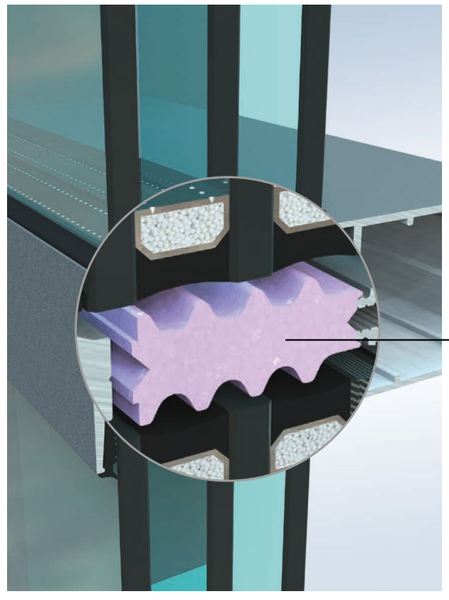
- **Excellent thermal insulation properties**
- **Excellent bonding properties**
- **Tensile strength up to 1000 kPa**
- **Can be cut to size and dimensionally stable**
- **Milled surface available from 8 mm board thickness**



Widening profile to prevent thermal bridges



Top U-values thanks to JACKODUR® insulating core allow for a slim element design



Free of thermal bridges
Façade profile prevents thermal bridges in mullion-and-transom constructions: The pre-milled moulded element holds the screw of the cover profile while simultaneously reducing heat transfer across the profile from inside to outside.

Excellent thermal insulation properties

High mechanical load bearing

Customised formats

Refrigerated vehicles

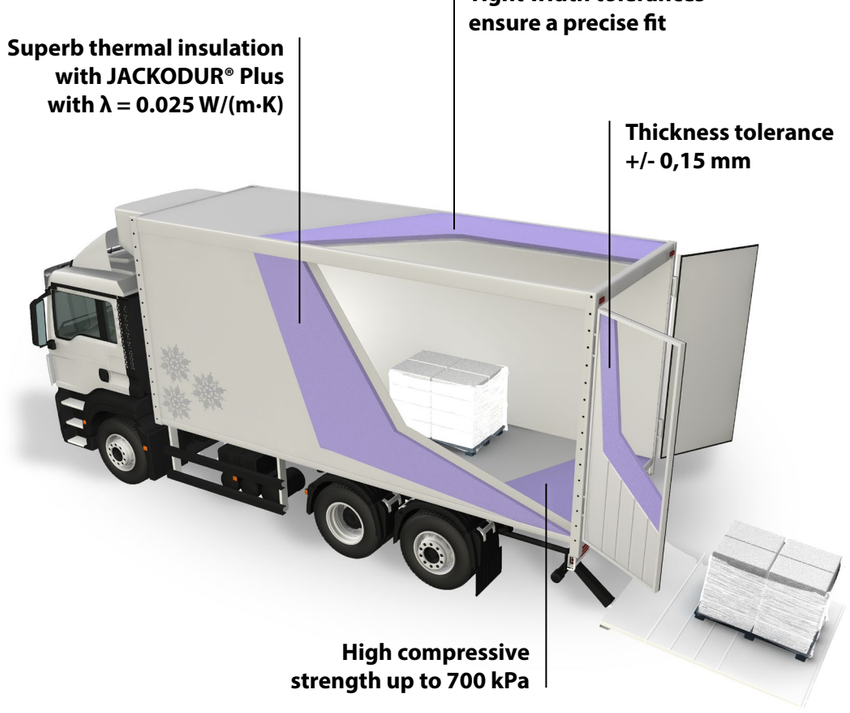
JACKODUR®

Reliable transport in the stringent food cold chain

Refrigerated vehicles must maintain a consistently low internal temperature – even under changing ambient conditions. A JACKODUR® core with low thermal conductivity helps retain internal cold and effectively prevent thermal bridges. The result: reliable cold chains and energy-efficient transport routes.

Benefits

- **Low thermal conductivity**
- **High mechanical strength**
- **Minimal length tolerances**
- **Cost-effective and long-lasting**
- **Clean, dust-free processing**



Thanks to the low weight of JACKODUR® boards, vehicle bodies can be constructed more efficiently and economically. At the same time, high compressive strength ensures long-term stability in daily use – a durable solution for thermal insulation in food and pharmaceutical transport.

Excellent thermal insulation properties

Water repellent

Lightweight

Motorhomes

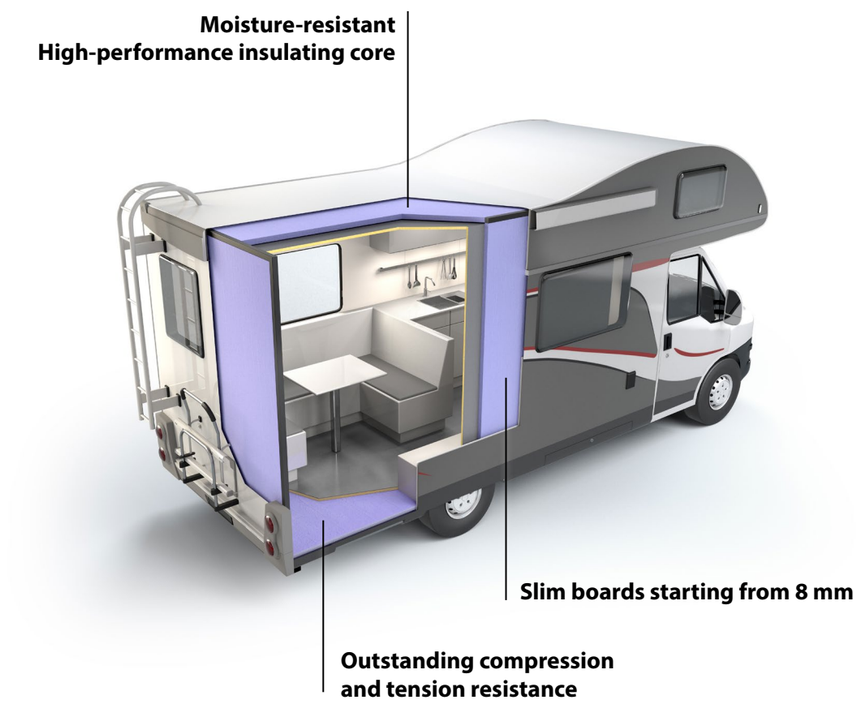
JACKODUR®

Precision-cut XPS boards for a robust construction

In motorhome manufacture, keeping weight to a minimum is key: A lighter structure allows for greater payload and enhances driving comfort. Our slim yet highly compression- and tension-resistant JACKODUR® cores enable the creation of stable wall and floor assemblies with reliable thermal insulation.

Benefits

- **Superior mechanical properties**
- **Extremely lightweight, with a raw density of just 30 kg/m³**
- **Weather resistant**
- **Board widths up to 1,510 mm**
- **Can be cut to exact size**



The water-resistant and weatherproof structure of JACKODUR® rigid foam provides reliable protection against the build-up of moisture and mould. Thanks to precise cutting and minimal dimensional tolerances, the material adapts perfectly to bespoke vehicle designs – offering improved comfort and durability on the road.

High mechanical load bearing

Water repellent

Lightweight

Precision fit cuts

JACKODUR®

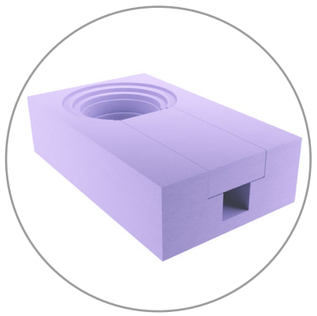
Advanced manufacturing techniques and engineering expertise ensure a wide range of versatile solutions

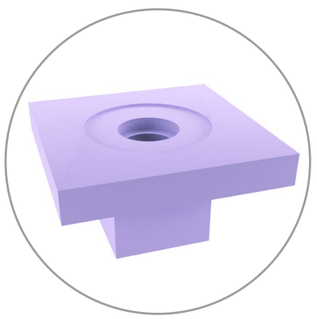
Custom components made from JACKODUR® can be milled with high precision using state-of-the-art CNC technology. This opens up a host of applications – from bespoke formwork elements and insulating moulded parts to complex components for specialist vehicles or exhibition stand construction.

Benefits

- **Expert advice and development know-how Low minimum**
- **Order quantities – from just 10 m³**
- **Simple to work with using standard woodworking tools**
- **Boards available in thicknesses from 2.8 mm to 240 mm**

Dual function: Insulation and formwork element in one.
The insulating element for drainage lines not only prevents thermal bridging; its superb compressive strength makes it equally ideal as a formwork element – ensuring the perfect fit of the drain.



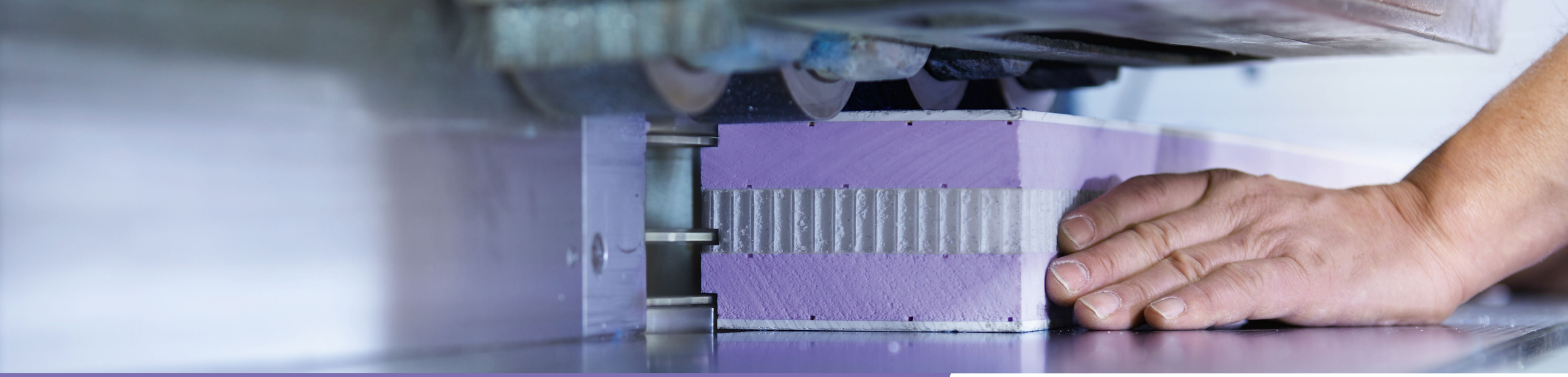


The fine cell structure and uniform material density deliver clean edges and smooth surfaces during processing. Plus, the material remains lightweight, retaining its shape and stability – making it ideal for achieving even complex geometries without compromising essential insulating and strength properties.

Excellent thermal insulation properties

Tight tolerances

Customised formats



Custom builds

JACKODUR®

Entirely bespoke - tailored to your requirements

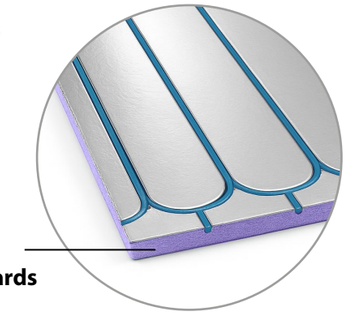
From tiny houses to promotional vehicles: When custom solutions are required, JACKODUR® is the ideal material for lightweight construction and effective insulation. Its high compressive strength combined with low weight ensures that even unusual or demanding builds can be executed safely and reliably.

Integrated cooling zones for food storage

Compression-resistant flooring for ambulances

Special shapes for promotional vehicles, food trucks, etc.

Tiny Houses



Underfloor heating boards

Even for small order quantities, the material can be flexibly adapted – in thickness, width and length. This allows for solutions that are precisely tailored to your project, combining energy efficiency, durability and low weight.

Benefits

- **Minimum order size: starting from 10 m³, depending on the product**
- **Raw densities from 30–50 kg/m³**
- **700 kPa even for small production runs**
- **Custom paints available on request**

Colors on request

Customised formats

High mechanical load bearing

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Free of HBCD flame retardants, chlorofluorocarbons (CFCs) and propellants containing HCFCs and HFCs.

100%
recyclable

Get **contact**

JACKON Insulation GmbH is a member of the German Sustainable Building Council (DGNB e.V.).

Reg. no. 067674

EN
global