



For you to create



# Fundermax

[www.fundermax.com](http://www.fundermax.com)



“Building sustainably means  
building a sustainable future.”

(Lukas T., producer of prefabricated houses)



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### Disclaimer

The information provided in this document is for general information purposes only. Not all systems mentioned and described in this document are suitable or appropriate for all applications and areas. All customers and third parties are required to obtain detailed information about Fundermax products and their suitability for specific purposes. We also strongly recommend that you and all other users of this document seek independent professional advice regarding compliance with local planning and application requirements, applicable laws, regulations, standards, guidelines, and testing standards.

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## **Fundermax**

No matter whether it's furniture, facades, or interior design: where ideas and materials meet, you'll find Fundermax. As a global market leader in the field of compact panels and a manufacturer of high-quality wood-based materials and laminates, the company is proud to look back on a history spanning 130 years. The continued success is based on the highest quality, innovative and varied design, and sustainable production. Made in Austria—with great love for wood as a natural material, creations, and imagination.

- modern production facilities in Austria, Norway and the Netherlands
- around 1,400 employees
- part of Constantia Industries AG
- Integrated management system certified according to ISO standards: 9001 quality, 14001 environment, 50001 energy efficiency, 45001 occupational health and safety
- FSC, PEFC and SURE certified

# 1 Products



“Sustainable building equates to long-term satisfaction.”

(Jonas G., processor)

## Funderplan – A Natural Product for Well-Being

### Healthy Living Through Building with Wood

The importance of sustainable architecture using biogenic materials is increasingly coming to the forefront. When designing living spaces, health-promoting materials are needed to achieve sustainability while supporting the complex interplay of design and environmentally sound resources. Funderplan Biofaser panels were specifically developed to support a healthy living environment with optimal indoor climate conditions.

Our high-density Funderplan wood fiberboard is manufactured using a special production process and fresh wood fibers sourced from certified, sustainably managed forests. By activating the natural resins within the wood fibers, we create an unadulterated natural product. This is what makes Funderplan so unique.

As a result, Funderplan enables exceptionally high-quality living spaces that have a positive effect on comfort, hygiene, and the health of residents and users. The indoor climate itself becomes an experience. Funderplan demonstrably supports living, residing, and working free from exposure to unnatural emissions—even in projects designed for children, the elderly, or people with particularly sensitive health conditions. The result is spaces where people can live with a clear conscience and recharge their energy.



**Funderplan 3-Field Panel – residential and economical for contemporary residential construction**

Structurally effective Funderplan is used for stiffening interior paneling in timber frame construction. The flexural and transverse tensile strength are almost double that of comparable products. The large formats, which span three wall sections simultaneously, facilitate cost-effective and time-saving factory production and assembly. Processing steps such as sawing, drilling, milling, etc. are performed with the usual commercial tools. Funderplan Tongue and Groove Subfloor Board – simply seamless for a healthy indoor climate

Thanks to the option of small-scale formats, the Funderplan tongue and groove subfloor board is ideal for renovation and modernization or general paneling in timber frame construction. A flush and seamless connection enables fast and easy installation, while a stable tongue and groove profile also facilitates 'non-supported joints'.

# The unique features of Funderplan



## Versatile usages

- as roofing and ceiling elements
- for exterior/partition walls
- as optical cladding
- as a wall structure for natural loam rendering

## Ideal for

- Environmentally sound house construction
  - Prefabricated/passive house
  - Nurseries, schools and retirement homes
- Special industrial applications



Structurally durable



For load-bearing purposes  
in damp areas



Effective as a vapor retardant  
with an ideal SD value



Airtight levels guaranteed



Excellent airborne sound insulation  
and sound absorption



Splinter-free processing



Maximizes living space through  
slimline construction

## For people: sustainable and healthy

### Our Funderplan

- Funderplan is tested for healthy living (certified by natureplus (ecological footprint), IQUH and the Sentinel Holding Institut)
- Excellent for a healthy indoor climate. No synthetic materials means no synthetic emissions, making Funderplan ideal for children, elderly people and those with sensitive health conditions
- Comfort and well-being thanks to a perfect indoor climate and moisture management
- permanently stores CO<sub>2</sub> thanks to its long lifespan\*

## For the planet: sustainable and resource-efficient

- Resource-efficient because only fresh wood pulp or sawmill by-products from sustainably certified regional forestry are used in Funderplan. Fresh wood pulp is smallwood from forest thinning. We turn this into a high quality, structurally durable product.
- Long-lasting: The life cycle assessment covering raw material provision, transport and manufacturing confirms our Greenhouse Warming potential saving of  $-1,370 \text{ kg CO}_2/\text{m}^3$ . We are proud of our positive contribution to decarbonization\*\*
- 100% eco-energy: All energy required for Biofaser production comes from certified renewable sources\*\*\*

\* Basis: Service lives of components for life cycle analyses according to the German Sustainable Building Council (BNB) rating system

\*\* GWP database: EPD-FMX-20240368-IPA1-DE

\*\*\* A total of three plants are supplied with energy at the St. Veit site. In total, 80% is provided by certified sustainable renewable energy. 20% of the energy comes from natural gas and fossil fuel substitutes.



# Statements

## **Tilmann Kramolisch** **Managing Director, natureplus**

“The Funderplan panel has been a firm feature of our portfolio for almost a decade. It is the first (and so far only) hard fiberboard to meet the stringent requirements of our contract award guidelines.

We believe resource conservation, climate protection and healthy living are qualities of this product you can rely on.”

[www.natureplus-institute.eu](http://www.natureplus-institute.eu)



## **Ralf Kärger** **Managing Director, Sentinel Holding Institut**

“The Funderplan biofibre board is the right product for healthier and sustainable buildings. It is tested for harmful substances according to strict criteria and optimises the indoor climate.

As we spend over 90 per cent of our time indoors, the issue of indoor air quality is particularly important. Good air quality has a direct impact on our well-being and health. Emissions from building products can significantly impair this. With the SHI product passport, Fundermax simplifies material research and verification for building certifications such as DGNB, QNG, BNB and the EU taxonomy.

The SHI database offers the highest data quality for approx. 3,000 emission-tested products and their sustainability properties with maximum up-to-dateness. It is the only externally monitored and audited building product database that is regularly checked by SGS-TÜV Saar.“

[www.sentinel-haus.de](http://www.sentinel-haus.de)



**SENTINEL HOLDING  
INSTITUT**

# Certification

## natureplus seal of quality no. 0208-1304-120-1

natureplus e.V., the European association for future-proof construction and living, is committed to a sustainability-based approach to the evaluation of construction products, with the sustainable use of resources, climate protection and healthy living forming the key criteria for products. Since all of us spend almost 90% of our lives indoors, the construction products used there have a major influence on people's health.

The non-profit association ensures consistently high quality through regular checks and on-site surveys while offering consumers direction and dependability in their product selections. We are proud of the certification awarded to Funderplan with the seal of quality 0208-1304-120-1.

## IQUH certificate

The IQUH institute of quality management and environmental hygiene reviews the contents of construction products and assesses their influence on indoor climates, air quality and healthy living. Funderplan was tested to determine raw materials and to confirm the full declaration of all ingredients. The result was more than satisfactory: Funderplan is terpene-free, with a low quality, environmental and human compatibility factor of 2.22 (the lower the figure, the more positive the effects on ambient air and indoor climate).



# Fundermax now also in the Sentinel Holding Institute product passport!

## We live sustainability!

Fundermax has been involved in environmental and energy management for more than 20 years and is committed to the responsible use of resources and a functioning circular economy with the Fundermax Green Deal.

This is also reflected in our entire product portfolio – environmentally friendly materials, resource conservation, circular economy & recycling – we really live sustainability and are also tested for it!

The sustainability tests of our products can now also be found in the SHI product passport.

The Sentinel Holding Product Passport is an innovative tool that allows you to efficiently, easily and securely access individual certificates for the requirements of building certification in accordance with DGNB, QNG, BNB, BREEAM and the EU Taxonomy.

The digital product passport offers checked and verified product information as well as all the necessary verification documents, which can be submitted directly to the certification bodies with legal certainty.





Sentinel product passport

By registering in the product passport, we offer you security for sustainable products to make your planning and certification process as efficient as possible:

- Our products can be found quickly and easily in the database
- You have access to all the certification qualities of our products and centralised documentation
- The documentation serves directly as a verification document for certification bodies

# Funderplan on dataholz

## Certified, reliable and available at any time

With the Funderplan biofibre board, we have developed a regulated construction product that combines innovation, quality and sustainability. The 8 mm thick board is ideal for room-side panelling in timber frame construction. It fulfils all the associated static and building physics requirements.

Extensive tests for fire resistance, sound insulation, airtightness and ecology are available for wall structures with Funderplan panelling on the room side, which offer additional safety and underline the quality of our product. All test certificates can be found at [www.funderplan.com](http://www.funderplan.com)

## Secure and simple data availability around the clock!

With the Funderplan, our wood fibreboard is also listed in the innovative online tool dataholz.eu online tool. Dataholz.eu enables planners and processors to quickly and easily access building physics and ecological data for wood and wood-based materials, building materials, components and component joints for timber construction. The data is available at any time – this saves time and provides additional security, as only tested products are listed in the online catalogue.

Funderplan is the right choice for sustainable construction!

**dataholz.eu**



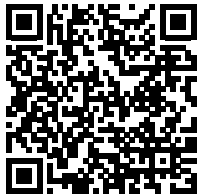


## Details on the wall constructions

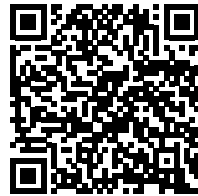
Based on the wall constructions on dataholz.eu, it is possible to create plastered and ventilated facades. Our Max Compact Exterior product has also been tested and listed for specific wall constructions. Tested structures offer planners and installers security through certified components.

If you have any questions about the design, you can contact our technical support team at any time: [support@fundermax.biz](mailto:support@fundermax.biz).

### Rear-ventilated facades with Funderplan on the room side



outside wall awrhhi14a



outside wall awrhhi15a



outside wall awrhhi16a



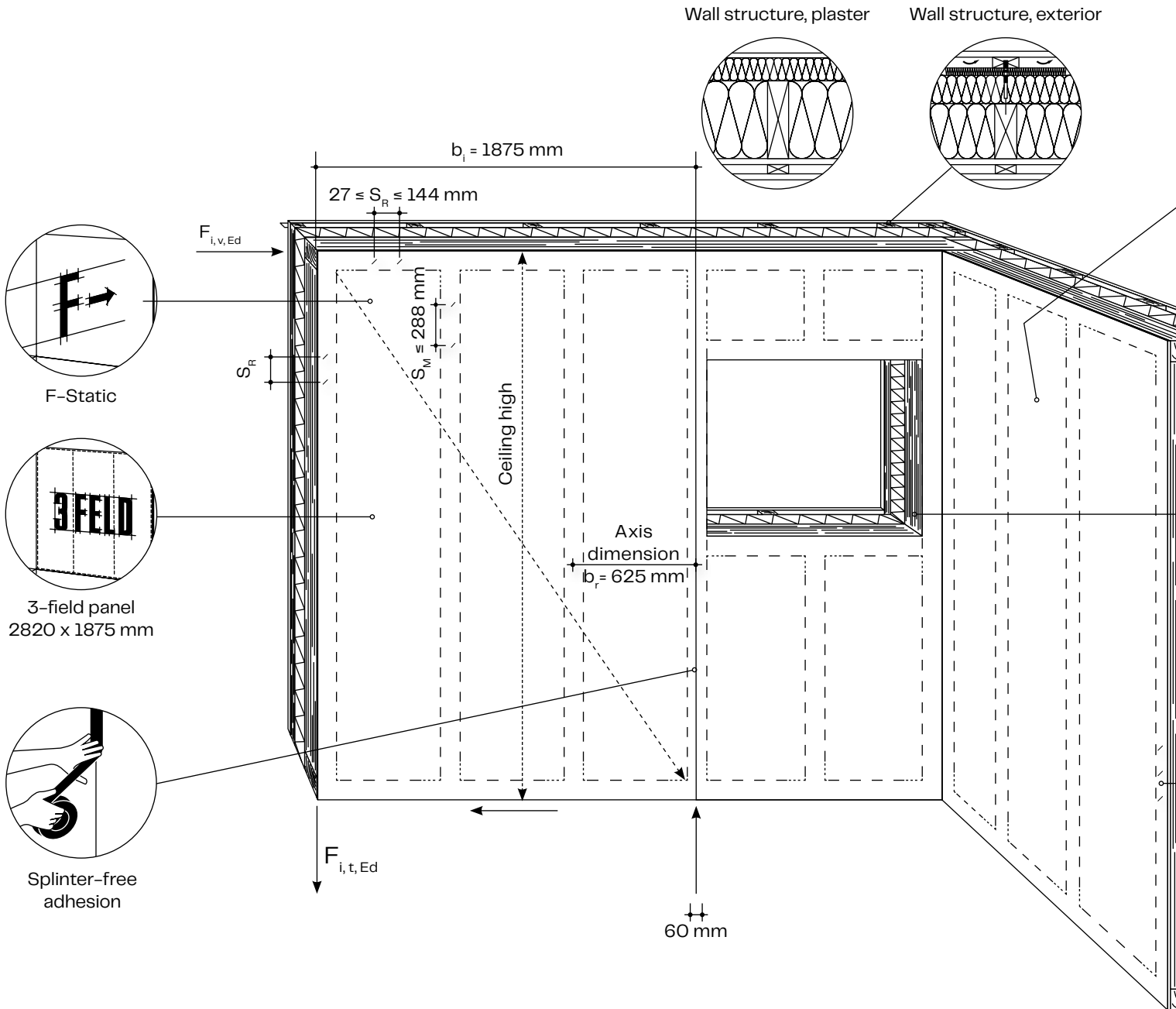
outside wall awropi32a

### Inner wall mit Funderplan

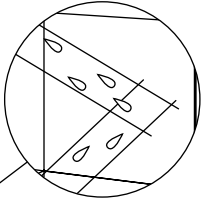


inner wall iwrxxo16a

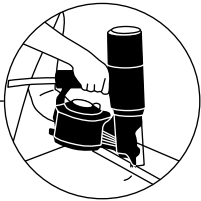
# Example application of wall structure



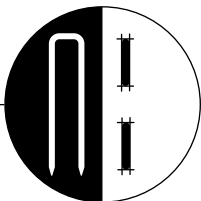
$S_d$  - value



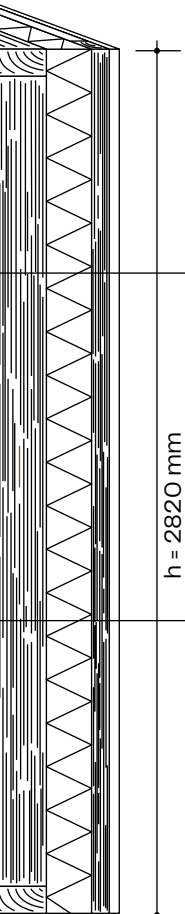
ease of processing



fast assembly



Brackets (nails)



$h = 2820 \text{ mm}$

## Processing recommendations

- Affix panel on all sides
- Avoid non-supported joints
- Fixing with brackets ( $\varnothing 1.8 \text{ mm}$ ) and plastic-bonded groove nails ( $\varnothing 2.5 \text{ mm}$ )

Note:

For the current version of this brochure, visit [www.funderplan.com](http://www.funderplan.com)

## 2 Processing

“A perfect product needs to be installed perfectly.”

(Katrin E., carpenter)



### Fastening with brackets

To ensure neat and flush countersinking of the back of the bracket in the panel, the staple wire must have a material thickness of 1.8 mm.

Minor beading may be visible on account of the wood fibers. Brackets of type Q (non-rusting or heavily galvanized) with the appropriate building approval are recommended. A bracket length of 45 mm is sufficient for Funderplan. Alternatives to hand-held tools: bracket processing with skater, inliner or slider systems. In industrial timber construction, Funderplan is often fastened with a nailing bridge.

Recommended air pressure: approx. 6.0–6.5 bar.

This depends on the length and thickness of the compressed-air hose and on the compressor tank volume. For consistent air pressure at the fastening device, it is advisable to install a separate pressure reducer directly on the tool (highly recommended).

Minimum distance to the panel edge: only 5.4 mm

Note:

Consult the tool manufacturer for precise specifications.

### Fastening with adhesives

For special applications (e.g. concealed fastening), Funderplan can be affixed to a wooden beam construction using adhesive. In this case, consultation with an adhesive manufacturer is recommended.

### Fastening with screws

Screws can also be used for fastenings for inspection purposes. For a flush fastening, screws with milling pocket heads are required.

Recommended screw dimension: 4.5 x 50 mm.

## Fastening with nails

The use of a 2.5 mm galvanized grooved nail is recommended, sunk flush with the panel surface. No beading occurs on the surface, and the original panel appearance is preserved. A length of 50 mm for the 2.5 mm TC grooved nail is sufficient for Funderplan.

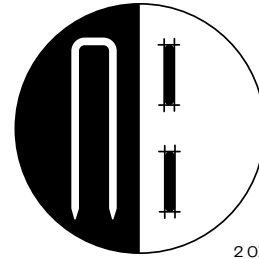
The use of polymer-bound grooved nails provides the assurance that no wire tensioning occurs. For processing, a suitable coil pneumatic nailer capable of processing plastic-strip carrier material is required.

Recommended air pressure: approx. 6.0–7.0 bar. This depends on the length and thickness of the compressed-air hose and on the compressor tank volume. For consistent air pressure at the fastening device, a separate pressure reducer installed directly on the tool is recommended (highly advisable).

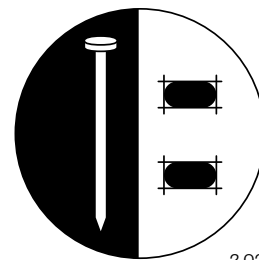
Minimum distance to the panel edge: only 7.5 mm.

Note:

Consult the tool manufacturer for precise specifications.



2 01



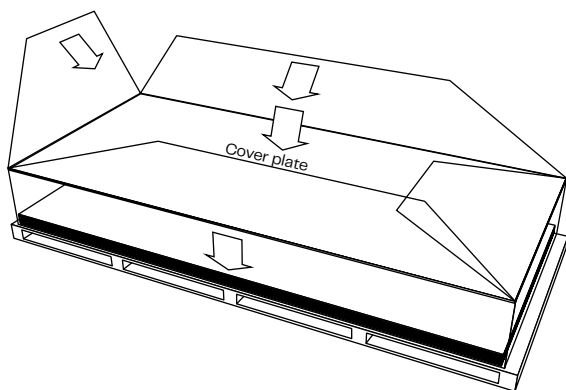
2 02

- 2 01** Fastening with brackets  
**2 02** Fastening with nails

## Storage

For proper storage, we recommend an unheated hall protected from the weather so that pallets are not exposed to direct sunlight. This also ensures panels are not exposed to driving rain or high temperatures. Store in a dry place, horizontally covered.

- do not store in damp environments
- cover pallets with a cover plate and film
- avoid direct sunlight



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## Installation

Before installation, we strongly recommend conditioning the product sufficiently with regard to in-service moisture. Avoid non-supported joints in the processing of 3-field panels.

## Blow-in insulation

Wall structures with Funderplan used as static panelling can be very well insulated with blow-in insulation. The recommendations of the respective insulation manufacturers apply, taking into account the corresponding compaction tables.

For single-sided panelling with Funderplan, standard blow-in installation using a hose is possible. In very dense wall constructions—for example, double-sided panelling with Funderplan—a nozzle must be used during installation that extracts air from the wall and reduces pressure.

## Painting / Coating

Painting Funderplan is generally possible. Sanding is not mandatory. Before applying the final coat, the use of a primer is recommended, as this prevents the surface from being affected by the natural wood characteristics. Consultation with paint manufacturers is advisable.



## Other notes

### Wood dust

We explicitly draw attention to the dangers of inhaling wood dust. The occupational health and safety strategy (AUT) must be selected on the basis of the current guidelines on wood dust issued by the Federal Ministry of Labour (or the applicable national regulations outside of Austria).

### Disposal

Disposal is possible by means of landfill, material recycling or thermal recycling (in suitable plants) as biomass. The material is biodegradable. Depending on origin, the following waste code numbers from the European Waste Catalogue (EWC) are possible: 030105, 170201, waste code according to ÖNORM: 17201.

### Technical support

We would be happy to answer any questions you may have regarding the processing and use of Funderplan Biofaser panels in timber construction.

[support@fundermax.biz](mailto:support@fundermax.biz)



## Examples of use





**Nursery  
Austria, Eberschwang**

**Architect** ARGE Architekt Dipl. Ing. Hans Achatz u. DI Erwin Stammer

**Product** Funderplan Biofaser

**Assembly method** Fastening is blunt with no expansion joint (unnecessary), 1.8 mm brackets, panel joints then taped off airtight



**Office building  
Austria, Aitlengbach**

**Architect** Holzbau Sulzer

**Product** Funderplan Biofaser

**Assembly method** With 2.5 mm groove nails (fastening) and on-site blow-in insulation

## 3 Funderplan construction engineering

“We are building on nature within our own four walls.”

(Daniel W., civil engineer)



Properties	Test method/reference standard	Unit	Value
<b>Mechanical properties</b>			
Apparent density	EN 323	kg/m <sup>3</sup>	> 1000
Thickness	EN 324-1	mm	8.0
Swelling in thickness (24h)	EN 317	%	< 12
Moisture content	EN 322	%	> 6
Formaldehyde <sub>1</sub>	EN 16516	ppm	< 0.1
	EN 717-1	ppm	≤ 0.03
Formats of 'blunt' 3-field panel			2640 x 1870 mm
			2820 x 1875 mm (standard format)
			3000 x 1875 mm
			5640 x 1875 mm
			Cut to size on request
Formats of tongue and groove subfloor board			2600 x 625 mm
			2600 x 1250 mm

<sup>1</sup> The formaldehyde content is in the range of naturally grown wood

**Classification:** Fiberboard according to EN 316

**Test standard:** EN 622

**Technical class:** HB.HLA2 (heavy-duty load-bearing boards for use in humid conditions)  
Service class 2 according to EN 1995-1-1, use class 2 according to EN 335

Properties	Test method/reference standard	Unit	Value
<b>Structural physical properties</b>			
$\mu$ value <sub>2</sub>	EN ISO 12572	-	185
$s_d$ -value	DIN 4108	m	1.48
Fire behaviour	EN 13986	-	D-s2, d0
Fire resistance tested	EN 13501-2:2016	-	REI 45 or REI 60
Sound resistance wall construction	EN ISO 10140-2	dB	42 – 51
Protection time/fire resistance	EN 1363-1	Paneling on fire protection panels	9 min
Protection time/burn rate	EN 1363-1	Individual panel check	0.86mm/min
$\lambda$ value <sub>4</sub>	EN 13986	W/mK	0.18
Airtightness	EN 12114	m <sup>3</sup> / (m <sup>2</sup> x h)	0,0 m <sup>2</sup> (airtight)

<sup>2</sup> Testing institute OFI, PB no: 404.394-1, 04.07.2011

<sup>3</sup> Testing institute MA39, PB no: MA39-VFA2011-0960.01, 29.06.2011

Properties	Test method/reference standard	Unit	Value
<b>Static properties (non-directional) under plate loading</b>			
Flexural strength $f_{m,k}$	EN 310	N/mm <sup>2</sup>	38
E-module ( $E_{o,mean}$ )	EN 310	N/mm <sup>2</sup>	> 4,100
Characteristic embedment strength ( $\phi$ 1.8 mm) Characteristic embedment measured ( $\phi$ 1.5 mm) <sub>5</sub>	EN 1995-1-1 ON EN 383	N/mm <sup>2</sup>	87.6 130.6
Characteristic embedment strength ( $\phi$ 3.0 mm) Characteristic embedment measured ( $\phi$ 3.0 mm) <sub>5</sub>	EN 1995-1-1 ON EN 383	N/mm <sup>2</sup>	75.1 94.7
Shear strength $f_{v,k}$	EN 1995-1-1	N/mm <sup>2</sup>	16
Pressure $f_{c,k}$	EN 1995-1-1	N/mm <sup>2</sup>	24
Shear Modulus $G_{mean}$ <sup>a</sup>	EN 1995-1-1	N/mm <sup>2</sup>	1,900
Modification coefficient $k_{mod}$ (KLD; Kurz; NKL 1)	EN 12369-1		0.85
Transverse tensile strength	EN 319	N/mm <sup>2</sup>	> 0.65
Transverse tensile strength after boil test	EN 1087-1	N/mm <sup>2</sup>	> 0.35

<sup>5</sup> Testing institute TU Graz, PB no: PB10-417-1-01, 15.04.2010

Dimensional tolerances	Test methods	Unit	Value
Thickness	EN 324-1	mm	± 0.2
Length	EN 324-1	mm	± 5.0
Width	EN 324-1	mm	± 3.0

Test parameters (according to natureplus)	Limit $\mu\text{g}/\text{m}^3$	Concentration $\mu\text{g}/\text{m}^3$
Total volatile organic compounds (TVOC)	$\leq 300$	123
Acetic acid		123
of which:		
Total bicyclic terpenes	$\leq 200$	n.n.
Total sensitizing substances according to MAK IV, BgVV list cat. A, TRGS 907	$\leq 100$	n.n.
Total VOC (VOC, VVOC, SVOC) classified in: Regulation (EC) no. 1272/2008: Category Carc. 2, Muta 2, Repr. 2; TRGS 905: K3, M3, R3; IARC: Group 2B; DFG MAK list: III3	$\leq 50$	n.n.
Total (VOC) without NIK	$\leq 100$	n.n.
Total semi-volatile organic compounds (TSVOC)	$\leq 100$	n.n.
R value	$\leq 1$	0.246

Emissions tests according to natureplus guideline 0208 on hard and medium-hard fiberboards. TÜV SÜD Industrie Service GmbH – test report: 130207-1.  
Far below legal requirements.

Fastening ( $\varnothing$ 1.8 mm bracket) <sub>e</sub>	Min.	Max.
Bracket spacing ( $S_a$ )	2.7 cm	14.4 cm
Bracket spacing ( $S_M$ )	–	28.8 cm
Minimum distance stressed edge ( $a_{4,t}$ )		
Bracket ( $\varnothing$ 1.8 mm)	0.54 cm	–
Nail ( $\varnothing$ 2.5 mm)	0.75 cm	–
Design value of wall resistance ( $F_{i,v,Rd}$ )	38.76 kN	7.26 kN

<sub>e</sub> Fastening also possible with 2.5 mm groove nails

Input materials	Trade name	Source of supply	Product share
Timber	Spruce/beechn	local	96.7 %
Water repellents	HYDROWAX 46	Sasol Wax GmbH Worthdamm 13–27 D-20457 Hamburg	1.9 %
Phenolic resin	BOROFEN BF-35	Fenolit d.d. SI-1353 Borovnica	1.4 %



dataholz.eu

### Packaging, 3-field panel

<b>Format (mm)</b>	<b>Pal./truck</b>	<b>m<sup>2</sup></b>	<b>Pcs./pal.</b>	<b>m<sup>2</sup>/pal.</b>
2820 x 1875	11	5.29	40	211
2640 x 1875	11	4.95	40	198
3000 x 1875	11	5.63	40	225
5640 x 1875		10.58	12	127

### Packaging, tongue and groove subfloor board

<b>Format = deck area (mm)</b>	<b>Pal./truck</b>	<b>m<sup>2</sup></b>	<b>Pcs./pal.</b>	<b>m<sup>2</sup>/pal.</b>
2600 x 625	35	1.625	50	81.25
2600 x 1250	35	3.25	25	81.25

## 4 Sustainability

### **We refine what nature provides**

Rooted in ecological principles, we shape a sustainable future and commit ourselves to sustainability in our corporate guidelines.

We strive to manufacture our products from natural raw materials, to minimize negative impacts on people and the environment, and to avoid waste. We achieve this through sustainable investments, clean and energy-efficient processes, continuous monitoring, and ongoing improvement.

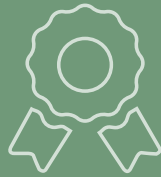
Our environmental and energy policy is reflected in five key action fields within the Fundermax Green Deal – part of our ESG sustainability compass.



All this and more makes Fundermax a sustainable company with a clear view toward the future.

Learn more on our website via this QR code.

## The five action fields of the Fundermax Green Deal:



### Corporate responsibility

Integrated management system certified to ISO

9001 (quality), 14001 (environment),  
50001 (energy efficiency),  
45001 (occupational safety)



### Effective climate protection

Reduction of fossil CO<sub>2</sub>  
emissions by 50%



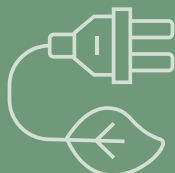
### Environmentally friendly production

Resource efficiency through  
circular economy



### Products from nature

Wood and paper 100% from  
certified sustainable forestry



### Sustainable energy

Efficient use of green electricity and  
green heat in production

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