DUROPAL | wodego | thermopal

PFLEIDERER

Wood-based materials, raw and melamine-faced

Technical data

Pfleiderer – the best of all worlds.

One brand, many benefits: Pfleiderer unites all the products, services and benefits currently offered by the specialists Duropal, wodego and Thermopal in one company. You benefit from this new united strength with combined experience, increased know-how and simplified processes.

A strong brand with competencies:
For creative minds in interior design, shopfitting, furniture production and other areas, Pfleiderer can offer a unique tailored range of decors and surface structures. Together with a matching surface structure, the decor becomes a visual and a tactile experience. Our unique DST-System allows decors, surfaces and core materials from the Pfleiderer Complete Programme to be combined exactly to meet your wishes and needs.

A strong brand with excellence:
In the field of supply chain, too, we offer you tailor-made solutions. For the realisation of your ideas you will receive any amount of support necessary: You will be able to benefit from our individual marketing services such as an attractive POS design with shop systems, etc. Furthermore, optional training seminars by internal and external speakers, covering interesting topics, will make sure you stay ahead of the game.

A strong brand with sustainability:
Pfleiderer pays attention to the unconditional sustainability of all the company's activities – economic, eco-friendly and social. Our products are manufactured not only with the greatest care, but also within the framework of a certified environmental management system. We also honour our special responsibility as an emlpoyer: That is why a culture of trust based on self-responsibility is practised in our company. Sustainability from which you benefit – through eco-friendly products, committed employees and maximum satisfaction.

DST

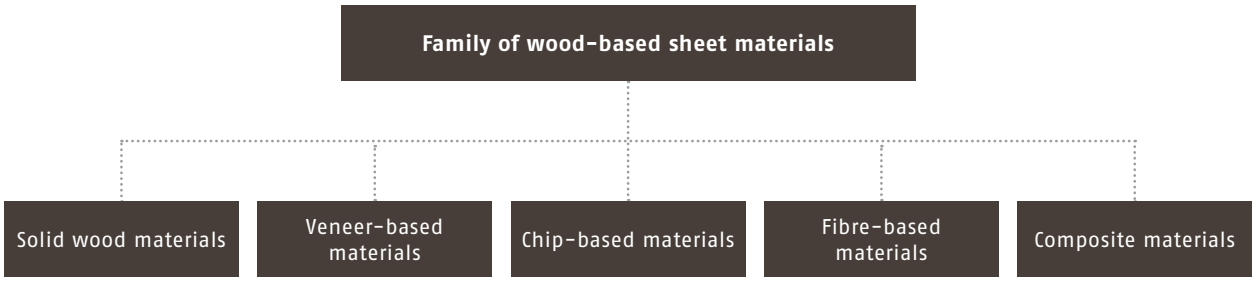
Contents

General information

Wood-based materials – innovative and eco-friendly

Wood consists, technically speaking, of a cellular tissue with a high proportion of cavities. The resulting properties make it a "natural high-tech product". High-quality wood has the same loadbearing capacity as steel but a lighter weight. Therefore, 60 years ago, it was an indispensable material in aircraft engineering. Wood is a traditional building material, as seen in the wooden buildings and half-timbered houses of former times. However, given the limited dimensional stability of wood and its direction-dependent properties, solid wood is difficult to use for designing large and uniform surfaces. To offset these disadvantages, sheet materials made of wood have been developed since the end of the 19th century. In the 20th century, further wood-based materials were developed, including chipboard, probably the most important material manufactured by flat press process.

Wood-based materials have two environmentally friendly advantages: Firstly, they are substitutes for products that emit more carbon dioxide during their production and processing. Secondly, the capacity of wood to store carbon prevents the carbon dioxide bound in the organic biomass from entering the cycle for a long time. The longer the wood products are used, the more the storage is effective. The use of high-quality wood-based materials makes therefore an important contribution to climate protection and to the preservation of our living environment.



One of the most important wood-based sheet materials is chipboard manufactured by flat-press process. For chipboard, the properties of these so-called flat pressed boards either comply with the European standard EN 312 or meet specific customers' requirements. The properties of MDF panels are regulated by product standard EN 622-5.

Manufacture of wood-based materials

As core and structural materials, MDF and chipboard have become indispensable in furniture making and interior design. Their universal application and easy processing are just two of the reasons why MDF and chipboard have developed to be the most important wood-based panels in terms of volume.

Roundwood and sawmill residues are used in the manufacture of wood-based materials; for chipboard, a certain amount of uncontaminated recycled wood is used. Pfleiderer uses mainly softwood (spruce, pine) and small amounts (< 10 %) of hardwood from sustainable forestry certified under the PEFC™ system. Chippers, flakers and mills cut the wood into chips and flakes of a specific shape and size. Downstream from the press, MDF and chipboard have identical manufacturing processes. Wood preparation makes the difference. With MDF, so-called refiners decompose fresh wood into fibres. Glue is spread on the fibres in the so-called blowline. In chipboard manufacture, chips pass through a dryer and are then fractionated into different sizes. The dried chips are glued with low-formaldehyde resin and formed into a particle mat that is then compressed under pressure and heat. Conditioning, sorting and sanding are further downstream processing stages. The final product is a material with uniform properties that can be easily machined and processed and offers a favourable density-weight ratio and an attractive price-benefit ratio. Further advantages of wood-based materials are their production from renewable raw materials, their recyclability and favourable energy balance.

Pfleiderer wood-based materials are made in Germany by using state-of-the-art production technology. Our quality management system certified to ISO 9001 ensures a constantly high quality. In addition, environmentally sound production processes are ensured by an active environmental management system according to ISO 14001 and energy management according to ISO 50001.

Standard types and use classes

The use classes describe the climatic conditions of a construction work/structural element at the place of installation over its entire useful life. Use classes are important for structural engineers and planners, as they provide information on strength values and allow calculation of deflections according to the new DIN 1052 standard under given environmental conditions. Use classes also describe equilibrium moisture contents of wood, i.e. the average moisture content of materials applied in a given environment. Accordingly, this must be taken into account by adjusting wood humidity levels during installation.

Use class divisions

Use class 1	Use class 2	Use class 3
The wood moisture content is based on a temperature of 20 °C and a relative air humidity of the ambient air that exceeds 65 % only for a few weeks per year, for example in enclosed and heated construction works.	The wood moisture content is based on a temperature of 20 °C and a relative air humidity of the ambient air that exceeds 85 % only for a few weeks per year, for example in roofed, open construction works. (In exceptional cases, roofed structural elements may be classified in use class 3).	Refers to climate conditions that lead to higher wood moisture contents than in use class 2, e.g. in constructions exposed to weather.

Sheet materials of use class 3 can also be used in use classes 2 and 1, high load-bearing panels are also used for load-bearing and non-loadbearing applications.

The standards classify chipboard and MDF grades into different classes.

Type definitions EN 622-5

MDF	panels for general purposes in dry conditions
MDF.H	panels for general purposes in humid conditions
MDF.LA	panels for loadbearing applications for use in dry conditions
MDF.HLS	panels for loadbearing applications for use in humid conditions
L-MDF	light-weight MDF for use in dry conditions
L-MDF.H	light-weight MDF for use in humid conditions
UL1-MDF	ultra light MD for use in dry conditions
UL2-MDF	ultra light MDF for use in dry conditions
MDF.RWH	panels for use as sarking boards for roofs and walls

Type definitions EN 312

P1	panels for general applications for use in dry conditions
P2	panels for interior design (including furniture) for use in dry conditions
P3	panels for non-loadbearing applications for use in humid conditions
P4	panels for loadbearing applications for use in dry conditions
P5	panels for loadbearing applications for use in humid conditions
P6	high loadbearing panels for load-bearing purposes in dry conditions
P7	high loadbearing panels for load-bearing purposes in humid conditions

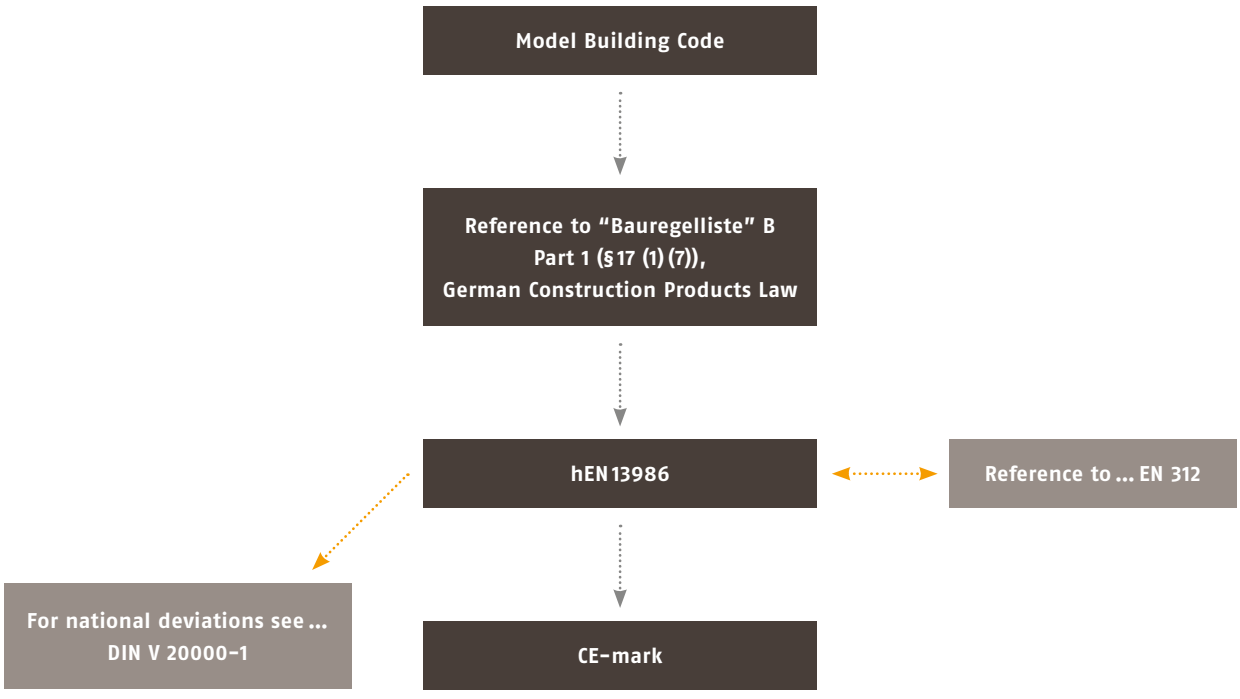
Examples of panel classification:

Use classes	**Product**	**Application**		
		non-loadbearing	loadbearing	heavy-duty
dry NKL1	MDF / chipboard	MDF, P1, P2	MDF.LA, P4	P6
humid NKL2	MDF / chipboard	MDF.H, P3	MDF.HLS, P5	P7

Proof of usability as construction product

Wood-based materials for use in construction must be permanently marked. In Europe, CE marking demonstrates the compliance of products with the relevant standards. Structural wood-based materials are regulated by DIN EN 13986 standard. According to the "Bauregelliste" (Construction Products List compiled by German building authorities) B Part 1, CE-marked wood-based materials may be used as construction products. Therefore no individual approval (national technical approval by German building authorities) is required. CE-marked wood-based materials from Pfleiderer comply with EN 13986 and are classified according to EN 312. Application-related material properties deviating from or exceeding EN 13986 are covered by DIN V 20000-1.

Flat pressed chipboards and CE-marking



Reaction to fire

Information related to DIN 4102-1 and EN 13501-1

DIN 4102-1
The German building regulations set out requirements on construction products regarding their reaction to fire. The reaction to fire of construction products is tested and classified according to DIN 4102-1 standard.

EN 13501-1
Harmonised fire protection requirements apply all over Europe. The EN 13501 classification system is based on different testing methods and a so-called reference scenario and replaces the former national test standards for materials' reaction to fire. The core of the new system is the SBI (Single Burning Item) Test, which Euro class A1 to D construction products have to undergo. The test consists of setting fire in the corner of a room, simulating a burning litter bin. The 'flash-over point' defines different classes by determining the period of time until the full development of a fire. The reaction of A1, A2 and B construction products does not result in a flash-over point.

Building authority designation according to DIN 4102

Building authority designation	Building material class according to DIN 4102
Non-flammable construction materials:	A 1 A 2
Flammable construction materials:	
Flame-resistant construction materials	B 1
Normal flammable construction materials	B 2
Highly flammable construction materials	B 3

Additional requirements according to EN 13501-1

s1	meets more stringent smoke development criteria than s2
s2	limited smoke production and smoke growth rate
s3	no limits to smoke development required

d0	no flaming droplets
d1	no flaming droplets after a fixed period of time
d2	no limits

Reaction to fire classification of construction products and materials according to EN 13501-1

A1	Construction products do not contribute to any stage of fire development until its full development. It is therefore presumed that these products automatically meet the requirements of the lower classes.
A2	Construction products fulfill the same criteria as class B products in the SBI test according to EN 13823. In addition these construction products do not considerably contribute to fire load and growth under the conditions of a fully developed fire.
B	Similar to C, but more stringent requirements.
C	Similar to D, but more stringent requirements. In addition these construction products show a limited lateral flame spread when exposed to a single burning item.
D	Construction products fulfill criteria of class E and resist for a longer period exposure to a small flame with substantial flame spread. They also resist exposure to a single burning item through sufficiently retarded and limited heat release.
E	Construction products resist for a short period exposure to a small flame with substantial flame spread.
F	Construction products' reaction to fire is undefined or not classified in one of the classes A1, A2, B, C, D, E.

Example: The reaction-to-fire performance code is composed of the building authority designation and additional requirements, e.g. chipboard / MDF: **D-s2, d0**

Reaction to fire classification of construction products except flooring

Class	Test methode	Classification criteria	Additional classification
B	EN 13823	FIGRA ≤ 120 W/s und LFS < Edge of sample and THR_{600} s ≤ 7,5 MJ	Smoke production and burning droplets
	EN ISO 11925-2 Exposure = 30 s	F_s ≤ 150 mm up to 60 s	
C	EN 13823	FIGRA ≤ 250 W/s and LFS < Edge of sample and THR_{600} s ≤ 15 MJ	Smoke production and burning droplets
	EN ISO 11925-2 Exposure = 30 s	F_s ≤ 150 mm up to 60 s	
D	EN 13823	FIGRA ≤ 150 W/s	Smoke production and burning droplets
	EN ISO 11925-2 Exposure = 30 s	F_s ≤ 150 mm up to 60 s	
E	EN ISO 11925-2 Exposure = 15 s	F_s ≤ 150 mm up to 20 s	Smoke production and burning droplets


Feuerwehr

Product safety and certificate Raw panels and DecoBoard

Raw panels and DecoBoard can carry the following certificate:

Emission class E1	formaldehyde emission ≤ 0.1 ppm
Low-emission grades: CARB2, F****	The emission values of DecoBoard F**** meet the the strict Japanese F**** standard, and with a formaldehyde emission > 0.03 ppm are clearly under the directive 100 threshold values. The California Air Resources Board (Californian emission control authority) adopted a multi-stage plan including strict requirements on emissions of wood-based materials; CARB2 chipboard releases about 1/3 less emissions than the E1 standard.
German "Blauer Engel" (Blue Angel) eco-label	Award for particularly eco-friendly products and services, taking an integrated approach, meeting high health and safety as well as usability demands. DecoBoard P2 UZ carrying the "Blue Angel" label fulfills the formaldehyde emission requirements ≤ 0.05 ppm.
Food Safety (certified by ISEGA-Forschungs- und Untersuchungs-Gesellschaft mbH Aschaffenburg)	Melamine-faced decorative panels or HPL flat bonded elements can be safely used for furniture manufacture and interior fitting of rooms in which foodstuffs are stored, treated and consumed, as far as as relevant hygiene regulations are complied with.
Declaration of no objection	Raw chipboard and decorative panels are bi-annually tested by independent testing laboratories with regard to emissions of formaldehyde and pollutants like PCP and Lindan.
Fire Test certificate issued (by the German testing institute HOCH, Fladungen, recognized by German construction authorities)	Pfleiderer PremiumBoard Pyroex carries this test certificate regulating the manufacture and use of raw and decorative panels as construction products in material class DIN 4102 – B1 (fire-resistant).
PEFC™ Certification	Wood and wood products carrying the PEFC™-seal have proven to originate from forests that are managed in an ecologically, economically and socially sustainable manner. The entire manufacturing process – from raw material to end product ready for use – is certified and controlled by independent experts.
FSC® Certification	The label for responsible forestry. Promoting an eco-friendly, socially responsible and economically viable forest management.

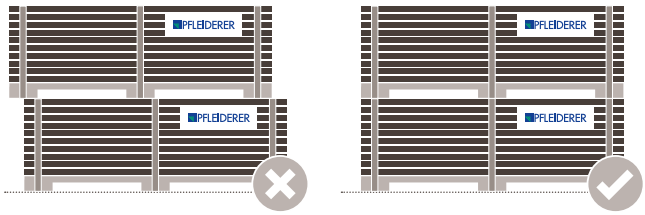
FSC® license code: FSC-C011773

Environmental Product Declaration (EPD)	In contrast to eco-labels like the "Blue Angel", EPD covers the product life cycle from manufacture to use and disposal of a product. EPD thus provides quantifiable environment-related information from a product's life cycle to allow the comparison of products performing equivalent function.

Please note:

Heavy metals	Heavy metals do not play a role in wood-based materials manufacture. Except for special variants DecoBoard P2 ESA and Duropal HPL ESA, only papers free from heavy metals are used for the coating of decorative panels. Neither halogen-organic compounds (like PVC) nor hardeners on the basis of ammonium chloride are used in the manufacture of Pfleiderer wood-based materials.
Product ingredients	Softwood, hardwood, sawmill residues and uncontaminated recycled wood. The raw wood originates mainly from forests in Germany, Austria and Switzerland.
Additives	Ammonium sulphate as hardener, paraffine for water-repellency.
Plant protection product – ISPM 15	Our manufacturing process, including drying of wood at 150 to a maximum of 500 °C over an extended period, followed by chip gluing in the pressing process at temperatures above 200 °C and, in the third stage, by compressing raw chipboard / MDF / HDF with melamine-impregnated papers at 170 to 200 °C, guarantees that our panels are free from insects or insect larvae when leaving our plants.

Storage and transport



Wood-based materials react to changes of air moisture content and temperature, with equilibrium moisture content of panels changing in relation to the ambient humidity. Changes in panel moisture content lead to dimensional changes (shrinking, swelling).

Coated panels with glossy and matt textures like e.g. Matt lacquer (ML) and High gloss (HG) are delicate and require particular care. We recommend delivery and storage of such panels with protective foil preventing surface damage from scratches. For further processing not later than 6 months after delivery, foils are to be removed from the panels.

Honeycomb Board
If stacks of honeycomb boards are piled on top of one another, excessive compressive loads must be avoided. Do not store honeycomb boardsunderneath other packs of wood-based materials (chipboard, MDF).

Please observe the following instructions for the storage of wood-based materials:

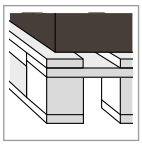
- Coated panels must be protected from humidity and stored in closed dry rooms under normal climate conditions on an even surface. Storage under shed roofs and in the open is unsuited.
- Wood-based panels should be stored horizontally on dry support timbers to avoid direct ground contact.
- Panels from 15 mm thickness are to be placed on equally spaced (80 cm max.) support timbers of same thickness. Shorter spacing is required for thinner panels.
- If stacks of panels are piled up, the support timbers should be vertically aligned. Please make sure that panels are stacked flush to avoid damage to unprotected corners and edges.
- Cover the top panel fully with a cover board or cardboard. Keep sufficient distance from walls and avoid direct contact.

Wood-based materials are not classified dangerous, therefore no safety data sheets are required.

Processing and machining instructions

All types of Pfleiderer panels can be sawn, planed, milled, drilled and sanded using standard woodworking machines and tools. We recommend tungsten carbide tools.

Installation and Mounting



Panels must be sufficiently air-conditioned before installation and mounting. Premises also require air-conditioning in line with their later usage. Please always ensure proper machining and installation according to the current state of the art.

Notice for DecoBoard P2 ESA:
In design and installation please make sure that ESD workstations in ESD-protected zones (EPA) are earthed (all elements have the same electrostatic potential). To this end, a connection between all conductive elements of an EPA with an EPA earthing should be designed. Conductive materials that have an insulating effect are electrically charged, therefore posing a potential hazard. For further information and specific instructions, please contact an ESD consultant or consult relevant technical information.

Cutting and Sawing

Due to their excellent quality, panels from Pfleiderer allow easy machining with all standard saw types. Tungsten carbide saw blades are recommended. For MDF finish cut grades and cut-to-size sheets, a cutting angle of 8 to 10 degrees and a cutting speed of 40 to 80 m/s are best to achieve optimum results.

Drilling

Proven and standard tools and materials for drilling plywood and solid wood must be used. For DecoBoard, boreholes should be lowered to avoid splitting.

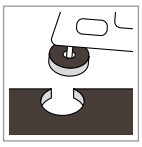
Screwing

Predrilling is recommended with the drilling diameter equalling the core diameter of the screw thread. Screws should be positioned with a minimum distance of 20 mm to the panel edge.

Dowelling

To ensure uniform glue application, please make sure that the dowel hole is up to 0.2 mm larger than the dowel. The use of riffled dowels is recommended.

Milling



MDF panels are perfectly suited for edge and surface profiling. Excellent workmanship and the fibre texture guarantee a milling quality that rivals that of solid wood.

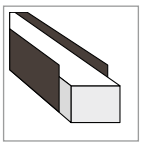
Gluing

All standard wood glues and adhesives can be used, it is however recommended to use only glues that contain little solvent, preferably PU adhesives and PVAc glues classified in groups D1 to D4.

Laminating, Veneering and Edging

Their perfect surface make MDF panels an optimum core material for lamination and veneering. In heat lamination plants, dispersion adhesives are mainly used for the lamination of MDF. Ethylene vinyl acetat copolymers (EVA) glues as well as PVAc glues are used meeting the D3 requirements according to DIN EN 204. The latter are used for decorative finish foils and laminates, while EVA glues are only used for PVC foils. The glue film thickness is 50 to 70 g/m². MDF profiles are usually jacketed with veneers, decorative foils and other materials using hot melt adhesives on the basis of EVA, polyolefin and reactive polyurethane. Jacketing is done on special machines in throughfeed operation. Decorative papers are applied in thicknesses of 80 to 120 g/m². For veneer jacketing higher thicknesses up to 250 g/m² are required. The decorative materials are pressed on to the MDF profiles using pressing rollers adapted to the respective profile. Hot-melt adhesives varying in composition and viscosity are used for gluing different types of decorative materials. Gluing is carried out at temperatures of appox. 180 – 220 °C or 140 – 150 °C for reactive PUR glues respectively. Thick and thin edgebands are suited for edging. EVA and PUR hotmelts are recommended for edge adhesion.

Sanding and Finishing



Wood-based materials are sanded with grit sizes between 80 and 140. Usually wood-based materials need no further treatment before finishing. If particularly high demands are made on the quality (e.g. for high gloss lacquered finishes), MDF panels can be resanded with grit sizes between 180 and 400.

Varnishing and Painting

Primed panels are ideally suited for varnishing and painting. For best results, proceed as follows:

a. Sealing: Careful sealing is of particular importance, as it prevents paint cracks on edges and surface.

b. Priming: After sealing, we recommend to resand the panels. Then priming with a pigmented filler is an option.

c. Varnish or Paint Application: Many varnish and paint types can be used. For technical details please consult your specialist dealer or follow instructions of varnish and paint manufacturers.

The primed panel W700 Semi-Matt is particularly well suited for nitro, SH and wet-on-wet painting. The dense surface allows intensive drying of paint at high temperatures without blistering, leading to a high throughput speed and economic efficiency of the paint shop. Pre-sanding of the panel with a 280 grit size is recommended.

Fastening technology

All conventional removable and non-removable fasteners for solid wood and wood-based materials are suitable.

Processing of DecoBoard Pyroex

The fire-retardant additives and colouring contained in the core material may cause deposits on tools and thus shorten their service lives. In exceptional cases, they may affect the adhesion capacity of glues. Please do not use white glue; Kauramin glue 683 from BASF in combination with Kauramin hardener 686 from BASF are recommended instead.

Safety related data

At Pfleiderer, technical and personal safety come first.

Machining and processing	Pfleiderer panels meet the requirements of the Banned Chemicals Ordinance regarding formaldehyde. Wood dust may be generated in the processing of raw chipboard. In the TRGS 900 MAC Values List wood dust has been classified in category III B as substance where there is a reasonable suspicion of carcinogenic potential. According to the German Technical Rules for Hazardous Substances 553 the concentration of wood dust in the air at the workplace may not exceed 2 mg/m³. Therefore dust-extraction systems are generally connected to machining tools.
Personal protective measures	No measures required. Pfleiderer panels are not toxic within the meaning of Banned Chemicals Ordinance. In machining and processing/installation of wood-based materials, the usual health and safety measures (work gloves, dust mask for sanding operations), as in force for the processing of solid wood, are to be observed.
Disposal	● recycling ● energetic use (combustion in suitable facilities from 50 kW under the 1. German Federal Immission Contral Act)

General Values for MDF, Raw Chipboard and Decorative Panels

	DIN EN 14322 requirements		Pfleiderer DecoBoard
Edges			
Standard panels	Cracks up to 10 mm		≤ 10 mm
Rough cut-to-size	Cracks up to 3 mm		≤ 3 mm
Surface defects (stains, dirt entrapment, indentations)			
Pin knots	≤ 2 mm²/m²		≤ 2 mm²/m²
Longitudinal defects	≤ 20 mm/m		≤ 20 mm/m
Deflection			
Thickness ≥ 15 – 20 (only for balanced surface structures)	≤ 2 mm/m		≤ 2 mm/m
Abrasion behavior	**IP* (revolutions)**	**WR** (revolutions)**	
1	< 50	< 150	print decors (stone and wood reproductions, creative decors)
2	≥ 50	≥ 150	plain decors depending on coating thickness
3A	≥ 150	≥ 350	plain decors depending on coating thickness
3B	≥ 250	≥ 650	plain decors depending on coating thickness
4	≥ 350	≥ 1,000	plain decors depending on coating thickness
Scratch resistance according to DIN EN 14322			
load 1.5 N	no continuous traces ≥ 1.5 N		> 1.5 N no continuous traces (1 – 1.2 N for glossy and matt structures)
Resistance to staining			
grade ≥ 3	Decorative panels must be insusceptible to stains from the substances listed in DIN EN 1432, annex A, ≥ grade 3, corresponding to moderate change of gloss level and colour.		Decoboards comply with the required values for contact times of 16 hours.
Susceptibility to cracking			
	≥ grade 3		≥ grade 3

* IP = initial abrasion point ** WR = abrasion resistance

Please avoid direct panel contact with heat sources (e.g. coffee machines, printers, fax machine) to prevent cracks in dried out panels. All technical properties apply exclusively to moderate climatic zones (temperature, air humidity, exposure to light, etc.) For further information regarding bending strength, tensile strength, thickness swelling etc. please refer to the section about core materials. The mentioned values apply also to decorative panels.

	Chipboard / DecoBoard			MDF panels / DecoBoard MDF		
Building material class	B2 (normally flammable), except Pyroex B1 (flame-retardant)			B2 (normally flammable), except Pyroex B1 (flame-retardant)		
Thickness tolerance für sanded panels	Raw chipboard	± 0.3 mm		Raw-MDF	≤ 19 mm ± 0.2 mm	> 19 mm ± 0.3 mm
	DecoBoard	≤ 20 mm + 0.5 mm – 0.3 mm	> 20 mm ± 0.5 mm	DecoBoard	≤ 20 mm + 0.5 mm – 0.3 mm	> 20 mm ± 0.5 mm
Thickness tolerance for unsanded panels	– 0.3 mm, + 1.7 mm					
Length / width tolerance for standard panels	± 5 mm for DecoBoard cut-to-size: ± 2,5 mm			± 5 mm		
Edge straightness tolerance	1.5 mm per meter			1.5 mm per meter		
Squareness tolerance	2 mm per meter			2 mm per meter		
Moisture content, ex works delivery	9 % ± 4 %			8 % ± 3 %		
Raw density tolerance	± 10 %			± 7 %		
Emission class	E1			E1		
Low-emission quality labels	CARB 2 / F**** / UZ Blue Angel / EPF-S			CARB 2 / F**** / Nordic Swan		
Deflection	≥ 15 mm: ≤ 2 mm to 1,000 mm, if panel structure is identical					
Vapour diffusion resistance factor						
μ value humid	50			20		
μ value dry	100			30		
Thermal conductivity	Medium raw density (kg/m³)			Thermal conductivity (W/mK)		
Chipboard	300			0.07		
	600			0.12		
	900			0.18		
MDF panels	400			0.07		
	600			0.10		
	800			0.14		

External production monitoring by WKI (Fraunhofer Institute for Wood Research, Braunschweig), IHD (Institute for Wood Technology, Dresden) and Qualitätsgemeinschaft Holzwerkstoffe e.V.
All technical properties apply exclusively to moderate climatic zones (temperature, air humidity, exposure to light, etc.) As a natural raw material wood adjusts its moisture content to the ambient climatic conditions; this must be taken into account when dimensioning timber constructions.

Pfleiderer's product families

ClassicBoard
Classic particleboard for furniture and interior fitting (P2 and P3).

PremiumBoard
Particleboard for special applications (P4, P5, P6, B1 and ESA).

LivingBoard
Formaldehyde-free bonded particleboard for healthy structural applications and interior fitting (P2, P4, P5 and P7).

BalanceBoard
The light generation of materials for furniture and interior fitting.

StyleBoard
Fibreboards for high-quality furniture and interior fitting (MDF, MDF black, HDF).

DecoBoard chipboard and fibreboard core panels
Direct laminated wood-based materials for furniture and interior fitting (particleboard, MDF, HDF).

DecoBoard special-purpose core panel
Direct laminated wood-based materials for furniture and interior fitting (MFP Hybrid, melamine-faced blockboar, paper honeycomb, MDF Pyroex).

Recommendations for use

Furniture and interior fitting

Timber construction

Dry areas

Raw panels

ClassicBoard P2
ClassicBoard P2 EPF-S / CARB 2
ClassicBoard P2 UZ Blue Angel / F****
PremiumBoard P4 / P6
PremiumBoard Pyroex B1
StyleBoard MDF plus / black / Pyroex
StyleBoard MDF deep routering plus
StyleBoard HDF thin
BalanceBoard
LivingBoard P2

Coated panels

DecoBoard P2 / P3
DecoBoard P2 EPF-S / CARB 2
DecoBoard P2 UZ Blue Angel / F****
DecoBoard Balance / Living
DecoBoard Pyroex B1
DecoBoard MDF plus / black / Pyroex
DecoBoard ESA
DecoBoard Paper Honeycomb / Blockboard
DecoBoard fibre compact
DecoBoard HDF
DecoBoard MFP Hybrid

Loadbearing

PremiumBoard P4 / P6
LivingBoard P4

Humid areas

Raw panels

ClassicBoard P3
LivingBoard P5

Coated panels

DecoBoard P3

Loadbearing

PremiumBoard MFP P5
LivingBoard P5 / P7
LivingBoard face P5 / P7
LivingBoard face contiprotect P5 / P7

Non-loadbearing

ClassicBoard P3

Special applications

Non-loadbearing, fire-retardant

PremiumBoard Pyroex B1
StyleBoard MDF Pyroex
DecoBoard Pyroex B1
DecoBoard MDF Pyroex

Non-loadbearing, ecological and low-emission

ClassicBoard P2 EPF-S / CARB 2
DecoBoard P2 EPF-S / CARB 2
ClassicBoard P2 UZ Blue Angel / F****
DecoBoard P2 UZ Blue Angel / F****
BalanceBoard / DecoBoard Balance
LivingBoard and LivingBoard face
DecoBoard Living

Loadbearing, ecological and low-emission

LivingBoard P4 / P5 / P7
LivingBoard face P5 / P7
LivingBoard face contiprotect P5 / P7

Non-loadbearing, fire-retardant

PremiumBoard Pyroex B1
StyleBoard MDF Pyroex

For our complete range of products please refer to our online material consulting tool at www.pfleiderer.com

Bearing technology

Loadbearing
PremiumBoard P4 / P6
LivingBoard P4
DecoBoard P4 / P6

Loadbearing
PremiumBoard MFP P5
LivingBoard P5 / P7
LivingBoard face P5 / P7
LivingBoard face contiprotect P5 / P7

Loadbearing, ecological and low-emission
LivingBoard P4 / P6
LivingBoard face P5 / P7
LivingBoard face contiprotect P5 / P7

Raised floors

Loadbearing
PremiumBoard P4 / P6
LivingBoard P4 / P6

Non-loadbearing
ClassicBoard P2
ClassicBoard P2 EPF-S / CARB 2
ClassicBoard P2 UZ Blue Angel / F****
BalanceBoard

Loadbearing
PremiumBoard MFP P5
LivingBoard P5 / P7
LivingBoard face P5 / P7
LivingBoard face contiprotect P5 / P7

Non-loadbearing
ClassicBoard P3

Non-loadbearing, fire-retardant
PremiumBoard Pyroex B1

Non-loadbearing, ecological and low-emission
ClassicBoard P2 EPF-S / CARB 2
ClassicBoard P2 UZ Blue Angel / F****
BalanceBoard

Packaging

Non-loadbearing
ClassicBoard P2

Loadbearing
PremiumBaord MFP P5
LivingBoard P5 / P7
LivingBoard face contiprotect P5 / P7

Non-loadbearing, ecological and low-emission
ClassicBoard P3

Loadbearing, ecological and low-emission
LivingBoard P5
LivingBoard face P5 / P7
LivingBoard face contiprotect P5 / P7

Raw panels

ClassicBoard P2

For use in dry areas
non-loadbearing

Properties and advantages

- fine surface layer
- perfectly suited for direct lamination with impregnated decorative paper, thin foils, HPL bonding
- easy machining and processing
- available as PEFC™ or FSC® certified panel upon request
- tongued and grooved

Areas of Applications

- furniture and interior fitting
- floating floors
- attic conversions

Gluing

- aminoplast resin

FSC® license code: FSC-C011773

ClassicBoard P2

ClassicBoard P2 is a urea-resin bonded wood-based material with a very homogenous and fine top layer. This type of panel meets highest surface demands and is perfectly suited as core material for impregnated decorative papers, thin foils, delicate veneers and also for Duropal HPL. ClassicBoard P2 is also suited as floor panel for non-loadbearing applications in dry areas. The high accuracy of our tongue-and-groove joint guarantees and optimum fit and level, flush laying.

Mechanical and physical properties ClassicBoard P2

Properties	Thickness in mm					
	> 8 to 13	> 13 to 20	> 20 to 25	> 25 to 32	> 32 to 40	> 40
Medium raw density (EN 323) in kg/m³	670 – 720	620 – 640	590 – 630	580 – 620	540 – 570	≤ 540
Bending strength (EN 310) in N/mm²	11	11	10.5	9.5	8,5	7
Transverse dimensional stability (EN 319) in N/mm²	0.40	0.35	0.30	0.25	0.20	0.20
Modulus of elasticity in bending (EN 310) in N/mm²	1,800	1,600	1,500	1,350	1,200	1,050
Surface soundness (EN 311) in N/mm²	0.8	0.8	0.8	0.8	0.8	0.8
Reaction to fire class (DIN 4102 / EN 13986)	B2 / D-s2, d0					

ClassicBoard P2 is produced in conformity with DIN EN 312 P2 and according to the requirements of Qualitätsgemeinschaft Holzwerkstoffe e.V. All values are guide values and reflect our current production conditions. Subject to modifications.

Dimensions ClassicBoard P2 – items per parcel

Format in mm	Thickness in mm														
	8	10	12	13	15	16	18	19	22	25	28	30	38	40	50
2,655 x 2,100	40	40	40	30	30	30	30	30	20	20	20	20	10	10	10
2,800 x 2,070	40	40	40	40	30	30	30	25	25	20	20	15	15	15	
4,110 x 2,070	30	30		20		20	20	20	15	15	15		10		
5,310 x 2,100	20	20	20	15	15	15	15	15	10	10	10	10	5	5	5

Special formats and further thicknesses on request.

Dimensions ClassicBoard P2 floor panel – Items per parcel

Format in mm overall dimension**	Format in mm laid measure	Thickness in mm 10	13	16	19	22	25	28	38
2,050 x 615*	2,040 x 605	80	60	50					
2,050 x 925	2,040 x 915			50	40	35	32	30	20

ClassicBoard P2 floor panels are produced in conformity with DIN EN 312 P2. Special formats and further thicknesses on request.

**The format data refer to the overall dimensions incl. tongue.

*A minimum order quantity is required for this format.

ClassicBoard P2 CARB 2 / EPF-S / UZ Blue Angel / F****

For use in dry areas
non-loadbearing

Properties and advantages

- fine surface layer
- perfectly suited for direct lamination with impregnated decorative paper, thin foils, HPL bonding
- easy machining and processing
- available as PEFC™ or FSC® certified panel upon request
- reduced formaldehyde emission

Areas of Applications

- furniture and interior fitting

Gluing

- aminoplast resin

FSC® license code: FSC-C011773

ClassicBoard P2 CARB 2 / EPF-S / UZ Blue Angel / F****

ClassicBoard P2 CARB 2 / PF-S / UZ Blue Angel (German eco label) / F**** is a low-emission wood-based material for non-loadbearing applications in dry areas. ClassicBoard P2 is a urea-resin bonded wood-based material with a very homogenous and fine top layer. This type of panel meets highest surface demands and is perfectly suited as core material for impregnated decorative papers, thin foils, delicate veneers and also for Duropal HPL.

Mechanical and physical properties ClassicBoard P2

Properties	Thickness in mm					
	> 8 to 13	> 13 to 20	> 20 to 25	> 25 to 32	> 32 to 40	> 40
Medium raw density (EN 323) in kg/m³	670 – 720	620 – 640	590 – 630	580 – 620	540 – 570	≤ 540
Bending strength (EN 310) in N/mm²	11	11	10.5	9.5	8.5	7
Transverse dimensional stability (EN 319) in N/mm²	0.40	0.35	0.30	0.25	0.20	0.20
Modulus of elasticity in bending (EN 310) in N/mm²	1,800	1,600	1,500	1,350	1,200	1,050
Surface soundness (EN 311) in N/mm²	0.8	0.8	0.8	0.8	0.8	0.8
Reaction to fire class (DIN 4102 / EN 13986)	B2 / D-s2, d0					

ClassicBoard P2 is produced in conformity with DIN EN 312 P2 and according to the requirements of Qualitätsgemeinschaft Holzwerkstoffe e.V. All values are guide values and reflect our current production conditions. Subject to modifications.

Dimensions ClassicBoard P2 CARB 2 / EPF-S / UZ Blue Angel / F**

Format in mm	Thickness in mm
2,800 x 2,100	16 / 19
5,600 x 2,100	16 / 19

Other formats and thicknesses on request.

ClassicBoard P3

For use in humid areas
non-loadbearing

Properties and advantages

- moisture resistant
- easy processing with conventional woodworking machines
- less swelling
- available as PEFC™ or FSC® certified panel upon request
- tongued and grooved

Areas of Applications

- rooms with higher ambient humidity according to use class 2
- floating floors
- attic conversions
- roof boarding
- stairs
- interior fitting

Gluing

- moisture-resistant aminoplast resin

FSC® license code: FSC-C011773

ClassicBoard P3

ClassicBoard P3 is suitable for non-loadbearing applications in humid conditions. Due to gluing with aminoplasts this panel is resistant to high air moisture and temporary moisture ingress. ClassicBoard P3 is suited for coating with foils, veneer, melamine-resin impregnated decorative paper und Duropal HPL.

Mechanical and physical properties ClassicBoard P3

Properties	Thickness in mm				
	> 8 to 13	> 13 to 20	> 20 to 25	> 25 to 32	> 32 to 40
Medium raw density (EN 323) in kg/m³	670 – 720	620 – 640	590 – 610	590 – 610	570 – 590
Bending strength (EN 310) in N/mm²	15	14	12	11	9
Transverse dimensional stability (EN 319) in N/mm²	0.45	0.45	0.40	0.35	0.30
Modulus of elasticity in bending (EN 310) in N/mm²	2,050	1,950	1,850	1,700	1,550
Thickness swelling (EN 317) in %	17	14	13	13	12
Transversal internal bond after boil-test (EN 1087-1) in N/mm²	0.09	0.08	0.07	0.07	0.06
Coefficient of shrinkage and swelling	0.025 % per 1 % change of the moisture content of the board				
Reaction to fire class (DIN 4102/ EN 13986)	B2 / D-s2,d0				

ClassicBoard P3 is produced in conformity with DIN EN 312 P3.
All values are guide values and reflect our current production conditions. Subject to modifications.

Dimensions ClassicBoard P3 – Items per parcel

Format in mm	Thickness in mm							
	10	13	16	19	22	25	28	38
2,800 x 2,070	40	40	30	25	25	20	20	15
4,110 x 2,070			20	20	15			
Special formats and further thicknesses on request.								

Dimensions ClassicBoard P3 floor panel – Items per parcel

Format in mm overall dimension**	Format in mm laid measure	Thickness in mm 10	13	16	19	22	25	28	38
1,250 x 615	1,240 x 605				40				
2,050 x 615	2,040 x 605	80	60	50	40	35	32		
2,050 x 925	2,040 x 915	80	60	50	40	35	32	30	20

Special formats and further thicknesses on request.
** The format data refer to the overall dimensions incl. tongue.

PremiumBoard Pyroex B1

For use in dry areas
non-loadbearing
flame-resistant

Properties and advantages

- flame-resistant
- high stability and sturdiness
- high strength
- above-average durability
- easy processing
- wide range of decorative coatings possible
- available as PEFC™ or FSC® certified panel upon request
- tongued and grooved

Areas of Applications

- interior fitting in public premises such as assembly halls, meeting rooms, cinemas or theatres
- rooms with a high fire risk like laboratories, sales rooms in fuel stations or TV studios

Gluing

- aminoplast resin; use of ammonium phosphate as flame-retardant

FSC® license code: FSC-C011773

PremiumBoard Pyroex B1

PremiumBoard Pyroex B1 (based on EN 312-P2) is a flame-retardant panel (construction materials class DIN 4102-B1) classified B-s2, d0 according to DIN EN 13501-1. PreminumBoard Pyroex B1 combines all the advantages of chipboard with additional safety in case of fire. The added flame retardants prevent the panel from rapidly burning through, thereby considerably increasing its fire resistance. PremiumBoard Pyroex B1 delays the "flash over"point, i.e. the time until the full development of a fire and can possibly even prevent a fire. .

Mechanical and physical properties PremiumBoard Pyroex B1

Properties	**Thickness in mm**				
	> 10 to 13	**> 16 to 19**	**> 22 to 25**	**> 25 to 32**	**> 32 to 40**
Medium raw density (EN 323) in kg/m³	720 – 770	690 – 750	660 – 700	640 – 690	640 – 690
Bending strength (EN 310) in N/mm²	11	11	10,5	9,5	8,5
Transverse dimensional stability (EN 319) in N/mm²	0.40	0.35	0.30	0.25	0.20
Modulus of elasticity in bending (EN 310) in N/mm²	1,800	1,600	1,500	1,350	1,200
Surface soundness (EN 311) in N/mm²	0.8	0.8	0.8	0.8	0.8
Reaction to fire class (DIN 4102 / EN 13501-1)	B1 / B-s2, d0				

PremiumBoard Pyroex B1 is produced in conformity with EN 312.
All values are guide values and reflect our current production conditions. Subject to modifications.

Dimensions PremiumBoard Pyroex B1 – Items per parcel

Format in mm	**Thickness in mm**								
	10	**13**	**16**	**18**	**19**	**22**	**25**	**28**	**38**
2,655 x 2,100	20	20	20	20	20	20	20	20	10
5,310 x 2,100	10	10	10	10	10	10	10	10	5

Special formats and further thicknesses on request.

Dimensions PremiumBoard Pyroex B1 floor panel – Items per parcel

Format in mm overall dimension**	**Format in mm laid measure**	**Thickness in mm**							
		10	**13**	**16**	**19**	**22**	**25**	**28**	**38**
1,760 x 690*	1,750 x 680	80	60	50	40	35	32	30	20

Special formats and further thicknesses on request.
** The format data refer to the overall dimensions incl. tongue. The laid mesure or usable format is 1,750 x 680 mm.
* A minimum order quantity is required for this format.

PremiumBoard P4

For use in dry areas
loadbearing

PremiumBoard P6

For use in dry areas
for heavy-duty loadbearing applications

Properties and advantages

- high bending strength
- high load-bearing capacity
- continuous panel quality
- available as PEFC™ or FSC® certified panel upon request

Areas of Applications

- core panel for raised floors, stages and shelves with high demands on loadbearing.

Gluing

- aminoplast resin

FSC® license code: FSC-C011773

PremiumBoard P4 und PremiumBoard P6

PremiumBoard P4 and PremiumBoard P6 are urea-resin bonded wood-based panels for structural loadbearing and bracing applications particularly in dry areas. Due to aminoplast resin gluing, PremiumBoard P4 panels are particularly bright with an above-average stability.

Mechanical and physical properties PremiumBoard P4

Properties	**Thickness in mm**					
	> 8 to 13	**> 13 to 20**	**> 20 to 25**	**> 25 to 32**	**> 32 to 40**	**> 40**
Medium raw density (EN 323) in kg/m³	660 – 750	650 – 680	630 – 650	620 – 640	600 – 620	≤ 600
Bending strength (EN 310) in N/mm²	16	15	13	11	9	7
Transverse dimensional stability (EN 319) in N/mm²	0.40	0.35	0.30	0.25	0.20	0.20
Modulus of elasticity in bending (EN 310) in N/mm²	2,300	2,300	2,050	1,850	1,500	1,200
Thickness swelling (EN 317) in %	16	15	15	15	14	14
Reaction to fire class (DIN 4102 / EN 13986)	B2 / D-s2, d0					
PremiumBoard P4 is produced in conformity with DIN EN 312 P4 and approved by the German building authorities according to CE EN 13986-P4. All values are guide values and reflect our current production conditions. Subject to modifications.						

Mechanical and physical properties PremiumBoard P6

Properties	**Thickness in mm**	
	30	**38**
Medium raw density (EN 323) in kg/m³	680 – 700	670 – 690
Bending strength (EN 310) in N/mm²	17	17
Transverse dimensional stability (EN 319) in N/mm²	0.40	0.40
Modulus of elasticity in bending (EN 310) in N/mm²	2,600	2,800
Thickness swelling (EN 317) in %	15	14
Reaction to fire class (DIN 4102 / EN 13986)	B2 / D-s2, d0	
PremiumBoard P6 is produced in conformity with DIN EN 312 P6 and approved by the German building authorities according to CE EN 13986-P6. All values are guide values and reflect our current production conditions. Subject to modifications.		

Dimensions PremiumBoard P4: Formats and thicknesses upon request, minimum quantity 110 m³.
Dimensions PremiumBoard P6: Formats and thicknesses upon request, minimum quantity 110 m³.

PremiumBoard MFP P5

For use in humid areas
loadbearing

Properties and advantages

- moisture-resistant heavy-duty panel
- bracing in timber panel construction (use classes 1 and 2)
- can be drilled, sawn and milled like solid wood
- problem-free nailing, screwing and stapling even on edges
- problem-free gluing and painting, etc.
- symmetric tongue-and-groove ensures quick an precise laying
- attractive natural wood look
- safe for use with foodstuffs
- easy labelling due to sanded surface
- available as PEFC™ or FSC® certified panel upon request

Areas of Applications

- floor structure
- roof and wall cladding
- packaging
- shop fitting and trade fair construction

Gluing

- moisture-resistant aminoplast resin

FSC® license code: FSC-C011773

PremiumBoard MFP P5

PremiumBoard MFP P5 with moisture-resistant gluing is a stable heavy-duty panel perfectly suited for various structural applications and sturdy packaging. Its high strength values in longitudinal and transversal directions guarantee consistent stability. PremiumBoard MFP P5 has also excellent tensile strength and thickness swelling values.

In addition to structural applications (German building authorities approval according to CE EN 13986-P5), PremiumBoard MFP P5 is suited for packaging according to IPPC standard ISPM No. 15.

Mechanical and physical properties PremiumBoard MFP P5

Properties	**Thickness in mm**		
	> 10 to 13	**> 13 to 20**	**> 20 to 25**
Medium raw density (EN 323) in kg/m³	680 – 730	660 – 700	650 – 670
Bending strength (EN 310) in N/mm²	18	16	14
Transverse dimensional stability (EN 319) in N/mm²	0.45	0.45	0.40
Modulus of elasticity in bending (EN 310) in N/mm²	2,550	2,400	2,150
Thickness swelling (EN 317) in %	12	12	11
Transversal internal bond after boil-test (EN 1087-1) in N/mm²	0.15	0.15	0.15
Reaction to fire class (DIN 4102 / EN 13986)	B2 / D-s2, d0		

PremiumBoard MFP P5 is produced in conformity with DIN EN 312 P5.
All values are guide values and reflect our current production conditions. Subject to modifications.

Dimensions PremiumBoard MFP P5 – Items per parcel

Product	**Format in mm overall dimension**	**Format in mm laid measure**	**Edge**	**Thickness in mm**					
				10	**12**	**15**	**18**	**22**	**25**
PremiumBoard MFP-floor panel	2,500 x 615*	2,490 x 605	tongue and groove	–	60	50	40	35	32
PremiumBoard MFP blunt	2,500 x 1,250		blunt	80	72	56	48	40	32
	2,800 x 1,196		blunt	–	72	–	–	–	–
	5,030 x 1,250		blunt	20	18	14	12	10	8
	5,030 x 2,500		blunt	20	18	14	12	10	8

*The format data refer to the overall dimensions incl. tongue. The laid mesure or usable format is 2,490 x 605 mm.

LivingBoard P2

For use in dry areas
non-loadbearing
formaldehyde-free gluing

Properties and advantages

- made only from fresh-cut roundwood and sawmill wood, no use of recycled material
- fine surface layer, classic structure
- reduced formaldehyde emissions for healthy living
- low thickness and edge swelling
- perfectly suited for direct lamination with impregnated decorative paper, thin foils, HPL bonding
- easy machining and processing
- available as PEFC™ or FSC® certified panel upon request

Areas of Applications

- furniture and interior fitting
- flooring
- attic conversions

Gluing

- formaldehyde-free PU bonding agent

FSC® license code: FSC-C011773

LivingBoard P2

LivingBoard P2 is the ecological panel for low-emission furniture construction and interior fitting. This panel keeps its promises and is recommended as ecological construction product for healthy living. Pure nature for greater quality of life.

Mechanical and physical properties LivingBoard P2

Properties	**Thickness in mm**					
	> 9 to 13	**> 13 to 20**	**> 20 to 25**	**> 25 to 32**	**> 32 to 40**	**> 40**
Medium raw density (EN 323) in kg/m³	690 – 710	640 – 660	620 – 640	610 – 630	610 – 630	570
Bending strength (EN 310) in N/mm²	11	11	10,5	9,5	8,5	7
Transverse dimensional stability (EN 319) in N/mm²	0.40	0.35	0.30	0.25	0.20	0.20
Modulus of elasticity in bending (EN 310) in N/mm²	1,800	1,600	1,500	1,350	1,200	1,050
Surface soundness (EN 311) in N/mm²	0.8	0.8	0.8	0.8	0.8	0.8
Reaction to fire class (DIN 4102 / EN 13986)	B2 / D-s2, d0					

LivingBoard P2 is produced in conformity with DIN EN 312 P2 and according to the requirements of Qualitätsgemeinschaft Holzwerkstoffe e.V. All values are guide values and reflect our current production conditions. Subject to modifications.

Dimensions LivingBoard P2: Formats and thicknesses upon request.

LivingBoard P4

For use in dry areas
loadbearing
formaldehyde-free gluing

Properties and advantages

- made only from fresh-cut roundwood and sawmill wood, no use of recycled material
- fine surface layer, classic structure
- reduced formaldehyde emissions for healthy living
- meets the special healthy living requirements in timber panel construction and interior fitting
- isotropic strenghts in longitudinal and transversal directions
- low thickness and edge swelling
- minimal loss of strength; low risk of mould growth in humid areas thanks to hydrophobic (moisture-resistant) PU bonding.
- easy disposal – similar to untreated wood
- available as PEFC™ or FSC® certified panel upon request
- meets "Green Building" requirements

Areas of Applications

- ideal as bracing in timber frame and timber panel construction
- roof and wall cladding
- interior and exterior roof boarding
- available as tongue-and-groove panel for high-quality floor structures

Gluing

- formaldehyde-free PU bonding agent

FSC® license code: FSC-C011773

LivingBoard P4

For those who need a true all-rounder in ecological timber construction and appreciate healthy living products, there is nothing like LivingBoard P4. This panel keeps its promises and is recommended as ecological construction product for healthy living. Pure nature for greater quality of life.

Mechanical and physical properties LivingBoard P4

Properties	**Thickness in mm**			
	> 10 to 13	**> 13 to 20**	**> 20 to 25**	**> 25 to 32**
Medium raw density (EN 323) in kg/m³	660 – 730	650 – 680	630 – 650	620 – 640
Bending strength (EN 310) in N/mm²	16	15	13	11
Transverse dimensional stability (EN 319) in N/mm²	0.40	0.35	0.30	0.25
Modulus of elasticity in bending (EN 310) in N/mm²	2,300	2,300	2,050	1,850
Thickness swelling (EN 317) in %	16	15	15	15
Reaction to fire class (DIN 4102 / EN 13986)	B2 / D-s2, d0			
Water vapour diffusion resistance (μ-value) humid / dry (DIN 20000-1): 50/100				
LivingBoard P4 is produced in conformity with DIN EN 312 P4, subject to external testing and approved by German building authorities according to CE EN 13986-P4. All values are guide values and reflect our current production conditions. Subject to modifications.				

Dimensions LivingBoard P4: Formats and thicknesses upon request, minimum quantity 70 m³.

LivingBoard P5

For use in humid areas
loadbearing
formaldehyde-free gluing

Properties and advantages

- made only from fresh-cut roundwood and sawmill wood, no use of recycled material
- fine surface layer, classic structure
- reduced formaldehyde emissions for healthy living
- meets the special healthy living requirements in timber panel construction and interior fitting
- isotropic strenghts in longitudinal and transversal directions
- low thickness and edge swelling
- minimal loss of strength; low risk of mould growth in humid areas thanks to hydrophobic (moisture-resistant) PU bonding.
- easy disposal – similar to untreated wood
- available as PEFC™ or FSC® certified panel upon request
- meets "Green Building" requirements

Areas of Applications

- ideal as bracing in timber frame and timber panel construction
- roof and wall cladding
- interior and exterior roof boarding
- available as tongue-and-groove panel for high-quality floor structures

Gluing

- formaldehyde-free PU bonding agent

FSC® license code: FSC-C011773

LivingBoard P5

Pure nature for greater quality of life. As a recommended ecological construction product for healthy living, LivingBoard P5 is the first choice in ecological timber construction. An all-round panel that keeps its promises.

Mechanical and physical properties LivingBoard P5

Properties	**Thickness in mm**			
	> 10 to 13	**> 13 to 20**	**> 20 to 25**	**> 25 to 32**
Medium raw density (EN 323) in kg/m³	680 – 750	660 – 700	650 – 670	640 – 660
Bending strength (EN 310) in N/mm²	18	16	14	12
Transverse dimensional stability (EN 319) in N/mm²	0.45	0.45	0.40	0.35
Modulus of elasticity in bending (EN 310) in N/mm²	2,550	2,400	2,150	1,900
Thickness swelling (EN 317) in %	12	12	11	10
Transversal internal bond after boil-test (EN 1087-1) in N/mm²	0.15	0.14	0.12	0.11
Reaction to fire class (DIN 4102 / EN 13986)	B2 / D-s2, d0			
Water vapour diffusion resistance (μ-value) humid / dry (DIN 20000-1): 50/100				
LivingBoard P5 is produced in conformity with DIN EN 312 P5, subject to external testing and approved by German building authorities according to CE EN 13986-P5. All values are guide values and reflect our current production conditions. Subject to modifications.				

Dimensions LivingBoard P5 blunt – Items per parcel

Format in mm	**Thickness in mm**				
	13	**16**	**19**	**22**	**25**
2,500 x 1,250	72	56	48	40	32
5,040 x 2,580	18	14	12	10	8
Other formats and thicknesses on request.					

Dimensions LivingBoard P5 floor panels – Items per parcel

Format in mm overall dimension	**Format in mm laid measure**	**Thickness in mm**				
		13	**16**	**19**	**22**	**25**
2,510 x 635*	2,500 x 625		50	40	35	32

*The format data refer to the overall dimensions incl. tongue.

LivingBoard P7

For use in humid areas
for heavy-duty loadbearing applications
formaldehyde-free gluing

Properties and advantages

- made only from fresh-cut roundwood and sawmill wood, no use of recycled material
- fine surface layer, classic structure
- reduced formaldehyde emissions for healthy living
- meets the special healthy living requirements in timber panel construction and interior fitting
- isotropic strenghts in longitudinal and transversal directions
- low thickness and edge swelling
- minimal loss of strength; low risk of mould growth in humid areas thanks to hydrophobic (moisture-resistant) PU bonding.
- easy disposal – similar to untreated wood
- available as PEFC™ or FSC® certified panel upon request
- meets "Green Building" requirements

Areas of Applications

- ideal as bracing in timber frame and timber panel construction
- roof and wall cladding
- interior and exterior roof boarding
- available as tongue-and-groove panel for high-quality floor structures

Gluing

- formaldehyde-free PU bonding agent

FSC® license code: FSC-C011773

LivingBoard P7

The strong one: LivingBoard P7 is suitable for heavy duty load bearing for use in humid conditions. Made for the ecological timber frame building, this board persuades with its positive properties.

Mechanical and physical properties LivingBoard P7

Properties	**Thickness in mm**		
	> 10 to 13	**> 13 to 20**	**> 20 to 25**
Medium raw density (EN 323) in kg/m³	720 – 750	710 – 730	690 – 720
Bending strength (EN 310) in N/mm²	22	20	18,5
Transverse dimensional stability (EN 319) in N/mm²	0.75	0.70	0.65
Modulus of elasticity in bending (EN 310) in N/mm²	3,350	3,100	2,900
Thickness swelling (EN 317) in %	10	10	10
Transversal internal bond after boil-test (EN 1087-1) in N/mm²	0.25	0.23	0.20
Reaction to fire class (DIN 4102 / EN 13986)	B2 / D-s2, d0		
Water vapour diffusion resistance (µ-value) humid / dry (DIN 20000-1): 50/100			
LivingBoard P7 is produced in conformity with DIN EN 312 P7, subject to external testing and approved by German building authorities according to CE EN 13986-P7. All values are guide values and reflect our current production conditions. Subject to modifications.			

Dimensions LivingBoard P7: Formats and thicknesses upon request, minimum quantity 70 m³.

LivingBoard face P5

For use in humid areas
loadbearing
formaldehyde-free gluing

Properties and advantages

- made only from fresh-cut roundwood and sawmill wood, no use of recycled material
- coarse surface layer, clearly visible wooden look
- reduced formaldehyde emissions for healthy living
- meets the special healthy living requirements in timber panel construction and interior fitting
- isotropic strenghts in longitudinal and transversal directions
- low thickness and edge swelling
- minimal loss of strength; low risk of mould growth in humid areas thanks to hydrophobic (moisture-resistant) PU bonding.
- Due to its heat-treated Contiprotect surface LivingBoard face contiprotect provides short-term driving-rain protection
- available as PEFC™ or FSC® certified panel upon request
- meets "Green Building" requirements

Areas of Applications

- ideal as bracing in timber frame and timber panel construction
- ceiling, roof and wall cladding
- available as tongue-and-groove panel for high-quality floor structures
- for visible applications

Gluing

- formaldehyde-free PU bonding agent

FSC® license code: FSC-C011773

LivingBoard face P5 and LivingBoard face P5 contiprotect

LivingBoard face P5 (sanded) and LivingBoard face P5 contiprotect (unsanded) are suited for all applications where high loads, moisture resistance and formaldehyde-free gluing play an important role. Due to the unsanded contiprotect surface of LivingBoard faceP5, the absorption of moisture is considerably delayed.

Mechanical and physical properties LivingBoard face P5 and LivingBoard face P5 contiprotect

Properties	Thickness in mm			
	> 10 to 13	> 13 to 20	> 20 to 25	> 25 to 32
Medium raw density (EN 323) in kg/m³	680 – 750	660 – 700	650 – 670	640 – 660
Bending strength (EN 310) in N/mm²	18	16	14	12
Transverse dimensional stability (EN 319) in N/mm²	0.45	0.45	0.40	0.35
Modulus of elasticity in bending (EN 310) in N/mm²	2,550	2,400	2,150	1,900
Thickness swelling (EN 317) in %	12	12	11	10
Transversal internal bond after boil-test (EN 1087-1) in N/mm²	0.15	0.14	0.12	0.11
Reaction to fire class (DIN 4102 / EN 13986)	B2 / D-s2, d0			
Water vapour diffusion resistance (μ-value) humid / dry 100/100				

LivingBoard face P5 and LivingBoard face P5 contiprotect are produced in conformity with DIN EN 312 P5, subject to external testing and approved by German building authorities according to CE EN 13986-P5. Contiprotect = unsanded.
All values are guide values and reflect our current production conditions. Subject to modifications.

Dimensions LivingBoard face P5 contiprotect blunt – Items per parcel

Format in mm	Thickness in mm				
	12	15	18	22	25
2,500 x 1,250	72	56	48	40	32
5,040 x 2,580	18	14	12	10	8
2,650 x 1,250		56			
2,800 x 1,250		56			
3,000 x 1,250		56			

Dimensions LivingBoard face P5 contiprotect floor panels – Items per parcel

Format in mm overall dimension	Format in mm laid measure	Thickness in mm				
		12	15	18	22	25
2,510 x 635*	2,500 x 625	60	50	40	35	32

*The format data refer to the overall dimensions incl. tongue. The laid mesure or usable format is 2,500 x 625 mm.
LivingBoard face P5 contiprotect are produced in conformity with EN 312 P5. Special formats and further thicknesses on request.

Dimensions LivingBoard face P5: Formats and thicknesses upon request, minimum quantity 70 m³.

LivingBoard face P7

For use in humid areas
for heavy-duty loadbearing applications
formaldehyde-free gluing

Properties and advantages

- made only from fresh-cut roundwood and sawmill wood, no use of recycled material
- coarse surface layer, clearly visible wooden look
- reduced formaldehyde emissions for healthy living
- meets the special healthy living requirements in timber panel construction and interior fitting
- isotropic strenghts in longitudinal and transversal directions
- low thickness and edge swelling
- minimal loss of strength; low risk of mould growth in humid areas thanks to hydrophobic (moisture-resistant) PU bonding.
- Due to its heat-treated Contiprotect surface LivingBoard face contiprotect provides short-term driving-rain protection
- available as PEFC™ or FSC® certified panel upon request
- meets "Green Building“ requirements

Areas of Applications

- ideal as bracing in timber frame and timber panel construction
- ceiling, roof and wall cladding
- available as tongue-and-groove panel for high-quality floor structures
- for visible applications

Gluing

- formaldehyde-free PU bonding agent

FSC® license code: FSC-C011773

LivingBoard face P7 and LivingBoard face P7 contiprotect

LivingBoard face P7 (sanded) and LivingBoard face P7 contiprotect (unsanded) are suited for all applications where high loads, moisture resistance and formaldehyde-free gluing play an important role. Due to the unsanded contiprotect surface of LivingBoard face P7, the absorption of moisture is considerably delayed.

Mechanical and physical properties LivingBoard face P7 and LivingBoard face P7 contiprotect

Properties	**Thickness in mm**		
	> 10 to 13	**> 13 to 20**	**> 20 to 25**
Medium raw density (EN 323) in kg/m³	720 – 750	710 – 730	690 – 720
Bending strength (EN 310) in N/mm²	22	20	18,5
Transverse dimensional stability (EN 319) in N/mm²	0.75	0.70	0.65
Modulus of elasticity in bending (EN 310) in N/mm²	3,350	3,100	2,900
Thickness swelling (EN 317) in %	10	10	10
Transversal internal bond after boil-test (EN 1087-1) in N/mm²	0.25	0.23	0.20
Reaction to fire class (DIN 4102 / EN 13986)	B2 / D-s2, d0		
Water vapour diffusion resistance (μ-value) humid / dry 100/100			
LivingBoard face P7 and LivingBoard face P7 contiprotect are produced in conformity with DIN EN 312 P7, subject to external testing and approved by German building authorities according to CE EN 13986-P7. All values are guide values and reflect our current production conditions. Subject to modifications.			

Dimensions LivingBoard face P7: Formats and thicknesses upon request, minimum quantity 70 m³.

Dimensions LivingBoard face P7 contiprotect: Formats and thicknesses upon request, minimum quantity 70 m³.

BalanceBoard

Properties and advantages

- Depending on its thickness, this wood-based panel offers an up to 30 % weight reduction over conventional chipboard
- saving of resources through use of rapidly growing raw materials
- low weight facilitates handling and transport
- easy machining and processing just as conventional products
- for all types of processing
- natural light weight panel without the disadvantages of other light weight constructions (aluminium, polysterene)
- available as raw BalanceBoard or melamine-faced DecoBoard Balance
- available as PEFC™ or FSCC® certified panel upon request

Areas of Applications

- furniture and interior fitting

Gluing

- aminoplast resin

FSC® license code: FSC-C011773

BalanceBoard

This material uses wood very sparingly and responsibly, as a large proportion is replaced by rapidly growing plants. These are available in large quantities. They grow close to production sites and consequently do not require long transports. As BalanceBoard has up to 30 % less weight than conventional chipboard, less energy is used in the transport of finished products as well. However, BalanceBoard has the same stability and processability as comparable conventional chipboard.

Mechanical and physical properties BalanceBoard

Properties	**Thickness in mm**			
	> 16 to 19	**> 22 to 25**	**28**	**38**
Medium raw density (EN 323) in kg/m³	540 – 580	500	500	500
Bending strength (EN 310) in N/mm²	7	6	5	4.5
Transverse dimensional stability (EN 319) in N/mm²	0.30	0.25	0.20	0.17
Modulus of elasticity in bending (EN 310) in N/mm²	950	900	850	750
Surface soundness (EN 311) in N/mm²	0.8	0.8	0.8	0.8
Reaction to fire class (DIN 4102)	B2			

BalanceBoard is produced in conformity with DIN CEN/TS 16368 LP2.
All values are guide values and reflect our current production conditions. Subject to modifications.

Dimensions BalanceBoard

Format in mm	**Thickness in mm**
2,655 x 2,100	16 / 19 / 22 / 25 / 28 / 38
5,310 x 2,100	16 / 19 / 22 / 25 / 28 / 38

PremiumBoard P2 ESA

For use in dry areas
non-loadbearing
electrostatically dissipative

Properties and advantages

- electrostatically dissipative
- fine surface layer
- easy machining and processing
- optimally suited for direct lamination with impregnated decorative paper or HPL bonding
- available as PEFC™ or FSC® certified panel upon request

Areas of Applications

- furniture making, especially for laboratories, control rooms and workstations in the micro-electronic industry

Gluing

- aminoplast resin

FSC® license code: FSC-C011773

PremiumBoard P2 ESA

PremiumBoard P2 ESA is an electrostatically dissipative wood-based panel, type P2 according to DIN EN 312. An indispensable product wherever electrostatic charges are to be prevented. The conductive constituents ensure a reliable and simple earthing of furniture, partition elements and panelling at workstations in the microelectronic industry, in laboratories and control rooms. PremiumBoard P2 ESA can be machined with conventional woodworking machines.

Mechanical and physical properties PremiumBoard P2 ESA

Properties	**Thickness in mm**			
	19	**25**	**28,4**	**38**
Medium raw density (EN 323) in kg/m^3	630 – 650	620 – 640	610 – 630	600 – 620
Bending strength (EN 310) in N/mm^2	11	10.5	9.5	8.5
Transverse dimensional stability (EN 319) in N/mm^2	0.35	0.30	0.25	0.20
Modulus of elasticity in bending (EN 310) in N/mm^2	1,600	1,500	1,350	1,200
Surface soundness (EN 311) in N/mm^2	0.8	0.8	0.8	0.8
Reaction to fire class (DIN 4102)	B2			
Volume resistance RD (EN 61340-5-1)	1 x 10^4 – 1 x 10^9 Ohm, measured dry, measurement voltage 100 V dC, cylindrical electrode, 20 – 30 °C and 20 – 50 % relative humidity (conditioned for 96 hours)			

PremiumBoard P2 ESA is produced in conformity with DIN EN 312 P2 and according to the requirements of Qualitätsgemeinschaft Holzwerkstoffe e.V. All values are guide values and reflect our current production conditions. Subject to modifications.

Dimensions PremiumBoard P2 ESA

Format in mm	**Thickness in mm**
5,600 x 2,100	19 / 25 / 28.4 / 38
Other formats and thicknesses on request.	

PremiumBoard MFP Hybrid

Properties and advantages

- high-quality, heavy duty, flexible use
- extremely stable, allowing various laminations
- isotropic mechanical properties providing high bending strength, high screw-holding strength and high durability
- non-directional use
- combinable with all decors of the Pfleiderer programme
- perfectly suited for shelving systems, shelves, stage and set construction
- the ideal alternative to blockboard
- available as PEFC™ or FSC® certified panel upon request

Areas of Applications

- furniture and interior fitting
- stage and set construction
- shelving systems
- double floors
- suitable for use in dry areas

Gluing

- PVAC glue (D4 glue)
- aminoplast resin

FSC® license code: FSC-C011773

PremiumBoard MFP Hybrid

Premium Board MFP Hybrid consists of a PremiumBoard MFP as core layer combined with 2-mm HDF panels as surface layers; its surface evenness makes it the perfect choice for lamination. MFP and HDF panels are glued together using PVAC-glue (D4-glue). Due to its isotropic bending strength, its very good screw-holding strength and its high stability, this Hybrid panel is mainly suited for applications where high stability and load-bearing are required.

Mechanical and physical properties PremiumBoard MFP Hybrid

Properties	Thickness in mm			
	16	19	22	25
Medium raw density (EN 323) in kg/m³	820 – 840	760 – 780	740 – 760	710 – 730
Transverse dimensional stability (EN 319) in N/mm²	0.50	0.50	0.50	0.50
Modulus of elasticity in bending (EN 310) in N/mm²	3,900	3,800	3,600	3,400
Bending strength (EN 310) in N/mm²	28	25	23	22
Screw-holding strength, Surface (EN 320) in N	2,100	1,900	1,700	1,700
Screw-holding strength, Edge (EN 320) in N	1,600	1,500	1,300	1,100
Surface soundness (EN 311) in N/mm²	0.8	0.8	0.8	0.8

Dimensions PremiumBoard MFP Hybrid

Length in mm	Width in mm	Thickness in mm
2,800	2,100	16 / 19 / 22 / 25
5,600	2,100	16 / 19 / 22 / 25

StyleBoard MDF basic light

Properties and advantages
- homogenous structure
- very light weight
- very even surface
- available as PEFC™ or FSC® certified panel upon request
- available in emission class
- CARB 2 upon request

Areas of Applications
- furniture and interior fitting

Gluing
- aminoplast resin

FSC® license code: FSC-C011773

StyleBoard MDF basic light

Medium-density fibreboard according to DIN EN 622-5, with homogenous structure.
This type of panel offers optimum density distribution, high surface stability and is perfectly suited for applications where light weight plays an important role.

Mechanical and physical properties MDF basic light

Properties	**Thickness in mm**		
	≥ 5 to 5.9	**≥ 6 to 8.9**	**≥ 9 to 11.9**
Medium raw density (EN 323) in kg/m³	710	710	690
Bending strength (EN 310) in N/mm²	19	19	18
Transverse dimensional stability (EN 319) in N/mm²	0.43	0.43	0.4
Modulus of elasticity in bending (EN 310) in N/mm²	2,200	2,200	2,200
Reaction to fire class (DIN 4102 / EN 13986)	normally flammable B2 / D-s2,d0		

StyleBoard MDF basic light is produced in conformity with DIN EN 622-5.
All values are guide values and reflect our current production conditions. Subject to modifications.

Dimensions StyleBoard MDF basic light: Formats and thicknesses upon request.

StyleBoard MDF Euro

Properties and advantages

- homogenous structure
- very light weight
- suited for direct lamination with impregnated decorative paper, gluing with HPL
- available as PEFC™ or FSC® certified panel upon request
- available in emission class CARB 2 upon request

Areas of Applications

- furniture and interior fitting

Gluing

- aminoplast resin

FSC® license code: FSC-C011773

StyleBoard MDF Euro

Medium-density fibreboard according to DIN EN 622-5, with homogenous structure.
This type of panel offers light weight, optimum density distribution and high surface stability and is suited for furniture and interior fitting.

Mechanical and physical properties MDF Euro

Properties	**Thickness in mm**					
	≥ 5 to 5.9	**≥ 6 to 8.9**	**≥ 9 to 11.9**	**≥ 12 to 18.9**	**≥ 19 to 29.9**	**≥ 30 to 40**
Medium raw density (EN 323) in kg/m³	660	660	660	660	660	660
Bending strength (EN 310) in N/mm²	23	23	22	20	18	17
Transverse dimensional stability (EN 319) in N/mm²	0.65	0.65	0.6	0.55	0.55	0.5
Modulus of elasticity in bending (EN 310) in N/mm²	2,700	2,700	2,500	2,200	2,100	1,900
Reaction to fire class (DIN 4102 / EN 13986)	normally flammable B2 / D-s2,d0					

StyleBoard MDF Euro is produced in conformity with DIN EN 622-5.
All values are guide values and reflect our current production conditions. Subject to modifications.

Dimensions StyleBoard MDF Euro: Formats and thicknesses upon request.

StyleBoard MDF LD

Properties and advantages
- homogenous structure
- low weight
- very even surface
- available as PEFC™ or FSC® certified panel upon request

Areas of Applications
- furniture and interior fitting

Gluing
- aminoplast resin

FSC® license code: FSC-C011773

StyleBoard MDF LD

Medium-density fibreboard according to DIN EN 622-5 with homogenous structure.
This type of panel offers optimum density distribution, high surface stability and is perfectly suited for furniture and interior fitting.

Mechanical and physical properties MDF LD

Properties	**Thickness in mm**					
	≥ 5 to 5.9	**≥ 6 to 8.9**	**≥ 9 to 11.9**	**≥ 12 to 18.9**	**≥ 19 to 29.9**	**≥ 30 to 40**
Medium raw density (EN 323) in kg/m³	660	690	670	670	670	660
Bending strength (EN 310) in N/mm²	21	21	21	20	19	18
Transverse dimensional stability (EN 319) in N/mm²	0.45	0.45	0.45	0.45	0.45	0.45
Modulus of elasticity in bending (EN 310) in N/mm²	2,200	2,200	2,200	2,000	1,900	1,900
Reaction to fire class (DIN 4102 / EN 13986)	normally flammable B2 / D-s2,d0					

StyleBoard MDF LD is produced in conformity with DIN EN 622-5.
All values are guide values and reflect our current production conditions. Subject to modifications.

Dimensions StyleBoard MDF LD: Formats and thicknesses upon request.

StyleBoard MDF basic

Properties and advantages
- homogenous structure
- very even surface
- available as PEFC™ or FSC® certified panel upon request
- available in emission class CARB 2 upon request

Areas of Applications
- furniture and interior fitting

Gluing
- aminoplast resin

FSC® license code: FSC-C011773

StyleBoard MDF basic

Medium-density fibreboard according to DIN EN 622-5 with homogenous structure.
This panel type offers optimum density distribution and excellent surface stability and is suited for furniture and interior fitting.

Mechanical and physical properties MDF basic

Properties	**Thickness in mm**					
	≥ 5 to 5.9	**≥ 6 to 8.9**	**≥ 9 to 11.9**	**≥ 12 to 18.9**	**≥ 19 to 29.9**	**≥ 30 to 40**
Medium raw density (EN 323) in kg/m³	710	710	690	690	690	680
Bending strength (EN 310) in N/mm²	23	23	23	22	20	19
Transverse dimensional stability (EN 319) in N/mm²	0.5	0.5	0.5	0.5	0.5	0.45
Modulus of elasticity in bending (EN 310) in N/mm²	2,300	2,300	2,300	2,100	2,000	2,000
Reaction to fire class (DIN 4102 / EN 13986)	normally flammable B2 / D-s2,d0					

StyleBoard MDF basici s produced in conformity with DIN EN 622-5.
All values are guide values and reflect our current production conditions. Subject to modifications.

Dimensions StyleBoard MDF basic: Formats and thicknesses upon request.

StyleBoard MDF plus

Properties and advantages

- perfectly suited for direct lamination with impregnated decorative paper, thin foils, HPL bonding
- homogenous structure
- high surface evenness, easy profiling
- available as PEFC™ or FSC® certified panel upon request
- available also in emission classes CARB 2, F****, EPF-S and Nordic Swan upon request

Areas of Applications

- high quality furniture and interior fitting
- shop fitting and exhibition stand construction

Gluing

- aminoplast resin

FSC® license code: FSC-C011773

StyleBoard MDF plus

Medium-density fibreboard according to DIN EN 622-5 with homogenous structure.
This panel type offers stands for easy profiling, optimum density distribution and excellent surface stability and is optimally suited for high quality furniture and interior fitting.

Mechanical and physical properties MDF plus

Properties	Thickness in mm					
	≥ 5 to 5.9	≥ 6 to 8.9	≥ 9 to 11.9	≥ 12 to 18.9	≥ 19 to 29.9	≥ 30 to 40
Medium raw density (EN 323) in kg/m³	730	730	730	710	710	700
Bending strength (EN 310) in N/mm²	25	25	25	23	22	21
Transverse dimensional stability (EN 319) in N/mm²	0.55	0.55	0.55	0.53	0.53	0.55
Modulus of elasticity in bending (EN 310) in N/mm²	2,400	2,400	2,400	2,200	2,000	2,000
Reaction to fire class (DIN 4102 / EN 13986)	normally flammable B2 / D-s2,d0					

StyleBoard MDF plus is produced in conformity with DIN EN 622-5 MDF.
All values are guide values and reflect our current production conditions. Subject to modifications.

Dimensions StyleBoard MDF plus

Length in mm	Width in mm	Thickness in mm
2,800	2,100	8 / 10 / 12 / 16 / 18 / 19 / 22 / 25 / 28 / 30 / 38
4,110	2,100	16 / 19
2,440	1,220*	12 / 16 / 19 / 22
Other formats and thicknesses on request.		

*Nordic Swan

StyleBoard MDF black

Properties and advantages

- perfectly suited for direct lamination with impregnated decorative paper, thin foils, HPL bonding
- homogenous structure
- black through-dyed panel
- allows lacquering
- excellent surface stability
- available as PEFC™ or FSC® certified panel upon request

Areas of Applications

- high quality furniture and interior fitting
- shop fitting and trade fair construction

Gluing

- aminoplast resin

FSC® license code: FSC-C011773

StyleBoard MDF black

Medium-density fibreboard according to DIN EN 622-5 with homogenous structure.
This through-dyed black panel offers good profiling ability, optimum density distribution and excellent surface stability.
StyleBoard MDF black is perfectly suited for high-quality furniture and interior fitting, setting accents by its colour.

Mechanical and physical properties MDF black

Properties	**Thickness in mm**		
	≥ 9 to 11.9	**≥ 12 to 18.9**	**≥ 19 to 29.9**
Medium raw density (EN 323) in kg/m³	730	710	710
Bending strength (EN 310) in N/mm²	25	23	22
Transverse dimensional stability (EN 319) in N/mm²	0.55	0.53	0.53
Modulus of elasticity in bending (EN 310) in N/mm²	2,400	2,200	2,000
Reaction to fire class (DIN 4102 / EN 13986)	normally flammable B2/ D-s2,d0		

StyleBoard MDF black is produced in conformity with DIN EN 622-5.
All values are guide values and reflect our current production conditions. Subject to modifications.

Dimensions StyleBoard MDF black

Length in mm	**Width in mm**	**Thickness in mm**
2,800	2,100	16 / 19 / 25
5,600	2,100	10 / 16 / 19
Other formats and thicknesses on request.		

StyleBoard MDF top

Properties and advantages

- perfectly suited for direct lamination with impregnated decorative paper, thin foils, HPL bonding
- homogenous structure
- very good profiling ability
- excellent surface stability
- available as PEFC™ or FSC® certified panel upon request

Areas of Applications

- high quality furniture and interior fitting
- shop fitting and exhibition stand construction

Gluing

- aminoplast resin

FSC® license code: FSC-C011773

StyleBoard MDF top

Medium-density fibreboard according to DIN EN 622-5 with homogenous structure.
This panel type offers easy profiling, optimum density distribution and excellent surface stability and is optimally suited for high quality furniture and interior fitting.

Mechanical and physical properties MDF top

Properties	**Thickness in mm**					
	≥ 5 to 5.9	**≥ 6 to 8.9**	**≥ 9 to 11.9**	**≥ 12 to 18.9**	**≥ 19 to 29.9**	**≥ 30 to 40**
Medium raw density (EN 323) in kg/m³	750	750	750	740	740	730
Bending strength (EN 310) in N/mm²	28	28	28	27	25	22
Transverse dimensional stability (EN 319) in N/mm²	0.6	0.6	0.6	0.6	0.6	0.55
Modulus of elasticity in bending (EN 310) in N/mm²	2,500	2,500	2,500	2,400	2,200	2,000
Reaction to fire class (DIN 4102 / EN 13986)	normally flammable B2 / D-s2,d0					

StyleBoard MDF top is produced in conformity with DIN EN 622-5.
All values are guide values and reflect our current production conditions. Subject to modifications.

Dimensions StyleBoard MDF top: Formats and thicknesses upon request.

StyleBoard MDF deep routering plus

Properties and advantages

- perfectly suited for direct lamination with impregnated decorative paper, thin foils, HPL bonding
- excellent profiling ability
- homogenous structure
- excellent surface stability
- allows lacquering
- available as PEFC™ or FSC® certified panel upon request
- available in emission class CARB 2 upon request

Areas of Applications

- high quality furniture and interior fitting
- shop fitting and exhibition stand construction

Gluing

- aminoplast resin

FSC® license code: FSC-C011773

StyleBoard MDF deep routering plus

Medium-density fibreboard according to DIN EN 622-5 with homogenous structure.
This type of panel offers excellent profiling ability, optimum density distribution and excellent surface stability and is optimally suited for high quality furniture and interior fitting.

Mechanical and physical properties MDF deep routering plus

Properties	**Thickness in mm**					
	≥ 5 to 5.9	**≥ 6 to 8.9**	**≥ 9 to 11.9**	**≥ 12 to 18.9**	**≥ 19 to 29.9**	**≥ 30 to 40**
Medium raw density (EN 323) in kg/m³	780	780	780	740	770	750
Bending strength (EN 310) in N/mm²	32	32	32	27	28	23
Transverse dimensional stability (EN 319) in N/mm²	0.65	0.65	0.65	0.65	0.65	0.6
Modulus of elasticity in bending (EN 310) in N/mm²	2,800	2,800	2,800	2,400	2,300	2,000
Reaction to fire class (DIN 4102 / EN 13986)	normally flammable B2 / D-s2,d0					

StyleBoard MDF deep routering plus is produced in conformity with DIN EN 622-5 MDF.
All values are guide values and reflect our current production conditions. Subject to modifications.

Dimensions StyleBoard MDF deep routering plus: Formats and thicknesses upon request.

StyleBoard HDF 101

Properties and advantages
- homogenous structure
- fine and hard surface
- high durability
- low thickness swelling
- available as PEFC™ or FSC® certified panel upon request

Areas of Applications
- flooring

Gluing
- aminoplast resin

FSC® license code: FSC-C011773

StyleBoard HDF 101

High-density thin fibreboard according to DIN EN 622-5 with homogenous structure and good durability.
StyleBoard HDF 101 (higher density) has a fine, hard surface, high durability, low thickness swelling and excellent machining properties.

Mechanical and physical properties StyleBoard HDF 101

Properties	**Thickness in mm** **≥ 7.6** **to 8.9**	 **≥ 9** **to 12**
Medium raw density (EN 323) in kg/m³	910	900
Bending strength (EN 310) in N/mm²	40	40
Transverse dimensional stability (EN 319) in N/mm²	1.5	1.4
Modulus of elasticity in bending (EN 310) in N/mm²	3,500	3,500
Reaction to fire class (DIN 4102)	normally flammable B2	

StyleBoard HDF 101 is produced in conformity with DIN EN 622-5.
All values are guide values and reflect our current production conditions. Subject to modifications.

Dimensions StyleBoard HDF 101: Formats and thicknesses upon request.

StyleBoard HDF 106

Properties and advantages
- homogenous structure
- fine and hard surface
- high durability
- perfectly suited for direct lamination with impregnated decorative paper, thin foils, gluing with HPL
- available as PEFC™ or FSC® certified panel upon request

Areas of Applications
- furniture and interior fitting
- shop fitting and trade fair construction
- caravan and vehicle construction

Gluing
- aminoplast resin

FSC® license code: FSC-C011773

StyleBoard HDF 106

High-density thin fibreboard according to DIN EN 622-5 with homogenous structure and good durability.
StyleBoard HDF 106 (higher density) has a fine, hard surface, high durability, low thickness swelling and excellent machining properties.

Mechanical and physical properties StyleBoard HDF 106

Properties	**Thickness in mm**			
	3	**≥ 4.9 to 6**	**≥ 6.4 to 6.7**	**≥ 6.8 to 9**
Medium raw density (EN 323) in kg/m³	910	910	910	900
Bending strength (EN 310) in N/mm²	23	40	40	40
Transverse dimensional stability (EN 319) in N/mm²	0.5	1.5	1.5	1.4
Modulus of elasticity in bending (EN 310) in N/mm²	2,300	3,500	3,500	3,500
Reaction to fire class (DIN 4102)	normally flammable B2			
Formaldehyde emission class	E1			

StyleBoard HDF 106 is produced in conformity with DIN EN 622-5.
All values are guide values and reflect our current production conditions. Subject to modifications.

Dimensions StyleBoard HDF 106: Formats and thicknesses upon request.

StyleBoard HDF 116

Properties and advantages

- suited for direct lamination with impregnated decorative paper
- homogenous structure
- fine and hard surface
- high bending strength
- available as PEFC™ or FSC® certified panel upon request

Areas of Applications

- flooring

Gluing

- aminoplast resin

FSC® license code: FSC-C011773

StyleBoard HDF 116

High-density thin fibreboard (HDF) according to DIN EN 622-5 with homogenous structure and good durability.
This high-density fibreboard has a fine, hard surface, high durability, high bending strength and excellent machining and processing properties.

Mechanical and physical properties StyleBoard HDF 116

Properties	**Thickness in mm** **≥ 5.4** **to 6.3**	 **≥ 6.4** **to 15**
Medium raw density (EN 323) in kg/m³	880	880
Bending strength (EN 310) in N/mm²	40	40
Transverse dimensional stability (EN 319) in N/mm²	1.4	1.4
Modulus of elasticity in bending (EN 310) in N/mm²	3,500	3,500
Reaction to fire class (DIN 4102)	normally flammable B2	

StyleBoard HDF 116 is produced in conformity with DIN EN 622-5.
All values are guide values and reflect our current production conditions. Subject to modifications.

Dimensions StyleBoard HDF 116: Formats and thicknesses upon request.

StyleBoard fibre compact

Properties and advantages

- perfectly suited for direct lamination with impregnated decorative paper, thin foils, HPL bonding
- homogenous structure
- excellent surface stability
- available as PEFC™ or FSC® certified panel upon request
- available as DecoBoard fibre compact upon request

Areas of Applications

- high quality furniture and interior fitting
- partition walls

Gluing

- aminoplast resin

FSC® license code: FSC-C011773

StyleBoard fibre compact

High-density thin fibreboard (HDF) according to DIN EN 622-5 with homogenous structure and good durability.
This high-density fibreboard has a fine, hard surface, high durability, high bending strength and excellent machining and processing properties. Due to its multi-layer structure, StyleBoard fibre compact has very high mechanical strengths.

Mechanical and physical properties StyleBoard fibre compact

Properties	**Raw panel** **Thickness in mm** **12**	**With multi-layer structure** **Thickness in mm** **13**
Medium raw density (EN 323) in kg/m³	ca. 900	ca. 900
Bending strength (EN 310) in N/mm²	40	ca. 55 – 60
Transverse dimensional stability (EN 319) in N/mm²	1.3	> 1.3
Modulus of elasticity in bending (EN 310) in N/mm²	3,500	ca. 6,000
Reaction to fire class (DIN 4102 / EN 13986)	normally flammable B2 / D-s2,d0	normally flammable B2 / D-s2,d0

StyleBoard fibre compact is produced in conformity with DIN EN 622-5.
All values are guide values and reflect our current production conditions. Subject to modifications.

Dimensions StyleBoard fibre compact

Length in mm	**Width in mm**	**Thickness in mm**
5,310	2,100	12

Other formats and thicknesses on request.

StyleBoard HDF thin

Properties and advantages

- homogenous structure
- fine and hard surface
- high durability
- available as PEFC™ or FSC® certified panel upon request

Areas of Applications

- furniture back panel
- interior decoration
- door fronts or lightweight construction panel
- packaging
- shop fitting and trade fair construction

Gluing

- aminoplast resin

FSC® license code: FSC-C011773

StyleBoard HDF thin (laquered)

High-density thin fibreboard (HDF) according to DIN EN 622-5 with homogenous structure and good durability.
This high-density fibreboard has a fine, hard surface, high durability, high bending strength and excellent machining and processing properties. Due to its multi-layer structure, StyleBoard fibre compact has very high mechanical strengths.

Mechanical and physical properties StyleBoard HDF dünn

Properties	**Thickness in mm** **3**
Medium raw density (EN 323) in kg/m³	900
Bending strength (EN 310) in N/mm²	23
Transverse dimensional stability (EN 319) in N/mm²	0.65
Reaction to fire class (DIN 4102)	normally flammable B2

StyleBoard HDF thin is produced in conformity with DIN EN 622-5.
All values are guide values and reflect our current production conditions. Subject to modifications.

Dimensions StyleBoard HDF thin

Length in mm	**Width in mm**	**Thickness in mm**	**Variants**
2,850	2,070	3	raw and laquered

Other variants on request.

StyleBoard MDF Pyroex

only available with decorative melamine lamination

Properties and advantages

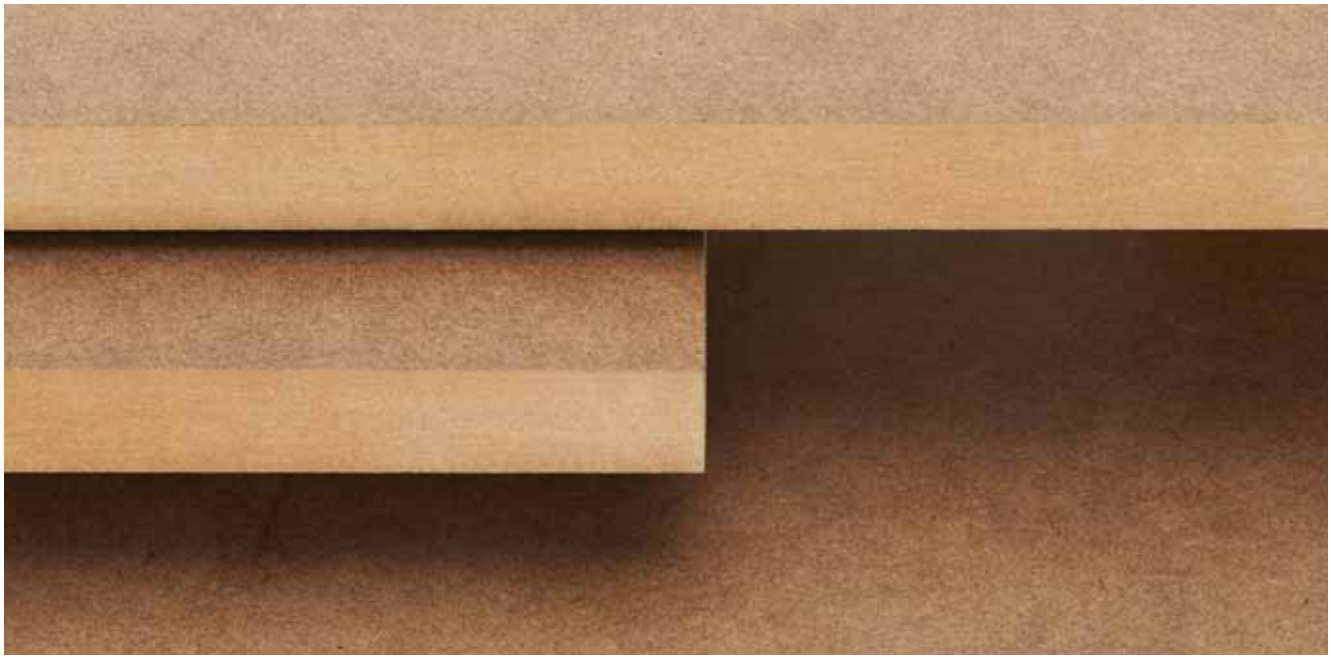
- flame-resistant
- high surface stability, good profiling ability
- homogenous structure
- perfectly suited for direct lamination with impregnated decorative paper

Areas of Applications

- high quality furniture and interior fitting
- shop fitting
- rooms with a high fire risk like laboratories, and for example sales rooms in fuel stations

Gluing

- aminoplast resin



StyleBoard MDF Pyroex

Medium-density fibreboard (MDF) according to DIN EN 622-5 with homogenous structure and fire-retardant properties.
This type of panel offers good profiling ability, excellent density distribution and additional safety in case of fire. The added flame retardants prevent the MDF panel from rapidly burning through, thereby considerably increasing its fire resistance.

Mechanical and physical properties StyleBoard MDF Pyroex

Properties	**Thickness in mm**	
	16	**19**
Medium raw density (EN 323) in kg/m³	790	780
Bending strength (EN 310) in N/mm²	20	20
Transverse dimensional stability (EN 319) in N/mm²	0.55	0.55
Modulus of elasticity in bending (EN 310) in N/mm²	2,200	2,200
Reaction to fire class (DIN 4102 / EN 13501-1)	flame resistant / C-s2,d0	

StyleBoard MDF Pyroex is produced in conformity with DIN EN 622-5.
All values are guide values and reflect our current production conditions. Subject to modifications.

StyleBoard MDF Pyroex is only available as DecoBoard Pyroex or Duropal flat bonded element Pyroex.
For further information and formats please refer to the section “DecoBoard special-purpose core panels” on page 106.

Blockboard

only available with decorative melamine lamination

Properties and advantages

- high durability, high bending strength
- perfectly suited for direct lamination with impregnated decorative paper or HPL bonding

Areas of Applications

- office furniture such as filing cabinets, shelves, display cases
- libraries, shop and pharmacy fitting
- furniture construction

Blockboard

Laminboard made from spruce wood, laminated on both sides with a thin particle laminate with high bending strength and good stability (IF 20 gluing). This panel type is suited for furniture and interior fitting, particularly for bending requirements.

Mechanical and physical properties Blockboard

Properties	Thickness in mm		
	19	22	25
Medium raw density (EN 323) in kg/m³	550	550	550
Bending strength length (EN 310) in N/mm²	38	38	37
Bending strength width (EN 310) in N/mm²	13	13	12
Modulus of elasticity in bending length (EN 310) in N/mm²	5,200	5,300	5,400
Modulus of elasticity in bending width (EN 310) in N/mm²	2,100	2,000	1,900

Only available as DecoBoard Blockboard or as Duropal-Element Blockboard.
For further information and formats please refer to the section “DecoBoard special-purpose core panels” on page 106.

Paper Honeycomb

only available with decorative melamine lamination

Properties and advantages

- very light weight
- stable honeycomb structure
- perfectly suited for direct lamination with impregnated decorative paper or HPL bonding
- high bending strength, low weight

Areas of Applications

- furniture construction
- ship interior fitting, vehicle and caravan construction

Paper Honeycomb

Frameless lightweight construction panel of sturdy corrugated core construction (SWAP), faced on both sides with a 3.2 mm HDF surface. This very light panel type with optimal surface stability is particularly suited for lightweight construction.

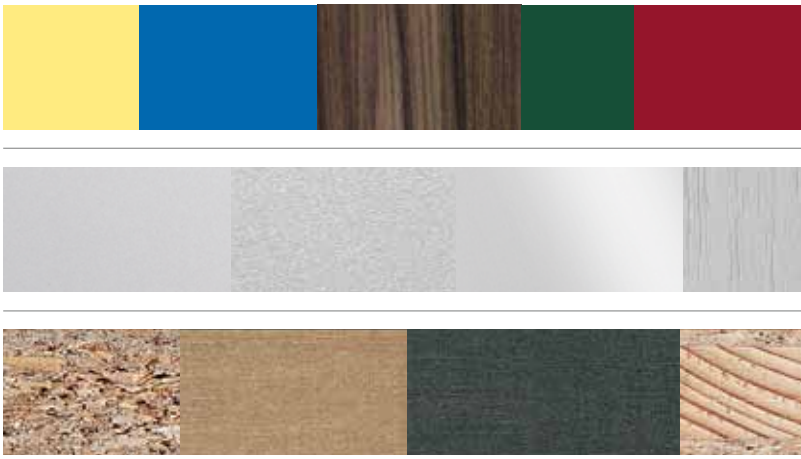
Mechanical and physical properties Paper Honeycomb

Properties	**Thickness in mm**		
	25.4	**40.4**	**50.4**
Medium raw density (EN 323) in kg/m³	360	265	230
Bending strength length (I.A. EN 310) in N/mm²	16	17	13
Bending strength width (I.A. EN 310) in N/mm²	25	15	14
Modulus of elasticity in bending length (I.A. EN 310) in N/mm²	3,150	2,950	1,800
Modulus of elasticity in bending width (I.A. EN 310) in N/mm²	3,900	2,300	2,400
Formaldehyde emission class	E1		

Only available as DecoBoard Paper Honeycomb or Duropal-Element Paper Honeycomb.
For further information and formats please refer to the section "DecoBoard special-purpose core panels" on page 106.

Decorative panels

Unlimited design freedom. Combinations within the DST System.



DST – D for Design, S for Surface, T for core Technology. Unique in the world of wood based panels, the DST System, is now available for all product lines: it allows Pfleiderer products – decors, surfaces and core materials – to be combined exactly to meet your wishes and needs*. For this purpose we offer an extensive decor range of plain colours, wood reproductions, stone and creative decors, that can be combined with design- and application-oriented surface textures on a variety of core materials - from chipboard and fibreboard for classic furniture and interior design, to fire-retardant and moisture-resistant core boards, through to special core materials such as BalanceBoard for lightweight and ecological construction. Over 800 options from this offer are available at short notice through our DST-XPress-Collection. With numerous materials and decor combination possibilities, the Pfleiderer product range offers you practically unlimited freedom of design for interior fitting.Innenausbau.

Decors

Structures

Core materials

*) ***Please note:***
Decor, surface and core material influence the appearance and colour of the finished product. With certain product combinations between MFC / HPL, differences in colour or structure in the surface may occur despite identical decor or surface designations and the option of various sizes and/or qualities even within the same product type (HPL / MFC). Such deviations are not indicative of any faults. For certain structures (gloss and matt surfaces) there are particular sensitivities. We will therefore be happy to advise you individually in order to clarify any deviations in advance so that you always achieve the best results with our products.

Properties and manufacture

Decorative panels (DecoBoard) are made by compressing impregnated paper on to a core panel. Raw chipboard, MDF and HDF panels or special purpose panels can be used as core material. The papers used are impregnated with curable thermosetting aminoplast resin (urea or melamine resin). Curing proceeds under pressure and heat resulting in a permanent connection of the impregnated papers with the core material without requiring additional adhesives. DecoBoard is manufactured without adding any wood preservatives or other preservatives, biocides and organic solvents. The panels are not treated with any wood preservatives classified as critical by the German Sustainable Building Council (DGNB) (GIS-Code W60/W70/W80/W90).

The press plates used for pressing also create textures. After the pressing the resin-impregnated decorative paper provides a scratch impact and abrasion resistant surface. The surface is physiologically safe and thus perfectly suited for contact with foodstuffs. Pfleiderer decorative panels are produced in conformity with DIN EN 14322. Certifications under ISO 9001 and ISO 14001 ensure a continuously high quality of our products and environmentally friendly production processes. In addition, we also supply DecoBoard HDF thin lacquered This variant is manufactured using so-called direct printing technology. Printing ink is applied in a number of steps directly on to the HDF panel. No decorative paper is used.

The product properties of decorative panels are determined by the properties of the core material. Pfleiderer offers the following DecoBoard grades.

ClassicBoard P2	urea-resin bonded three-layered chipboard
ClassicBoard P2 F****	particularly low-emission three-layered chipboard
ClassicBoard P2 UZ Blue Angel	particularly low-emission three-layered chipboard, awarded with German eco-label "Blauer Engel"
ClassicBoard P3	moisture-resistant three-layered chipboard
StyleBoard MDF	medium-density fibreboard
StyleBoard MDF black	black through-dyed medium-density fibreboard
StyleBoard HDF	high-density fibreboard
PremiumBoard Pyroex B1	flame-resistant chipboard, building material class B1 according to DIN 4102 respectively B-s2,d0 according to EN 13501-1
LivingBoard	formaldehyde-free chipboard with emissions as low as natural wood (quality credits under LEED attributable)
BalanceBoard	award-winning light and sustainable panel including a proportion of rapidly growing plants
PremiumBoard MFP Hybrid NEW	stable and loadbearing panel – a combination of MFP and HDF
PremiumBoard P2 ESA	PremiumBoard P2 ESA electrostatically dissipative panel
DecoBoard MDF Pyroex	flame-resistant medium-density fibreboard C-s2,d0 according to EN 13501-1
DecoBoard Paper Honeycomb	DecoBoard Paper Honeycomb: very light panel – a combination of paper honeycomb and HDF
DecoBoard Blockboard	DecoBoard Blockboard: stable, loadbearing laminboard made from spruce wood with thin particle laminate on both sides

All panels meet the requirements of emission class E1.
Low-emission panels available on request: DecoBoard P2 CARB2, DecoBoard MDF F****, DecoBoard MDF CARB2, DecoBoard MDF Nordic Swan

Properties of Decorative boards

- hygienic and easy-care
- antistatic, lightfast and heat resistant
- scratch, impact and abrasion resistant
- insusceptible to conventional household cleaning products
- approved for use in direct food contact
- decorative and durable
- low-emission (E1)

DecoBoard chipboard core

Properties and advantages

- high-quality melamine resin lamination on both sides or authentic real metal surface
- available in combination with an extensive range ofcore variants
- extensive range of decors and surface textures
- easy machining and processing
- available as PEFC™ or FSC® certified panel upon request

Areas of Applications

- furniture and interior fitting
- variants for special requirements such as preventive fire protection, sustainability (low-emission applications), lightweight

Available core variants

- DecoBoard P2
- DecoBoard P2 F****
- DecoBoard P2 UZ
- DecoBoard P3
- DecoBoard Pyroex B1
- DecoBoard Balance
- DecoBoard Living – quality credits under LEED attributable
- DecoBoard MFP Hybrid
- on request: DecoBoard CARB 2 / EPF-S-Quality

Please make sure to choose DecoBoard with a homogenous structure in order to prevent warping. We only recommend different decors for face and reverse side if the decorative papers used are technically combinable. Secial decor combinations are recommended for thick panels.

FSC® license code: FSC-C011773

DecoBoard chipboard core

After pressing the resin-impregnated decorative paper provides a scratch, impact and abrasion resistant surface. The surface is physiologically safe and perfectly suited for food contact. We also provide special variants in real metal appearance or with a non-slipping surface.

● available, delievery time on request
[1] recommended decor program on request

Format in mm	Structures	Thickness in mm													
		8	10	12	13	15	16	18	19	22	25	28	30	38	50[1]
DecoBoard P2															
5,310 x 2,100	ML / MO / MP / RU / SM / VV	●	●	●	●	●	●	●	●	●	●	●	●	●	●
2,655 x 2,100	ML / MO / MP / RU / SM / VV	●	●	●	●	●	●	●	●	●	●	●	●	●	●
5,600 x 2,100	LI / ML / MO / MP / NH / RU / SM / VV	●	●	●	●	●	●	●	●	●	●	●	●	●	
2,800 x 2,100	AH / HG / LI / ML / MO / MP / NH / RU / SM / VV	●	●	●	●	●	●	●	●	●	●	●	●	●	
3,200 x 2,100	MP / NH / SM / VV	●	●		●		●	●	●	●	●		●		
DecoBoard Real metal P2															
2,800 x 2,100	HG / MP	●	●	●	●		●	●	●						
DecoBoard P2 RH / slip resistant															
2,750 x 2,050	RH – Rückseite SM						●								
DecoBoard finished foil / suitable for laquere															
5,310 x 2,100	SM	●	●	●	●	●	●	●	●	●	●	●	●		
2,655 x 2,100	SM	●	●	●	●	●	●	●	●	●	●	●	●		
5,600 x 2,100	SM	●	●	●	●	●	●	●	●	●	●	●	●		
2,800 x 2,100	SM	●	●	●	●	●	●	●	●	●	●	●	●		
3,200 x 2, 100	SM	●	●		●		●	●	●	●	●		●		
DecoBoard P2 UZ / P2 F** / Sustainable, because low-emission**															
5,600 x 2,100	LI / ML / MO / MP / NH / RU / SM / VV						●		●						
2,800 x 2,100	AH / HG / LI / ML / MO / MP / NH / RU / SM / VV						●		●						
DecoBoard P3 / Moisture-resistant															
5,600 x 2,100	AH / HG / LI / ML / MO / MP / NH / RH / SM / VV		●		●		●	●	●	●	●	●	●	●	
2,800 x 2,100	LI / ML / MO / MP / NH / RU / SM / VV		●		●		●	●	●	●	●	●	●	●	
DecoBoard Pyroex / flame resistant															
5,310 x 2,100	ML[1] / MO / MP / RU / SM / VV		●		●		●	●	●	●	●	●		●	
2,655 x 2,100	ML[1] / MO / MP / RU / SM / VV		●		●		●	●	●	●	●	●		●	
2,800 x 2,100	AH / HG / LI / NH						●		●						
DecoBoard Balance / Lightweight and Sustainable															
5,310 x 2,100	ML[1] / MO[1] / MP / RU / SM[1] / VV						●	●	●	●	●	●		●	
2,655 x 2,100	ML[1] / MO[1] / MP / RU / SM[1] / VV						●	●	●	●	●	●		●	
DecoBoard Living[1] / Sustainable, because low-emission															
5,310 x 2,100	MP / VV								●						
2,655 x 2,100	MP / VV								●						
DecoBoard MFP Hybrid / stable and suitable for high loads															
2,800 x 2,100	LI / ML / MO / MP / NH / RU / SM / VV						●		●	●	●				
5,600 x 2,100	LI / ML / MO / MP / NH / RU / SM / VV						●		●	●	●				

The technical values apply to both raw core materials and laminated variants. For technical information please refer to the description of raw products. Further information and technical data at www.pfleiderer.com

DecoBoard fibreboard core

Properties and advantages

- high-quality melamine resin lamination on both sides
- available in combination with an extensive range of core variants
- extensive range of decors and surface textures
- easy machining and processing
- optimum surface flatness
- available as PEFC™ or FSC® certified panel upon request

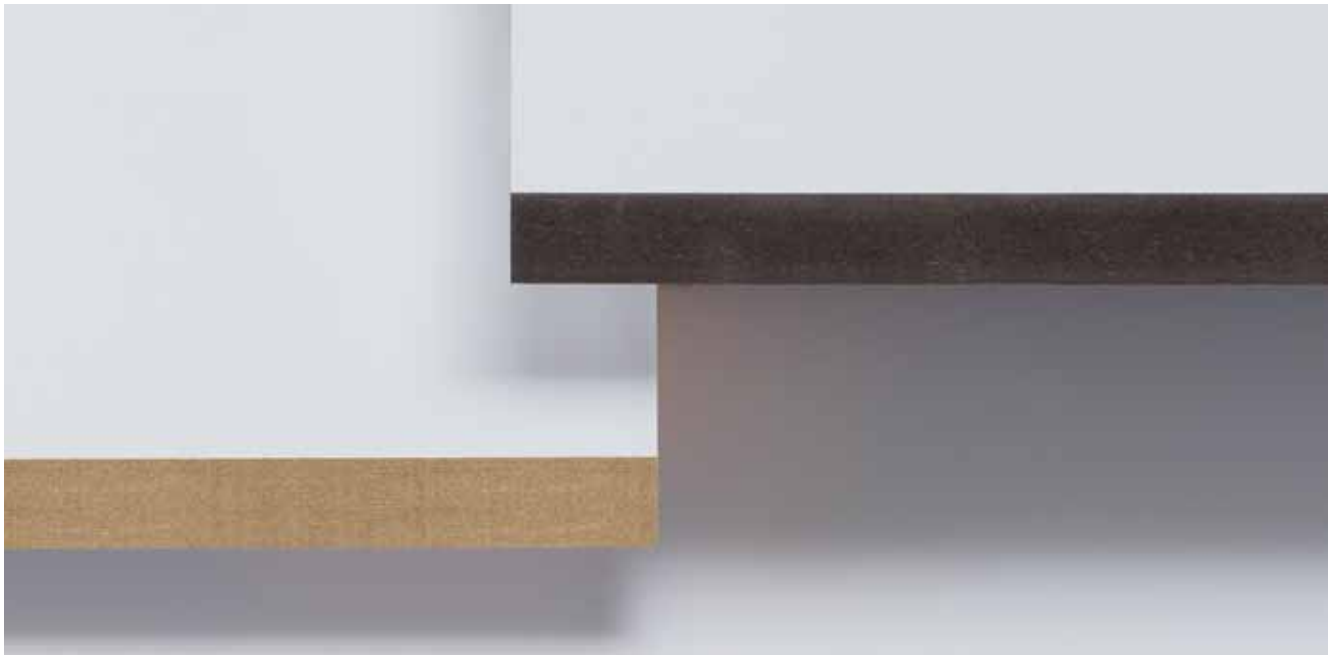
Areas of Applications

- furniture making and interior fitting
- variants for special requirements on sustainability (low-emission applications)

Available core variants

- DecoBoard MDF plus
- DecoBoard MDF black
- DecoBoard HDF
- DecoBoard HDF laquered
- on request: DecoBoard MDF F**** / DecoBoard MDF CARB 2 / DecoBoard MDF Nordic Swan / DecoBoard MDF fibre compact / DecoBoard MDF Euro-quality / DecoBoard MDF deep routering plus quality

Please make sure to choose DecoBoard with a homogenous structure in order to prevent warping. We only recommend different decors for face and reverse side if the decorative papers used are technically combinable. Secial decor combinations are recommended for thick panels.



FSC® license code: FSC-C011773

DecoBoard fibreboard core

After pressing the resin-impregnated decorative paper forms a scratch, impact and abrasion resistant surface. The surface is physiologically safe and perfectly suited for food contact.

● available, delievery time on request
** recommended decor program on request
** on request

Format in mm	Structures	Thickness in mm 3	5	8	10	12	16	18	19	22	25	28	30	38	40
DecoBoard MDF plus															
5,600 x 2,100	LI / ML / MO / MP / NH / RU / SM / VV			●	●	●	●	●	●	●	●	●	●	●	
2,800 x 2,100	AH / HG / LI / ML / MO / MP / NH / RU / SM / VV			●	●	●	●	●	●	●	●	●	●	●	●
5,310 x 2,100**	ML* / MO / MP / RU / SM / VV			●	●	●	●	●	●	●	●	●	●	●	
2,655 x 2,100**	ML* / MO / MP / RU / SM / VV			●	●	●	●	●	●	●	●	●	●	●	
DecoBoard MDF finished foil / suitable for laquere															
5,600 x 2,100	SM			●	●	●	●	●	●	●	●				
2,800 x 2,100	SM			●	●	●	●	●	●	●	●				
5,310 x 2,100**	SM			●	●	●	●	●	●	●	●				
5,650 x 2,100**	SM			●	●	●	●	●	●	●	●				
DecoBoard MDF black															
5,600 x 2,100	LI / ML / MO / MP / NH / RU / SM / VV				●		●		●						
2,800 x 2,100	AH / HG / LI / ML / MO / MP / NH / RU / SM / VV						●		●		●				
DecoBoard HDF thin															
2,800 x 2,100	AH / HG / LI / ML / MO / MP / NH / RU / SM / VV	●	●												
DecoBoard HDF white laquered / direct laquered															
2,850 x 2,070	white laquered, other variants on request	●													

The technical values apply to both raw core materials and laminated variants. For technical information please refer to the description of raw products. Further information and technical data at www.pfleiderer.com

DecoBoard special-purpos

Properties and advantages

- high-quality melamine resin lamination on both sides
- extensive range of decors and surface textures

Areas of Applications

- furniture making and interior fitting
- for special applications in preventive fire protection, lightweight construction and electrostatically dissipative applications

Available core variants

- DecoBoard MDF Pyroex
- DecoBoard P2 ESA
- DecoBoard Blockboard
- DecoBoard Paper Honeycomb

Please make sure to choose DecoBoard with a homogenous structure in order to prevent warping. We only recommend different decors for face and reverse side if the decorative papers used are technically combinable. Secial decor combinations are recommended for thick panels.

DecoBoard special-purpose core

After pressing the resin-impregnated decorative paper forms a scratch, impact and abrasion resistant surface. The surface is physiologically safe and perfectly suited for food contact.

		Thickness in mm														
Format in mm	**Structures**	**8**	**10**	**12**	**13**	**15**	**16**	**18**	**19**	**22**	**25**	**28**	**30**	**38**	**40**	**50**
DecoBoard MDF Pyroex / flame resistant																
2,800 x 2,100	AH / HG / LI / ML / MO / MP / NH / RU / SM / VV						●		●							
DecoBoard ESA / Electrostatically dissipative																
2,800 x 2,100	MP / VV								●		●	28.4		●		
DecoBoard Blockboard / stable and suitable for high loads																
5,600 x 2,100	LI / MO / MP / NH / RU / VV								●	●	●					
2,800 x 2,100	LI / MO / MP / NH / RU / VV								●	●	●					
DecoBoard Paper Honeycomb / lightweight																
2,800 x 2,100	AH / HG / LI / ML / MO / MP / NH / RU / SM / VV										25.4				40.4	50.4

The technical values apply to both raw core materials and laminated variants. For technical information please refer to the description of raw products. Further information and technical data at www.pfleiderer.com

Overview of surfaces DecoBoard

Pfleiderer offers an extensive range of surface textures for different applications: Gloss textures for a high-quality radiant shine, matt textures for a natural, timeless and beautiful appearance, pearl and parchment surfaces for universal use, creative textures for eye-catching designs and an extensive range of authentic, versatile and very natural wood reproductions. The selection of the right surface texture for the specific purpose rounds off the decor panel selection. We will be happy to assist you in selecting the right surface texture.

		Recommended for vertical applications	horizontal applications
Gloss and matt textures	**HG** High Gloss	●	
	SM Semi Matt	●	
	ML Matt Lacquer	●	
Pearl and parchment textures	**VV** Top Velvet	●	●
	MP Miniperl	●	●
Wood textures	**RU** Rustica	●	●
	NH Natural wood pore	●	●
	AH Authentic wood pore	●	●
	MO Montana	●	●
Creative textures	**LI** Linea	●	●
Anti slip structure	**RH** Slip resistant		●

Scratch resistance	The coarser the texture and the lighter the decor, the more the scratch resistance increases. As smooth surfaces (scratch resistance approx. 1.0 N) and graphic structures are very susceptible to scratching, we recommend our pearl and parchment structures here.
Stain sensitive	The smoother the texture and the darker the decor, the higher the stain sensitivity. As smooth surfaces are generally more sensitive to staining than all other structures, we recommend our pearl and parchment structures here.
Ease of cleaning	The more closed or glossy the texture and the lighter the decor, the easier the surface is to clean.
Abrasion resistance	The abrasion resistance depends on the properties of the paper in the decor used. Plain colours achieve the best values, as the papers are through-dyed (see also technical data). Printed decors (wood, stone and creative decors) achieve lower values, as only the imprint can be used for the wear resistance. The surface texture used does not play any role in theabrasion resistance.
Surface flatness	Where very high demands are made on surface flatness, we recommend the use of StyleBoard MDF / HDF or compact laminate as core material. All other core materials have a limited surface flatness due to the material properties.
Surface brightness / degree of reflexion	The degree of reflexion depends on the decor used. No restrictions on application are made by standards 14322 and EN 438. DIN report 147 stipulates the permissible degree of reflexion for office furniture, which may not be lower than 0.15 and higher than 0.75.
Surface gloss / degree of gloss	Surface gloss depends on the surface texture used. No restrictions on their application are made by standards 14322 and EN 438. DIN report 147 stipulates the permissible degree of gloss for office furniture. According to this report exterior directly visible surfaces may not shine. This requirement is met if the surface does not exceed a degree of reflexion of 20 gloss units. All Pfleiderer DecoBoard surfaces except High Gloss meet this requirement.

Structures DecoBoard

Unless otherwise stated, the surface textures are available in our DST System as DecoBoard and HPL, allowing for perfect applications of both.

HG High Gloss*
Extravagant mirror finish, effective in applications for vertical surfaces subject to little wear.

SM Semi Matt*
This surface is distinguished by its pleasantly soft, natural feel, particularly suitable for vertical use.

ML Matt Lacquer*
Matt lacquer is the surface for the absolute matt application. Matt lacquer is distinguished by its attractive, modern appearance and soft touch. Vertical applications are recommended here.

MP Miniperl
Universal, neutral and non-directional structure with modest gloss levels. High performance in vertical and horizontal applications, resistant to fingermarks.

VV Top Velvet
Elegantly matt, smooth and fine structure, sensitive design. Recommended for horizontal and vertical applications.

*We recommend to use protective foils to prevent matt textures from surface damage during handling or transport.

RH slip resistant
Technical texture combined with ClassicBoard P2, non-slipping lamination on one side. Only for horizontal applications and only availabe as DecoBoard

RU Rustica
Follows the trend towards pronounced structures – is particularly distinguished by its gloss-matt effect and is suitable for use in vertical and horizontal applications.

MO Montana
Characterised in particular by a unique gloss-matt effect: The resulting movement is not only visible but also tangible. Suitable for both vertical and horizontal applications.

NH Natural wood pore
Uniform pore distribution and the matt finish give the impression of freshly chopped real wood. Thanks to the fine substructure, the surface is particularly wear resistant.

AH Authentic wood pore
The beautiful matt-gloss effect comes out best on single-colour surfaces. Large wood areas give an elegant and high-quality impression, not least thanks to the clearly tangible effect of its real wood feel.

LI Linea
Expressive, deep texture with stripes and fine matt / gloss effects, upgrades plain woods and lends a high quality touch to plain colours.

Edges.
A perfect concept – all round.

- Moisture resistant
- Scratch and wear resistant
- Impact resistant
- Heat resistant
- Resistant to household chemicals and cleaning agents
- Easy care

In addition to the core material, the decor and the structure, it is the edges that turn a DecoBoard or an Duropal flat bonded element into a complete, elegant and perfectet workpiece. CPL laminate edges and ABS edges finish off the overall picture visually and make a major contribution to durability.

Edges for our panels can be obtained directly from your Pfleiderer dealer or through our partner:

For ABS edges:

Ostermann
The Experts in Edging

Ostermann UK / Ireland
Ostermann UK Ltd.
Stonebridge Cross Business Park
Unit 104 Pointon Way
Droitwich
WR9 0LW
United Kingdom
UK Phone: +44 (0) 1905 793 550
Fax: +44 (0) 1905 793 559
e-mail: sales.uk@ostermann.eu
Ireland Phone: +44 (0) 1905 793 552
e-mail: sales.ie@ostermann.eu

Further contact data can be found at
www.ostermann.eu

For CPL laminate edges:

Melaplast
IHR PARTNER FÜR FLÄCHE UND KANTE

Melaplast GmbH
Hans-Böckler-Straße 12
97424 Schweinfurt
Germany

Phone: +49 (0) 97 21 / 65 99-0
Fax: +49 (0) 97 21 / 65 99-90
e-mail: info@melaplast.de
www.melaplast.de

Care and cleaning instructions

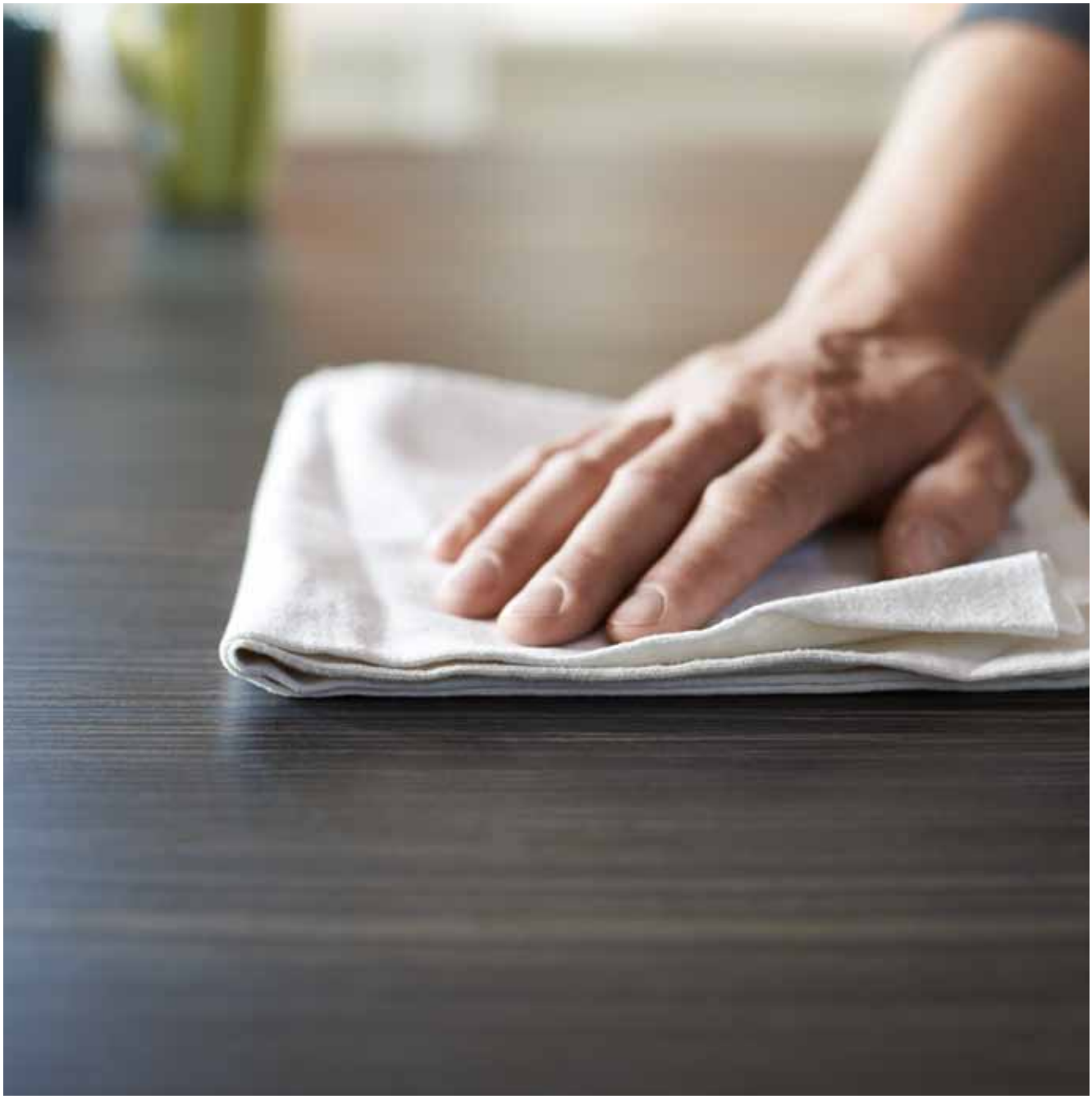
Basic cleaning

For basic cleaning of high-quality melamine resin surfaces use hot water with a cleaning agent. All standard washing-up liquids or fat-soluble cleaners can be used. Rinse with hot water and wipe dry with a lint-free cloth in "decor direction" or evenly in the same direction respectively. For removing more stubborn dirt, leave the detergent briefly soak in. Longer soaking must in any case be avoided. Never use cleaning agents, cloths or sponges with abrasive components, as abrasive components and / or movements may cause irreparable damage to the fine surface texture. Washing-up liquids with skin-caring substances should not be used either. These substances form a film on the melamine resin surface that can hardly be removed. Melamine resin surfaces should not get in contact with aggressive cleaning agents or decalcifiers.

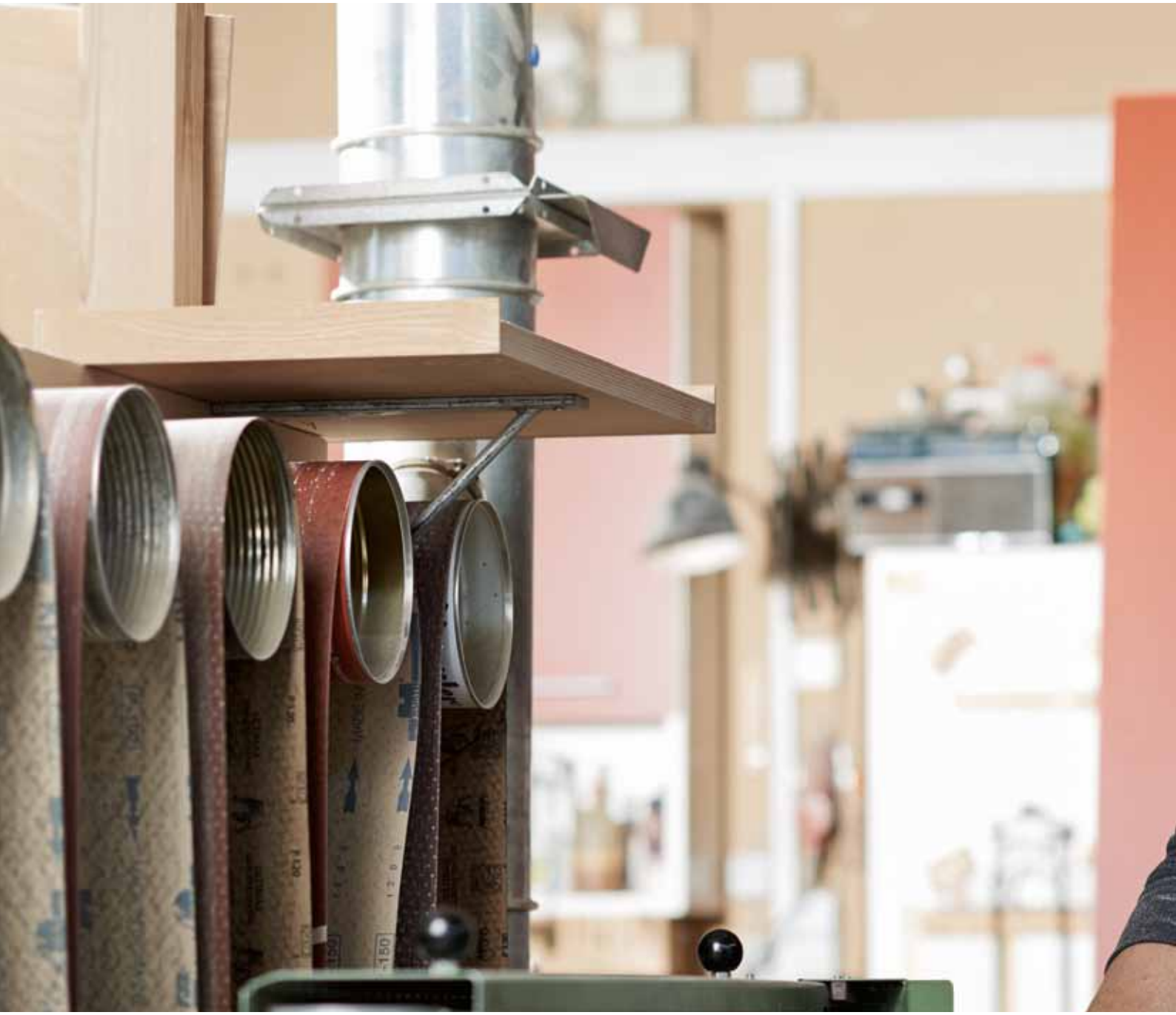
Tipp: The darker the decor, the more water should be used to dilute the cleaning agent.

Intensive cleaning

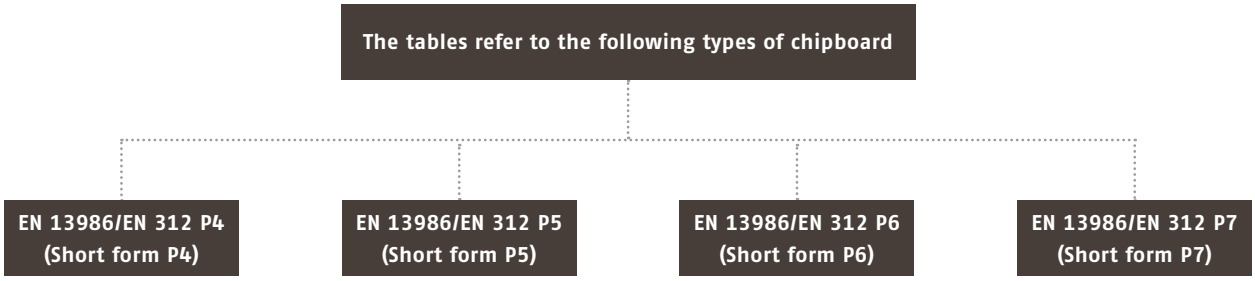
For intensive cleaning use a commercially available degreasing detergent for plastic surfaces e.g. the products "Sidol Küchenkraft", "Mellerud Küchenentfetter". Please always observe the manufacturer's instructions; in general by spraying the detergent on the surface, observing the soaking time and following the above recommendations for basic cleaning. Before using the detergent for the first time, we recommend to try it in a concealed area. In case of stubborn soiling, layered or difficult to remove dirt, it may be necessary to repeat the process several times.



Technical specifications and information



Load tables



All tables are to be used for panel predimensioning only and cannot replace a detailed structural analysis for a specific construction project. The static system is stated above the tables with use class specifications. The tables show the maximum permissible loads depending on supporting member spacing and deflection criteria or breaking load.

The calculation of values is based on DIN 1052:2004-08. The maximum loads stated in the tables refer to a board width of one meter and a supporting member spacing of one meter. For point loads applied to smaller panel widths and / or support lengths the maximum load stated in the table must be reduced in proportion panel width / 1 m. Per board width of 1 m / support length the sum of concentrated individual loads applied midspan may not exceed the permissible maximum load. If line loads are applied midspan the resulting concentrated point load may not exceed the permissible maximum value for a panel width of 1 m. (Conversion of line load in point load: point load = line load x load length).

A local failure of the panel (punching) is not reflected in the tables, as it depends, apart from the applied load, also on size and form of the load transfer surface.

Load duration class	The loads were assumed to have a "medium" load duration – according to table 4, DIN 1052:2004-08
Deflection criteria	DIN 1052:2004-08 contains the following recommendations regarding limitations to deflection: Initial deflection from variable loads < L/300 Final deflection from total load in the characteristic exceptional design situation < L/200 Final deflection from total load in the quasi-static design situation < L/200 Columns L/150, L/200 and L/300 relate to a limitation of initial deflection from the total load. The final deflection takes account of the creep behavior of the construction material, considerung that at the initial deflection stage creeping has not yet started. The tables contain the lowest values measured for each of the three criteria.
Breaking load	The last line of the table shows the load at which the material is expected to break. This load was determined without considering any safety factors or modification values. These values may change depending on external factors (e.g. high moisture content). In the design process these values are subject to the consideration of safety and modification values.

P4 panels
Supporting member spacing (distance) [cm]

Maximum permissible surface load on P4 panels of different thicknesses, spans and deflection criteria [kN/m²] – use class 1

Static system: Single span girders with surface load. Calculated values according to DIN EN 12369-1:2001-04

Panel thickness [mm]	30	35	40	45	50	55	60	62.5	65	70	75	80	85	90	95	100	105	110	115	120	125	Deflection criteria
	15.7	11.5	7.8	5.5	4.0	3.0	2.3	2.0	1.7	1.4	1.1	0.9	0.7	0.6	0.5	0.4	0.3	0.3	0.2	0.2	0.2	L/150
	14.0	8.8	5.8	4.1	2.9	2.2	1.7	1.5	1.3	1.0	0.8	0.6	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.1	0.1	L/200
16	9.3	5.8	3.9	2.7	1.9	1.4	1.1	0.9	0.8	0.6	0.5	0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.0	L/300
	8.3	5.2	3.4	2.4	1.7	1.2	0.9	0.8	0.7	0.5	0.4	0.3	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	Recommendation
	47.3	34.7	26.6	21.0	17.0	14.0	11.8	10.8	10.0	8.6	7.5	6.6	5.8	5.2	4.6	4.2	3.8	3.4	3.1	2.9	2.6	Break
	22.2	16.3	12.4	9.2	6.7	5.0	3.8	3.4	3.0	2.4	1.9	1.5	1.3	1.1	0.9	0.7	0.6	0.5	0.4	0.4	0.3	L/150
	22.2	14.7	9.8	6.9	5.0	3.7	2.8	2.5	2.2	1.7	1.4	1.1	0.9	0.8	0.6	0.5	0.4	0.4	0.3	0.3	0.2	L/200
19	15.6	9.8	6.5	4.5	3.3	2.4	1.9	1.6	1.4	1.1	0.9	0.7	0.6	0.5	0.4	0.3	0.3	0.2	0.2	0.1	0.1	L/300
	13.9	8.7	5.8	4.0	2.9	2.1	1.6	1.4	1.2	1.0	0.7	0.6	0.5	0.4	0.3	0.2	0.2	0.1	0.0	0.0	0.0	Recommendation
	66.7	49.0	37.5	29.6	24.0	19.8	16.6	15.3	14.1	12.2	10.6	9.3	8.2	7.3	6.6	5.9	5.3	4.9	4.4	4.1	3.7	Break
	25.7	18.8	14.4	11.4	9.2	7.2	5.5	4.9	4.3	3.4	2.8	2.3	1.9	1.6	1.3	1.1	0.9	0.8	0.7	0.6	0.5	L/150
	25.7	18.8	14.2	10.0	7.2	5.4	4.1	3.6	3.2	2.6	2.0	1.7	1.4	1.1	0.9	0.8	0.7	0.6	0.5	0.4	0.3	L/200
22	22.6	14.2	9.5	6.6	4.8	3.6	2.7	2.4	2.1	1.7	1.3	1.1	0.9	0.7	0.6	0.5	0.4	0.3	0.3	0.2	0.2	L/300
	20.2	12.6	8.4	5.9	4.2	3.1	2.4	2.1	1.8	1.4	1.1	0.9	0.7	0.6	0.5	0.4	0.3	0.2	0.2	0.1	0.0	Recommendation
	77.3	56.8	43.4	34.3	27.7	22.9	19.2	17.7	16.4	14.1	12.3	10.8	9.5	8.5	7.6	6.8	6.2	5.6	5.1	4.7	4.3	Break
	33.2	24.4	18.6	14.7	11.9	9.8	8.2	7.2	6.4	5.1	4.1	3.4	2.8	2.3	1.9	1.7	1.4	1.2	1.0	0.9	0.8	L/150
	33.2	24.4	18.6	14.7	10.7	8.0	6.1	5.4	4.8	3.8	3.1	2.5	2.0	1.7	1.4	1.2	1.0	0.9	0.7	0.6	0.5	L/200
25	33.2	20.8	13.9	9.7	7.1	5.3	4.0	3.5	3.1	2.5	2.0	1.6	1.3	1.1	0.9	0.8	0.6	0.5	0.4	0.4	0.3	L/300
	29.6	18.6	12.4	8.6	6.2	4.6	3.5	3.1	2.7	2.1	1.7	1.4	1.1	0.9	0.7	0.6	0.5	0.4	0.3	0.3	0.2	Recommendation
	99.9	73.3	56.1	44.3	35.9	29.6	24.9	22.9	21.2	18.2	15.9	13.9	12.3	11.0	9.8	8.9	8.0	7.3	6.7	6.1	5.6	Break
	53.3	39.1	29.9	23.6	19.0	15.7	13.2	12.1	11.2	9.6	8.4	7.3	6.5	5.7	5.1	4.6	4.0	3.5	3.0	2.6	2.3	L/150
	53.3	39.1	29.9	23.6	19.0	15.7	13.2	12.1	11.2	9.6	8.4	7.0	5.8	4.8	4.1	3.5	3.0	2.5	2.2	1.9	1.7	L/200
38	53.3	39.1	29.9	23.6	19.0	14.5	11.2	9.8	8.7	6.9	5.6	4.6	3.8	3.1	2.6	2.2	1.9	1.6	1.4	1.2	1.0	L/300
	53.3	39.1	29.9	23.6	17.3	12.9	9.9	8.7	7.7	6.1	4.9	4.0	3.3	2.7	2.3	1.9	1.6	1.3	1.1	1.0	0.8	Recommendation
	160.2	117.6	90.0	71.1	57.5	47.5	39.9	36.7	33.9	29.2	25.4	22.3	19.8	17.6	15.8	14.2	12.9	11.7	10.7	9.8	9.0	Break

Static system: Double span girders with surface load, with equal weight on both ends.
Calculated values according to DIN EN 12369-1:2001-04

Panel thickness [mm]	30	35	40	45	50	55	60	62.5	65	70	75	80	85	90	95	100	105	110	115	120	125	Deflection criteria
	15.7	11.5	8.8	6.9	5.6	4.6	3.9	3.6	3.3	2.8	2.4	2.1	1.9	1.6	1.3	1.1	1.0	0.8	0.7	0.6	0.5	L/150
	15.7	11.5	8.8	6.9	5.6	4.6	3.9	3.6	3.2	2.6	2.1	1.7	1.4	1.2	1.0	0.8	0.7	0.6	0.5	0.4	0.4	L/200
16	15.7	11.5	8.8	6.6	4.8	3.6	2.7	2.4	2.1	1.7	1.4	1.1	0.9	0.7	0.6	0.5	0.4	0.4	0.3	0.3	0.2	L/300
	15.7	11.5	8.5	6.0	4.4	3.3	2.5	2.2	2.0	1.6	1.3	1.1	0.9	0.8	0.6	0.5	0.5	0.4	0.4	0.3	0.3	Recommendation
	47.3	34.7	26.6	21.0	17.0	14.0	11.8	10.8	10.0	8.6	7.5	6.6	5.8	5.2	4.6	4.2	3.8	3.4	3.1	2.9	2.6	Break
	22.2	16.3	12.4	9.8	7.9	6.5	5.5	5.0	4.6	4.0	3.5	3.0	2.7	2.4	2.1	1.9	1.7	1.4	1.2	1.1	0.9	L/150
	22.2	16.3	12.4	9.8	7.9	6.5	5.5	5.0	4.6	4.0	3.5	2.9	2.4	2.0	1.7	1.4	1.2	1.0	0.9	0.8	0.7	L/200
19	22.2	16.3	12.4	9.8	7.9	6.0	4.6	4.1	3.6	2.9	2.3	1.9	1.6	1.3	1.1	0.9	0.8	0.7	0.6	0.5	0.4	L/300
	22.2	16.3	12.4	9.8	7.3	5.5	4.2	3.8	3.3	2.7	2.2	1.8	1.5	1.3	1.1	0.9	0.8	0.7	0.6	0.5	0.5	Recommendation
	66.7	49.0	37.5	29.6	24.0	19.8	16.6	15.3	14.1	12.2	10.6	9.3	8.2	7.3	6.6	5.9	5.3	4.9	4.4	4.1	3.7	Break
	25.7	18.8	14.4	11.4	9.2	7.6	6.3	5.8	5.4	4.6	4.0	3.5	3.1	2.7	2.5	2.2	2.0	1.8	1.6	1.5	1.4	L/150
	25.7	18.8	14.4	11.4	9.2	7.6	6.3	5.8	5.4	4.6	4.0	3.5	3.1	2.7	2.5	2.1	1.8	1.5	1.3	1.2	1.0	L/200
22	25.7	18.8	14.4	11.4	9.2	7.6	6.3	5.8	5.3	4.2	3.4	2.8	2.3	1.9	1.6	1.3	1.1	1.0	0.8	0.7	0.6	L/300
	25.7	18.8	14.4	11.4	9.2	7.6	6.1	5.4	4.8	3.9	3.1	2.6	2.2	1.8	1.5	1.3	1.1	1.0	0.9	0.8	0.7	Recommendation
	77.3	56.8	43.4	34.3	27.7	22.9	19.2	17.7	16.4	14.1	12.3	10.8	9.5	8.5	7.6	6.8	6.2	5.6	5.1	4.7	4.3	Break
	33.2	24.4	18.6	14.7	11.9	9.8	8.2	7.5	7.0	6.0	5.2	4.6	4.0	3.6	3.2	2.9	2.6	2.3	2.1	1.9	1.8	L/150
	33.2	24.4	18.6	14.7	11.9	9.8	8.2	7.5	7.0	6.0	5.2	4.6	4.0	3.6	3.2	2.9	2.6	2.3	2.0	1.7	1.5	L/200
25	33.2	24.4	18.6	14.7	11.9	9.8	8.2	7.5	7.0	6.0	5.0	4.1	3.4	2.8	2.4	2.0	1.7	1.5	1.3	1.1	1.0	L/300
	33.2	24.4	18.6	14.7	11.9	9.8	8.2	7.5	7.0	5.7	4.6	3.8	3.2	2.7	2.3	1.9	1.7	1.5	1.3	1.1	1.0	Recommendation
	99.9	73.3	56.1	44.3	35.9	29.6	24.9	22.9	21.2	18.2	15.9	13.9	12.3	11.0	9.8	8.9	8.0	7.3	6.7	6.1	5.6	Break
	53.3	39.1	29.9	23.6	19.0	15.7	13.2	12.1	11.2	9.6	8.4	7.3	6.5	5.7	5.1	4.6	4.2	3.8	3.4	3.1	2.9	L/150
	53.3	39.1	29.9	23.6	19.0	15.7	13.2	12.1	11.2	9.6	8.4	7.3	6.5	5.7	5.1	4.6	4.2	3.8	3.4	3.1	2.9	L/200
38	53.3	39.1	29.9	23.6	19.0	15.7	13.2	12.1	11.2	9.6	8.4	7.3	6.5	5.7	5.1	4.6	4.2	3.8	3.4	3.1	2.8	L/300
	53.3	39.1	29.9	23.6	19.0	15.7	13.2	12.1	11.2	9.6	8.4	7.3	6.5	5.7	5.1	4.6	4.2	3.8	3.4	3.1	2.7	Recommendation
	160.2	117.6	90.0	71.1	57.5	47.5	39.9	36.7	33.9	29.2	25.4	22.3	19.8	17.6	15.8	14.2	12.9	11.7	10.7	9.8	9.0	Break

For information on further thicknesses please visit our website at www.pfleiderer.com

P5 panels
Supporting member spacing (distance) [cm]

Maximum permissible surface load on P5 panels of different thicknesses, spans and deflection criteria [kN/m²] – use class 1

Static system: Single span girders with surface load. Calculated values according to DIN EN 12369-1:2001-04

Panel thickness [mm]	30	35	40	45	50	55	60	62.5	65	70	75	80	85	90	95	100	105	110	115	120	125	Deflection criteria
	16.7	12.3	8.9	6.2	4.5	3.4	2.6	2.3	2.0	1.6	1.3	1.0	0.8	0.7	0.6	0.5	0.4	0.3	0.3	0.2	0.2	L/150
	15.9	10.0	6.7	4.7	3.4	2.5	1.9	1.7	1.5	1.2	0.9	0.7	0.6	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.1	L/200
16	10.6	6.6	4.4	3.1	2.2	1.6	1.2	1.1	1.0	0.7	0.6	0.5	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	L/300
	9.4	5.9	3.9	2.7	1.9	1.4	1.1	0.9	0.8	0.6	0.5	0.4	0.3	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	Recommendation
	50.3	37.0	28.3	22.3	18.1	14.9	12.5	11.5	10.6	9.2	8.0	7.0	6.2	5.5	4.9	4.4	4.0	3.7	3.3	3.1	2.8	Break
	23.6	17.3	13.2	10.4	7.6	5.7	4.4	3.8	3.4	2.7	2.2	1.8	1.5	1.2	1.0	0.9	0.7	0.6	0.5	0.4	0.4	L/150
	23.6	16.8	11.2	7.8	5.7	4.2	3.2	2.9	2.5	2.0	1.6	1.3	1.1	0.9	0.7	0.6	0.5	0.4	0.4	0.3	0.3	L/200
19	17.8	11.1	7.4	5.2	3.7	2.8	2.1	1.9	1.6	1.3	1.0	0.8	0.7	0.5	0.4	0.4	0.3	0.2	0.2	0.2	0.1	L/300
	15.9	9.9	6.6	4.6	3.3	2.4	1.8	1.6	1.4	1.1	0.9	0.7	0.6	0.4	0.4	0.3	0.2	0.2	0.1	0.0	0.0	Recommendation
	71.0	52.1	39.9	31.5	25.5	21.0	17.7	16.3	15.0	13.0	11.3	9.9	8.7	7.8	7.0	6.3	5.7	5.2	4.7	4.3	4.0	Break
	27.8	20.4	15.6	12.3	9.9	8.1	6.2	5.5	4.8	3.8	3.1	2.5	2.1	1.7	1.5	1.2	1.0	0.9	0.8	0.7	0.6	L/150
	27.8	20.4	15.6	11.1	8.0	6.0	4.6	4.1	3.6	2.8	2.3	1.9	1.5	1.3	1.1	0.9	0.8	0.6	0.5	0.5	0.4	L/200
22	25.1	15.8	10.5	7.3	5.3	4.0	3.0	2.7	2.3	1.9	1.5	1.2	1.0	0.8	0.7	0.5	0.5	0.4	0.3	0.3	0.2	L/300
	22.4	14.1	9.4	6.5	4.7	3.5	2.6	2.3	2.0	1.6	1.3	1.0	0.8	0.7	0.5	0.4	0.3	0.3	0.2	0.2	0.1	Recommendation
	83.8	61.5	47.1	37.2	30.1	24.8	20.8	19.2	17.7	15.3	13.3	11.7	10.3	9.2	8.2	7.4	6.7	6.1	5.6	5.1	4.7	Break
	36.0	26.4	20.2	15.9	12.9	10.6	8.9	8.0	7.1	5.7	4.6	3.8	3.1	2.6	2.2	1.9	1.6	1.4	1.2	1.0	0.9	L/150
	36.0	26.4	20.2	15.9	11.9	8.9	6.8	6.0	5.3	4.2	3.4	2.8	2.3	1.9	1.6	1.4	1.1	1.0	0.8	0.7	0.6	L/200
25	36.0	23.2	15.5	10.8	7.9	5.9	4.5	3.9	3.5	2.8	2.2	1.8	1.5	1.2	1.0	0.9	0.7	0.6	0.5	0.4	0.4	L/300
	33.0	20.7	13.8	9.6	7.0	5.2	3.9	3.5	3.1	2.4	1.9	1.5	1.3	1.0	0.8	0.7	0.6	0.5	0.4	0.3	0.3	Recommendation
	108.2	79.4	60.8	48.0	38.9	32.1	26.9	24.8	22.9	19.7	17.2	15.1	13.3	11.9	10.7	9.6	8.7	7.9	7.2	6.6	6.1	Break
	59.0	43.3	33.1	26.1	21.1	17.4	14.6	13.4	12.4	10.7	9.3	8.1	7.2	6.4	5.7	5.1	4.6	4.0	3.5	3.0	2.6	L/150
	59.0	43.3	33.1	26.1	21.1	17.4	14.6	13.4	12.4	10.7	9.3	8.0	6.6	5.6	4.7	4.0	3.4	2.9	2.5	2.2	1.9	L/200
38	59.0	43.3	33.1	26.1	21.1	16.7	12.8	11.3	10.0	8.0	6.4	5.3	4.3	3.6	3.0	2.6	2.2	1.9	1.6	1.4	1.2	L/300
	59.0	43.3	33.1	26.1	19.8	14.8	11.3	10.0	8.9	7.0	5.7	4.6	3.8	3.1	2.6	2.2	1.9	1.6	1.3	1.1	1.0	Recommendation
	177.3	130.2	99.6	78.7	63.7	52.6	44.2	40.7	37.6	32.4	28.2	24.7	21.9	19.5	17.5	15.8	14.3	13.0	11.9	10.9	10.0	Break

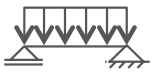
Static system: Double span girders with surface load, with equal weight on both ends.
Calculated values according to DIN EN 12369-1:2001-04

Panel thickness [mm]	30	35	40	45	50	55	60	62.5	65	70	75	80	85	90	95	100	105	110	115	120	125	Deflection criteria
	16.7	12.3	9.4	7.4	6.0	4.9	4.1	3.8	3.5	3.0	2.6	2.3	2.0	1.8	1.5	1.3	1.1	0.9	0.8	0.7	0.6	L/150
	16.7	12.3	9.4	7.4	6.0	4.9	4.1	3.8	3.5	2.9	2.4	1.9	1.6	1.3	1.1	0.9	0.8	0.7	0.6	0.5	0.4	L/200
16	16.7	12.3	9.4	7.4	5.5	4.1	3.1	2.8	2.4	1.9	1.6	1.3	1.0	0.9	0.7	0.6	0.5	0.4	0.4	0.3	0.3	L/300
	16.7	12.3	9.4	6.8	5.0	3.7	2.9	2.6	2.3	1.8	1.5	1.2	1.0	0.9	0.7	0.6	0.5	0.5	0.4	0.4	0.3	Recommendation
	50.3	37.0	28.3	22.3	18.1	14.9	12.5	11.5	10.6	9.2	8.0	7.0	6.2	5.5	4.9	4.4	4.0	3.7	3.3	3.1	2.8	Break
	23.6	17.3	13.2	10.4	8.4	7.0	5.8	5.4	4.9	4.3	3.7	3.2	2.9	2.5	2.3	2.0	1.8	1.6	1.4	1.2	1.1	L/150
	23.6	17.3	13.2	10.4	8.4	7.0	5.8	5.4	4.9	4.3	3.7	3.2	2.7	2.3	1.9	1.6	1.4	1.2	1.0	0.9	0.8	L/200
19	23.6	17.3	13.2	10.4	8.4	6.9	5.3	4.7	4.1	3.3	2.6	2.2	1.8	1.5	1.2	1.1	0.9	0.8	0.7	0.6	0.5	L/300
	23.6	17.3	13.2	10.4	8.3	6.3	4.8	4.3	3.8	3.0	2.5	2.0	1.7	1.4	1.2	1.0	0.9	0.8	0.7	0.6	0.5	Recommendation
	71.0	52.1	39.9	31.5	25.5	21.0	17.7	16.3	15.0	13.0	11.3	9.9	8.7	7.8	7.0	6.3	5.7	5.2	4.7	4.3	4.0	Break
	27.8	20.4	15.6	12.3	9.9	8.2	6.9	6.3	5.8	5.0	4.4	3.8	3.4	3.0	2.7	2.4	2.2	2.0	1.8	1.6	1.5	L/150
	27.8	20.4	15.6	12.3	9.9	8.2	6.9	6.3	5.8	5.0	4.4	3.8	3.4	3.0	2.7	2.3	2.0	1.7	1.5	1.3	1.1	L/200
22	27.8	20.4	15.6	12.3	9.9	8.2	6.9	6.3	5.8	4.7	3.8	3.1	2.5	2.1	1.8	1.5	1.3	1.1	0.9	0.8	0.7	L/300
	27.8	20.4	15.6	12.3	9.9	8.2	6.8	6.0	5.4	4.3	3.5	2.9	2.4	2.0	1.7	1.5	1.3	1.1	1.0	0.9	0.8	Recommendation
	83.8	61.5	47.1	37.2	30.1	24.8	20.8	19.2	17.7	15.3	13.3	11.7	10.3	9.2	8.2	7.4	6.7	6.1	5.6	5.1	4.7	Break
	36.0	26.4	20.2	15.9	12.9	10.6	8.9	8.2	7.6	6.5	5.6	4.9	4.4	3.9	3.5	3.1	2.8	2.6	2.3	2.1	1.9	L/150
	36.0	26.4	20.2	15.9	12.9	10.6	8.9	8.2	7.6	6.5	5.6	4.9	4.4	3.9	3.5	3.1	2.8	2.6	2.2	1.9	1.7	L/200
25	36.0	26.4	20.2	15.9	12.9	10.6	8.9	8.2	7.6	6.5	5.6	4.6	3.8	3.2	2.7	2.3	1.9	1.7	1.4	1.2	1.1	L/300
	36.0	26.4	20.2	15.9	12.9	10.6	8.9	8.2	7.6	6.3	5.1	4.2	3.5	3.0	2.5	2.2	1.9	1.6	1.4	1.2	1.1	Recommendation
	108.2	79.4	60.8	48.0	38.9	32.1	26.9	24.8	22.9	19.7	17.2	15.1	13.3	11.9	10.7	9.6	8.7	7.9	7.2	6.6	6.1	Break
	59.0	43.3	33.1	26.1	21.1	17.4	14.6	13.4	12.4	10.7	9.3	8.1	7.2	6.4	5.7	5.1	4.6	4.2	3.8	3.5	3.2	L/150
	59.0	43.3	33.1	26.1	21.1	17.4	14.6	13.4	12.4	10.7	9.3	8.1	7.2	6.4	5.7	5.1	4.6	4.2	3.8	3.5	3.2	L/200
38	59.0	43.3	33.1	26.1	21.1	17.4	14.6	13.4	12.4	10.7	9.3	8.1	7.2	6.4	5.7	5.1	4.6	4.2	3.8	3.5	3.2	L/300
	59.0	43.3	33.1	26.1	21.1	17.4	14.6	13.4	12.4	10.7	9.3	8.1	7.2	6.4	5.7	5.1	4.6	4.2	3.8	3.5	3.1	Recommendation
	177.3	130.2	99.6	78.7	63.7	52.6	44.2	40.7	37.6	32.4	28.2	24.7	21.9	19.5	17.5	15.8	14.3	13.0	11.9	10.9	10.0	Break

For information on further thicknesses please visit our website at www.pfleiderer.com

P5 panels
Supporting member spacing (distance) [cm]

Maximum permissible surface load on P5 panels of different thicknesses, spans and deflection criteria [kN/m²] – use class 2



Static system: Single span girders with surface load. Calculated values according to DIN EN 12369-1:2001-04

Panel thickness [mm]	30	35	40	45	50	55	60	62.5	65	70	75	80	85	90	95	100	105	110	115	120	125	Deflection criteria
	11.6	8.5	6.5	5.1	4.1	3.4	2.6	2.3	2.0	1.6	1.3	1.0	0.8	0.7	0.6	0.5	0.4	0.3	0.3	0.2	0.2	L/150
	11.6	8.5	6.5	4.7	3.4	2.5	1.9	1.7	1.5	1.2	0.9	0.7	0.6	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.1	L/200
16	10.6	6.6	4.4	3.1	2.2	1.6	1.2	1.1	1.0	0.7	0.6	0.5	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	L/300
	8.3	5.2	3.4	2.3	1.7	1.2	0.9	0.8	0.7	0.5	0.4	0.3	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	Recommendation
	50.3	37.0	28.3	22.3	18.1	14.9	12.5	11.5	10.6	9.2	8.0	7.0	6.2	5.5	4.9	4.4	4.0	3.7	3.3	3.1	2.8	Break
	16.3	12.0	9.1	7.2	5.8	4.8	4.0	3.7	3.4	2.7	2.2	1.8	1.5	1.2	1.0	0.9	0.7	0.6	0.5	0.4	0.4	L/150
	16.3	12.0	9.1	7.2	5.7	4.2	3.2	2.9	2.5	2.0	1.6	1.3	1.1	0.9	0.7	0.6	0.5	0.4	0.4	0.3	0.3	L/200
19	16.3	11.1	7.4	5.2	3.7	2.8	2.1	1.9	1.6	1.3	1.0	0.8	0.7	0.5	0.4	0.4	0.3	0.2	0.2	0.2	0.1	L/300
	13.9	8.7	5.8	4.0	2.9	2.1	1.6	1.4	1.2	0.9	0.7	0.6	0.4	0.3	0.3	0.2	0.1	0.1	0.0	0.0	0.0	Recommendation
	71.0	52.1	39.9	31.5	25.5	21.0	17.7	16.3	15.0	13.0	11.3	9.9	8.7	7.8	7.0	6.3	5.7	5.2	4.7	4.3	4.0	Break
	19.2	14.1	10.8	8.5	6.9	5.6	4.7	4.3	4.0	3.4	3.0	2.5	2.1	1.7	1.5	1.2	1.0	0.9	0.8	0.7	0.6	L/150
	19.2	14.1	10.8	8.5	6.9	5.6	4.6	4.1	3.6	2.8	2.3	1.9	1.5	1.3	1.1	0.9	0.8	0.6	0.5	0.5	0.4	L/200
22	19.2	14.1	10.5	7.3	5.3	4.0	3.0	2.7	2.3	1.9	1.5	1.2	1.0	0.8	0.7	0.5	0.5	0.4	0.3	0.3	0.2	L/300
	19.2	12.3	8.2	5.7	4.1	3.0	2.3	2.0	1.8	1.4	1.1	0.8	0.7	0.5	0.4	0.3	0.3	0.2	0.1	0.1	0.0	Recommendation
	83.8	61.5	47.1	37.2	30.1	24.8	20.8	19.2	17.7	15.3	13.3	11.7	10.3	9.2	8.2	7.4	6.7	6.1	5.6	5.1	4.7	Break
	24.9	18.2	13.9	11.0	8.9	7.3	6.1	5.6	5.2	4.5	3.9	3.4	3.0	2.6	2.2	1.9	1.6	1.4	1.2	1.0	0.9	L/150
	24.9	18.2	13.9	11.0	8.9	7.3	6.1	5.6	5.2	4.2	3.4	2.8	2.3	1.9	1.6	1.4	1.1	1.0	0.8	0.7	0.6	L/200
25	24.9	18.2	13.9	10.8	7.9	5.9	4.5	3.9	3.5	2.8	2.2	1.8	1.5	1.2	1.0	0.9	0.7	0.6	0.5	0.4	0.4	L/300
	24.9	18.2	12.1	8.4	6.1	4.5	3.4	3.0	2.6	2.1	1.6	1.3	1.0	0.8	0.7	0.6	0.4	0.4	0.3	0.2	0.1	Recommendation
	108.2	79.4	60.8	48.0	38.9	32.1	26.9	24.8	22.9	19.7	17.2	15.1	13.3	11.9	10.7	9.6	8.7	7.9	7.2	6.6	6.1	Break
	40.8	29.9	22.8	18.0	14.5	12.0	10.0	9.2	8.5	7.3	6.4	5.6	4.9	4.3	3.9	3.5	3.1	2.8	2.6	2.4	2.2	L/150
	40.8	29.9	22.8	18.0	14.5	12.0	10.0	9.2	8.5	7.3	6.4	5.6	4.9	4.3	3.9	3.5	3.1	2.8	2.5	2.2	1.9	L/200
38	40.8	29.9	22.8	18.0	14.5	12.0	10.0	9.2	8.5	7.3	6.4	5.3	4.3	3.6	3.0	2.6	2.2	1.9	1.6	1.4	1.2	L/300
	40.8	29.9	22.8	18.0	14.5	12.0	9.9	8.7	7.7	6.1	4.9	4.0	3.3	2.7	2.2	1.9	1.6	1.3	1.1	0.9	0.8	Recommendation
	177.3	130.2	99.6	78.7	63.7	52.6	44.2	40.7	37.6	32.4	28.2	24.7	21.9	19.5	17.5	15.8	14.3	13.0	11.9	10.9	10.0	Break

Static system: Double span girders with surface load, with equal weight on both ends.
Calculated values according to DIN EN 12369-1:2001-04

Panel thickness [mm]	30	35	40	45	50	55	60	62.5	65	70	75	80	85	90	95	100	105	110	115	120	125	Deflection criteria
	11.6	8.5	6.5	5.1	4.1	3.4	2.8	2.6	2.4	2.1	1.8	1.6	1.4	1.2	1.1	1.0	0.9	0.8	0.7	0.6	0.6	L/150
	11.6	8.5	6.5	5.1	4.1	3.4	2.8	2.6	2.4	2.1	1.8	1.6	1.4	1.2	1.1	0.9	0.8	0.7	0.6	0.5	0.4	L/200
16	11.6	8.5	6.5	5.1	4.1	3.4	2.8	2.6	2.4	1.9	1.6	1.3	1.0	0.9	0.7	0.6	0.5	0.4	0.4	0.3	0.3	L/300
	11.6	8.5	6.5	5.1	4.1	3.3	2.5	2.2	2.0	1.6	1.3	1.1	0.9	0.8	0.6	0.5	0.5	0.4	0.4	0.3	0.3	Recommendation
	50.3	37.0	28.3	22.3	18.1	14.9	12.5	11.5	10.6	9.2	8.0	7.0	6.2	5.5	4.9	4.4	4.0	3.7	3.3	3.1	2.8	Break
	16.3	12.0	9.1	7.2	5.8	4.8	4.0	3.7	3.4	2.9	2.5	2.2	1.9	1.7	1.5	1.4	1.2	1.1	1.0	0.9	0.8	L/150
	16.3	12.0	9.1	7.2	5.8	4.8	4.0	3.7	3.4	2.9	2.5	2.2	1.9	1.7	1.5	1.4	1.2	1.1	1.0	0.9	0.8	L/200
19	16.3	12.0	9.1	7.2	5.8	4.8	4.0	3.7	3.4	2.9	2.5	2.2	1.8	1.5	1.2	1.1	0.9	0.8	0.7	0.6	0.5	L/300
	16.3	12.0	9.1	7.2	5.8	4.8	4.0	3.7	3.3	2.7	2.2	1.8	1.5	1.3	1.1	0.9	0.8	0.7	0.6	0.5	0.5	Recommendation
	71.0	52.1	39.9	31.5	25.5	21.0	17.7	16.3	15.0	13.0	11.3	9.9	8.7	7.8	7.0	6.3	5.7	5.2	4.7	4.3	4.0	Break
	19.2	14.1	10.8	8.5	6.9	5.6	4.7	4.3	4.0	3.4	3.0	2.6	2.3	2.0	1.8	1.6	1.5	1.3	1.2	1.1	1.0	L/150
	19.2	14.1	10.8	8.5	6.9	5.6	4.7	4.3	4.0	3.4	3.0	2.6	2.3	2.0	1.8	1.6	1.5	1.3	1.2	1.1	1.0	L/200
22	19.2	14.1	10.8	8.5	6.9	5.6	4.7	4.3	4.0	3.4	3.0	2.6	2.3	2.0	1.8	1.5	1.3	1.1	0.9	0.8	0.7	L/300
	19.2	14.1	10.8	8.5	6.9	5.6	4.7	4.3	4.0	3.4	3.0	2.5	2.1	1.8	1.5	1.3	1.1	1.0	0.9	0.8	0.7	Recommendation
	83.8	61.5	47.1	37.2	30.1	24.8	20.8	19.2	17.7	15.3	13.3	11.7	10.3	9.2	8.2	7.4	6.7	6.1	5.6	5.1	4.7	Break
	24.9	18.2	13.9	11.0	8.9	7.3	6.1	5.6	5.2	4.5	3.9	3.4	3.0	2.6	2.4	2.1	1.9	1.7	1.6	1.4	1.3	L/150
	24.9	18.2	13.9	11.0	8.9	7.3	6.1	5.6	5.2	4.5	3.9	3.4	3.0	2.6	2.4	2.1	1.9	1.7	1.6	1.4	1.3	L/200
25	24.9	18.2	13.9	11.0	8.9	7.3	6.1	5.6	5.2	4.5	3.9	3.4	3.0	2.6	2.4	2.1	1.9	1.7	1.4	1.2	1.1	L/300
	24.9	18.2	13.9	11.0	8.9	7.3	6.1	5.6	5.2	4.5	3.9	3.4	3.0	2.6	2.2	1.9	1.6	1.4	1.3	1.1	1.0	Recommendation
	108.2	79.4	60.8	48.0	38.9	32.1	26.9	24.8	22.9	19.7	17.2	15.1	13.3	11.9	10.7	9.6	8.7	7.9	7.2	6.6	6.1	Break
	40.8	29.9	22.8	18.0	14.5	12.0	10.0	9.2	8.5	7.3	6.4	5.6	4.9	4.3	3.9	3.5	3.1	2.8	2.6	2.4	2.2	L/150
	40.8	29.9	22.8	18.0	14.5	12.0	10.0	9.2	8.5	7.3	6.4	5.6	4.9	4.3	3.9	3.5	3.1	2.8	2.6	2.4	2.2	L/200
38	40.8	29.9	22.8	18.0	14.5	12.0	10.0	9.2	8.5	7.3	6.4	5.6	4.9	4.3	3.9	3.5	3.1	2.8	2.6	2.4	2.2	L/300
	40.8	29.9	22.8	18.0	14.5	12.0	10.0	9.2	8.5	7.3	6.4	5.6	4.9	4.3	3.9	3.5	3.1	2.8	2.6	2.4	2.2	Recommendation
	177.3	130.2	99.6	78.7	63.7	52.6	44.2	40.7	37.6	32.4	28.2	24.7	21.9	19.5	17.5	15.8	14.3	13.0	11.9	10.9	10.0	Break

For information on further thicknesses please visit our website at www.pfleiderer.com

P6 panels
Supporting member spacing (distance) [cm]

Maximum permissible surface load on P6 panels of different thicknesses, spans and deflection criteria [kN/m²] – use class 1

Static system: Single span girders with surface load. Calculated values according to DIN EN 12369-1:2001-04

Panel thickness [mm]	30	35	40	45	50	55	60	62.5	65	70	75	80	85	90	95	100	105	110	115	120	125	Deflection criteria
	18.9	13.8	10.6	7.8	5.6	4.2	3.2	2.8	2.5	2.0	1.6	1.3	1.1	0.9	0.7	0.6	0.5	0.4	0.4	0.3	0.3	L/150
	18.9	12.4	8.3	5.8	4.2	3.1	2.4	2.1	1.9	1.5	1.2	1.0	0.8	0.6	0.5	0.4	0.4	0.3	0.3	0.2	0.2	L/200
16	13.2	8.3	5.5	3.8	2.8	2.1	1.6	1.4	1.2	0.9	0.8	0.6	0.5	0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.1	L/300
	11.8	7.4	4.9	3.4	2.4	1.8	1.4	1.2	1.0	0.8	0.6	0.5	0.4	0.3	0.2	0.2	0.1	0.1	0.0	0.0	0.0	Recommendation
	56.8	41.7	31.9	25.2	20.4	16.8	14.1	13.0	12.0	10.4	9.0	7.9	7.0	6.2	5.6	5.0	4.5	4.1	3.8	3.5	3.2	Break
	26.6	19.5	14.9	11.8	9.5	7.1	5.4	4.8	4.3	3.4	2.7	2.2	1.8	1.5	1.3	1.1	0.9	0.8	0.7	0.6	0.5	L/150
	26.6	19.5	13.9	9.8	7.1	5.3	4.1	3.6	3.2	2.5	2.0	1.6	1.4	1.1	0.9	0.8	0.7	0.6	0.5	0.4	0.3	L/200
19	22.1	13.9	9.3	6.5	4.7	3.5	2.7	2.3	2.1	1.6	1.3	1.1	0.9	0.7	0.6	0.5	0.4	0.3	0.3	0.2	0.2	L/300
	19.7	12.4	8.2	5.7	4.1	3.1	2.3	2.0	1.8	1.4	1.1	0.9	0.7	0.6	0.5	0.4	0.3	0.3	0.2	0.2	0.1	Recommendation
	80.1	58.8	45.0	35.5	28.8	23.8	19.9	18.4	17.0	14.6	12.7	11.2	9.9	8.8	7.9	7.1	6.4	5.9	5.3	4.9	4.5	Break
	31.7	23.2	17.8	14.0	11.3	9.3	7.2	6.4	5.7	4.5	3.6	3.0	2.5	2.0	1.7	1.5	1.2	1.1	0.9	0.8	0.7	L/150
	31.7	23.2	17.8	13.0	9.4	7.0	5.4	4.8	4.2	3.3	2.7	2.2	1.8	1.5	1.3	1.1	0.9	0.8	0.7	0.6	0.5	L/200
22	29.3	18.4	12.3	8.6	6.2	4.6	3.5	3.1	2.8	2.2	1.8	1.4	1.2	1.0	0.8	0.7	0.6	0.5	0.4	0.3	0.3	L/300
	26.2	16.4	10.9	7.6	5.5	4.1	3.1	2.7	2.4	1.9	1.5	1.2	1.0	0.8	0.7	0.5	0.4	0.4	0.3	0.2	0.2	Recommendation
	95.2	69.9	53.5	42.3	34.2	28.2	23.7	21.8	20.2	17.4	15.1	13.3	11.7	10.5	9.4	8.5	7.7	7.0	6.4	5.8	5.4	Break
	40.9	30.0	23.0	18.1	14.6	12.1	10.1	9.3	8.3	6.7	5.4	4.4	3.6	3.1	2.6	2.2	1.9	1.6	1.4	1.2	1.0	L/150
	40.9	30.0	23.0	18.1	13.9	10.4	8.0	7.0	6.2	5.0	4.0	3.3	2.7	2.3	1.9	1.6	1.4	1.2	1.0	0.9	0.7	L/200
25	40.9	27.1	18.1	12.7	9.2	6.9	5.3	4.6	4.1	3.3	2.6	2.1	1.7	1.5	1.2	1.0	0.9	0.7	0.6	0.5	0.4	L/300
	38.5	24.2	16.1	11.3	8.2	6.1	4.6	4.1	3.6	2.8	2.3	1.8	1.5	1.2	1.0	0.8	0.7	0.6	0.5	0.4	0.3	Recommendation
	123.0	90.3	69.1	54.6	44.2	36.5	30.6	28.2	26.1	22.5	19.6	17.2	15.2	13.5	12.1	10.9	9.9	9.0	8.2	7.5	6.9	Break
	83.2	61.1	46.7	36.9	29.8	24.6	20.7	19.0	17.6	15.1	13.1	11.5	10.2	9.1	8.1	7.0	6.0	5.2	4.5	4.0	3.5	L/150
	83.2	61.1	46.7	36.9	29.8	24.6	20.7	19.0	17.6	15.1	12.7	10.4	8.6	7.2	6.1	5.2	4.5	3.9	3.4	2.9	2.6	L/200
38	83.2	61.1	46.7	36.9	28.8	21.6	16.6	14.6	13.0	10.4	8.4	6.9	5.7	4.7	4.0	3.4	2.9	2.5	2.2	1.9	1.6	L/300
	83.2	61.1	46.7	35.4	25.7	19.2	14.7	13.0	11.5	9.2	7.4	6.0	5.0	4.2	3.5	2.9	2.5	2.1	1.8	1.6	1.4	Recommendation
	250.1	183.7	140.6	111.0	89.9	74.2	62.3	57.4	53.1	45.7	39.8	35.0	31.0	27.6	24.7	22.3	20.2	18.4	16.8	15.4	14.2	Break

Static system: Double span girders with surface load, with equal weight on both ends.
Calculated values according to DIN EN 12369-1:2001-04

Panel thickness [mm]	30	35	40	45	50	55	60	62.5	65	70	75	80	85	90	95	100	105	110	115	120	125	Deflection criteria
	18.9	13.8	10.6	8.3	6.7	5.6	4.7	4.3	4.0	3.4	2.9	2.6	2.3	2.0	1.8	1.6	1.4	1.2	1.0	0.9	0.8	L/150
	18.9	13.8	10.6	8.3	6.7	5.6	4.7	4.3	4.0	3.4	2.9	2.4	2.0	1.7	1.4	1.2	1.0	0.9	0.8	0.7	0.6	L/200
16	18.9	13.8	10.6	8.3	6.7	5.1	3.9	3.4	3.0	2.4	2.0	1.6	1.3	1.1	0.9	0.8	0.7	0.6	0.5	0.4	0.3	L/300
	18.9	13.8	10.6	8.3	6.2	4.6	3.6	3.2	2.8	2.3	1.8	1.5	1.3	1.1	0.9	0.8	0.7	0.6	0.5	0.4	0.4	Recommendation
	56.8	41.7	31.9	25.2	20.4	16.8	14.1	13.0	12.0	10.4	9.0	7.9	7.0	6.2	5.6	5.0	4.5	4.1	3.8	3.5	3.2	Break
	26.6	19.5	14.9	11.8	9.5	7.9	6.6	6.1	5.6	4.8	4.2	3.7	3.2	2.9	2.6	2.3	2.1	1.9	1.7	1.6	1.4	L/150
	26.6	19.5	14.9	11.8	9.5	7.9	6.6	6.1	5.6	4.8	4.2	3.7	3.2	2.9	2.4	2.1	1.8	1.5	1.3	1.1	1.0	L/200
19	26.6	19.5	14.9	11.8	9.5	7.9	6.6	5.8	5.2	4.1	3.3	2.7	2.2	1.9	1.6	1.3	1.1	1.0	0.8	0.7	0.6	L/300
	26.6	19.5	14.9	11.8	9.5	7.8	6.0	5.3	4.7	3.8	3.1	2.5	2.1	1.8	1.5	1.3	1.1	1.0	0.9	0.7	0.7	Recommendation
	80.1	58.8	45.0	35.5	28.8	23.8	19.9	18.4	17.0	14.6	12.7	11.2	9.9	8.8	7.9	7.1	6.4	5.9	5.3	4.9	4.5	Break
	31.7	23.2	17.8	14.0	11.3	9.3	7.8	7.2	6.7	5.7	5.0	4.4	3.8	3.4	3.1	2.7	2.5	2.2	2.0	1.9	1.7	L/150
	31.7	23.2	17.8	14.0	11.3	9.3	7.8	7.2	6.7	5.7	5.0	4.4	3.8	3.4	3.1	2.7	2.4	2.0	1.8	1.5	1.3	L/200
22	31.7	23.2	17.8	14.0	11.3	9.3	7.8	7.2	6.7	5.5	4.4	3.6	3.0	2.5	2.1	1.8	1.5	1.3	1.1	1.0	0.8	L/300
	31.7	23.2	17.8	14.0	11.3	9.3	7.8	7.0	6.3	5.0	4.1	3.4	2.8	2.4	2.0	1.7	1.5	1.3	1.1	1.0	0.9	Recommendation
	95.2	69.9	53.5	42.3	34.2	28.2	23.7	21.8	20.2	17.4	15.1	13.3	11.7	10.5	9.4	8.5	7.7	7.0	6.4	5.8	5.4	Break
	40.9	30.0	23.0	18.1	14.6	12.1	10.1	9.3	8.6	7.4	6.4	5.6	5.0	4.4	4.0	3.6	3.2	2.9	2.7	2.4	2.2	L/150
	40.9	30.0	23.0	18.1	14.6	12.1	10.1	9.3	8.6	7.4	6.4	5.6	5.0	4.4	4.0	3.6	3.2	2.9	2.6	2.3	2.0	L/200
25	40.9	30.0	23.0	18.1	14.6	12.1	10.1	9.3	8.6	7.4	6.4	5.3	4.4	3.7	3.1	2.7	2.3	2.0	1.7	1.5	1.3	L/300
	40.9	30.0	23.0	18.1	14.6	12.1	10.1	9.3	8.6	7.3	6.0	4.9	4.1	3.5	2.9	2.5	2.2	1.9	1.7	1.5	1.3	Recommendation
	123.0	90.3	69.1	54.6	44.2	36.5	30.6	28.2	26.1	22.5	19.6	17.2	15.2	13.5	12.1	10.9	9.9	9.0	8.2	7.5	6.9	Break
	83.2	61.1	46.7	36.9	29.8	24.6	20.7	19.0	17.6	15.1	13.1	11.5	10.2	9.1	8.1	7.3	6.6	6.0	5.5	5.0	4.6	L/150
	83.2	61.1	46.7	36.9	29.8	24.6	20.7	19.0	17.6	15.1	13.1	11.5	10.2	9.1	8.1	7.3	6.6	6.0	5.5	5.0	4.6	L/200
38	83.2	61.1	46.7	36.9	29.8	24.6	20.7	19.0	17.6	15.1	13.1	11.5	10.2	9.1	8.1	7.3	6.6	6.0	5.5	4.8	4.3	L/300
	83.2	61.1	46.7	36.9	29.8	24.6	20.7	19.0	17.6	15.1	13.1	11.5	10.2	9.1	8.1	7.3	6.6	5.9	5.2	4.5	4.0	Recommendation
	250.1	183.7	140.6	111.0	89.9	74.2	62.3	57.4	53.1	45.7	39.8	35.0	31.0	27.6	24.7	22.3	20.2	18.4	16.8	15.4	14.2	Break

For information on further thicknesses please visit our website at www.pfleiderer.com

P7 panels
Supporting member spacing (distance) [cm]

Maximum permissible surface load on P7 panels of different thicknesses, spans and deflection criteria [kN/m²] – use class 1

Static system: Single span girders with surface load. Calculated values according to DIN EN 12369-1:2001-04

Panel thickness [mm]	30	35	40	45	50	55	60	62.5	65	70	75	80	85	90	95	100	105	110	115	120	125	130	Deflection criteria
	18.5	13.6	9.4	6.5	4.7	3.5	2.7	2.4	2.1	1.7	1.3	1.1	0.9	0.7	0.6	0.5	0.4	0.4	0.3	0.3	0.2	0.2	L/150
	16.7	10.5	7.0	4.9	3.5	2.6	2.0	1.8	1.6	1.2	1.0	0.8	0.6	0.5	0.4	0.4	0.3	0.3	0.2	0.2	0.1	0.1	L/200
15	11.1	7.0	4.6	3.2	2.3	1.7	1.3	1.1	1.0	0.8	0.6	0.5	0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.0	L/300
	9.9	6.2	4.1	2.9	2.0	1.5	1.1	1.0	0.9	0.7	0.5	0.4	0.3	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	Recommendation
	55.6	40.8	31.2	24.7	20.0	16.5	13.8	12.7	11.8	10.1	8.8	7.7	6.8	6.1	5.5	4.9	4.5	4.1	3.7	3.4	3.1	2.9	Break
	26.6	19.5	14.9	11.4	8.3	6.2	4.7	4.2	3.7	2.9	2.4	1.9	1.6	1.3	1.1	0.9	0.8	0.7	0.6	0.5	0.4	0.4	L/150
	26.6	18.2	12.1	8.5	6.2	4.6	3.5	3.1	2.7	2.2	1.7	1.4	1.2	1.0	0.8	0.7	0.6	0.5	0.4	0.3	0.3	0.2	L/200
18	19.2	12.1	8.1	5.6	4.1	3.0	2.3	2.0	1.8	1.4	1.1	0.9	0.7	0.6	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.1	L/300
	17.2	10.8	7.2	5.0	3.6	2.7	2.0	1.8	1.6	1.2	1.0	0.8	0.6	0.5	0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.0	Recommendation
	80.1	58.8	45.0	35.5	28.7	23.7	19.9	18.4	17.0	14.6	12.7	11.2	9.9	8.8	7.9	7.1	6.4	5.9	5.3	4.9	4.5	4.2	Break
	36.7	26.9	20.6	16.2	13.1	10.8	8.3	7.3	6.5	5.2	4.2	3.4	2.8	2.4	2.0	1.7	1.4	1.2	1.1	0.9	0.8	0.7	L/150
	36.7	26.9	20.6	14.8	10.8	8.1	6.2	5.5	4.8	3.8	3.1	2.5	2.1	1.7	1.5	1.2	1.0	0.9	0.8	0.7	0.6	0.5	L/200
22	33.5	21.1	14.1	9.8	7.1	5.3	4.1	3.6	3.2	2.5	2.0	1.6	1.3	1.1	0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.3	L/300
	30.0	18.8	12.5	8.8	6.3	4.7	3.6	3.2	2.8	2.2	1.8	1.4	1.1	0.9	0.8	0.6	0.5	0.4	0.4	0.3	0.2	0.2	Recommendation
	110.3	81.0	62.0	48.9	39.6	32.7	27.5	25.3	23.4	20.1	17.5	15.4	13.6	12.1	10.9	9.8	8.9	8.1	7.4	6.8	6.2	5.7	Break
	47.4	34.8	26.6	21.0	17.0	14.0	11.7	10.8	9.6	7.6	6.2	5.1	4.2	3.5	3.0	2.5	2.2	1.9	1.6	1.4	1.2	1.1	L/150
	47.4	34.8	26.6	21.0	15.9	11.9	9.1	8.0	7.1	5.7	4.6	3.8	3.1	2.6	2.2	1.9	1.6	1.4	1.2	1.0	0.9	0.8	L/200
25	47.4	30.9	20.7	14.5	10.5	7.9	6.0	5.3	4.7	3.7	3.0	2.5	2.0	1.7	1.4	1.2	1.0	0.9	0.7	0.6	0.5	0.5	L/300
	44.0	27.6	18.5	12.9	9.4	7.0	5.3	4.7	4.1	3.3	2.6	2.1	1.7	1.4	1.2	1.0	0.8	0.7	0.6	0.5	0.4	0.3	Recommendation
	142.4	104.6	80.1	63.2	51.2	42.3	35.5	32.7	30.2	26.0	22.7	19.9	17.6	15.7	14.1	12.7	11.5	10.5	9.6	8.8	8.1	7.4	Break
	94.6	69.5	53.1	41.9	33.9	28.0	23.5	21.6	20.0	17.2	15.0	13.1	11.6	10.3	9.3	8.0	6.9	5.9	5.2	4.5	4.0	3.5	L/150
	94.6	69.5	53.1	41.9	33.9	28.0	23.5	21.6	20.0	17.2	14.3	11.8	9.8	8.2	6.9	5.9	5.1	4.4	3.8	3.3	2.9	2.6	L/200
38	94.6	69.5	53.1	41.9	32.5	24.4	18.7	16.6	14.7	11.7	9.5	7.8	6.4	5.4	4.6	3.9	3.3	2.9	2.5	2.1	1.9	1.6	L/300
	94.6	69.5	53.1	40.0	29.0	21.7	16.7	14.7	13.1	10.4	8.4	6.9	5.7	4.7	4.0	3.4	2.9	2.5	2.1	1.8	1.6	1.4	Recommendation
	284.3	208.8	159.8	126.2	102.2	84.4	70.9	65.3	60.4	52.0	45.3	39.8	35.2	31.4	28.1	25.4	23.0	20.9	19.1	17.6	16.2	14.9	Break

Static system: Double span girders with surface load, with equal weight on both ends.
Calculated values according to DIN EN 12369-1:2001-04

Panel thickness [mm]	30	35	40	45	50	55	60	62.5	65	70	75	80	85	90	95	100	105	110	115	120	125	130	Deflection criteria
	18.5	13.6	10.4	8.2	6.6	5.4	4.6	4.2	3.9	3.3	2.9	2.5	2.2	1.9	1.6	1.4	1.2	1.0	0.9	0.8	0.7	0.6	L/150
	18.5	13.6	10.4	8.2	6.6	5.4	4.6	4.2	3.9	3.1	2.5	2.0	1.7	1.4	1.2	1.0	0.9	0.7	0.6	0.5	0.5	0.4	L/200
15	18.5	13.6	10.4	7.9	5.7	4.3	3.3	2.9	2.6	2.0	1.6	1.3	1.1	0.9	0.8	0.6	0.5	0.5	0.4	0.3	0.3	0.2	L/300
	18.5	13.6	10.2	7.2	5.2	3.9	3.0	2.7	2.4	1.9	1.5	1.3	1.1	0.9	0.8	0.7	0.6	0.5	0.4	0.4	0.3	0.3	Recommendation
	55.6	40.8	31.2	24.7	20.0	16.5	13.8	12.7	11.8	10.1	8.8	7.7	6.8	6.1	5.5	4.9	4.5	4.1	3.7	3.4	3.1	2.9	Break
	26.6	19.5	14.9	11.8	9.5	7.9	6.6	6.1	5.6	4.8	4.2	3.7	3.2	2.9	2.6	2.3	2.1	1.8	1.5	1.4	1.2	1.0	L/150
	26.6	19.5	14.9	11.8	9.5	7.9	6.6	6.1	5.6	4.8	4.2	3.6	3.0	2.5	2.1	1.8	1.5	1.3	1.1	1.0	0.9	0.8	L/200
18	26.6	19.5	14.9	11.8	9.5	7.5	5.7	5.1	4.5	3.6	2.9	2.4	1.9	1.6	1.4	1.2	1.0	0.8	0.7	0.6	0.5	0.5	L/300
	26.6	19.5	14.9	11.8	9.0	6.8	5.2	4.6	4.1	3.3	2.7	2.2	1.8	1.5	1.3	1.1	1.0	0.8	0.7	0.7	0.6	0.5	Recommendation
	80.1	58.8	45.0	35.5	28.7	23.7	19.9	18.4	17.0	14.6	12.7	11.2	9.9	8.8	7.9	7.1	6.4	5.9	5.3	4.9	4.5	4.2	Break
	36.7	26.9	20.6	16.2	13.1	10.8	9.1	8.4	7.7	6.6	5.8	5.1	4.5	4.0	3.6	3.2	2.9	2.6	2.4	2.2	2.0	1.8	L/150
	36.7	26.9	20.6	16.2	13.1	10.8	9.1	8.4	7.7	6.6	5.8	5.1	4.5	4.0	3.6	3.2	2.7	2.3	2.0	1.8	1.6	1.4	L/200
22	36.7	26.9	20.6	16.2	13.1	10.8	9.1	8.4	7.7	6.3	5.1	4.1	3.4	2.9	2.4	2.1	1.8	1.5	1.3	1.1	1.0	0.9	L/300
	36.7	26.9	20.6	16.2	13.1	10.8	9.1	8.0	7.1	5.7	4.7	3.8	3.2	2.7	2.3	2.0	1.7	1.5	1.3	1.1	1.0	0.9	Recommendation
	110.3	81.0	62.0	48.9	39.6	32.7	27.5	25.3	23.4	20.1	17.5	15.4	13.6	12.1	10.9	9.8	8.9	8.1	7.4	6.8	6.2	5.7	Break
	47.4	34.8	26.6	21.0	17.0	14.0	11.7	10.8	10.0	8.6	7.5	6.5	5.8	5.1	4.6	4.1	3.7	3.4	3.1	2.8	2.6	2.4	L/150
	47.4	34.8	26.6	21.0	17.0	14.0	11.7	10.8	10.0	8.6	7.5	6.5	5.8	5.1	4.6	4.1	3.7	3.4	3.0	2.6	2.3	2.0	L/200
25	47.4	34.8	26.6	21.0	17.0	14.0	11.7	10.8	10.0	8.6	7.5	6.1	5.1	4.3	3.6	3.1	2.6	2.3	2.0	1.7	1.5	1.3	L/300
	47.4	34.8	26.6	21.0	17.0	14.0	11.7	10.8	10.0	8.4	6.8	5.6	4.7	3.9	3.4	2.9	2.5	2.2	1.9	1.7	1.5	1.3	Recommendation
	142.4	104.6	80.1	63.2	51.2	42.3	35.5	32.7	30.2	26.0	22.7	19.9	17.6	15.7	14.1	12.7	11.5	10.5	9.6	8.8	8.1	7.4	Break
	94.6	69.5	53.1	41.9	33.9	28.0	23.5	21.6	20.0	17.2	15.0	13.1	11.6	10.3	9.3	8.3	7.5	6.8	6.2	5.7	5.3	4.8	L/150
	94.6	69.5	53.1	41.9	33.9	28.0	23.5	21.6	20.0	17.2	15.0	13.1	11.6	10.3	9.3	8.3	7.5	6.8	6.2	5.7	5.3	4.8	L/200
38	94.6	69.5	53.1	41.9	33.9	28.0	23.5	21.6	20.0	17.2	15.0	13.1	11.6	10.3	9.3	8.3	7.5	6.8	6.2	5.5	4.8	4.3	L/300
	94.6	69.5	53.1	41.9	33.9	28.0	23.5	21.6	20.0	17.2	15.0	13.1	11.6	10.3	9.3	8.3	7.5	6.6	5.8	5.1	4.5	4.0	Recommendation
	284.3	208.8	159.8	126.2	102.2	84.4	70.9	65.3	60.4	52.0	45.3	39.8	35.2	31.4	28.1	25.4	23.0	20.9	19.1	17.6	16.2	14.9	Break

For information on further thicknesses please visit our website at www.pfleiderer.com

P7 panels
Supporting member spacing (distance) [cm]

Maximum permissible surface load on P7 panels of different thicknesses, spans and deflection criteria [kN/m²] – use class 2

Static system: Single span girders with surface load. Calculated values according to DIN EN 12369-1:2001-04

Panel thickness [mm]	30	35	40	45	50	55	60	62.5	65	70	75	80	85	90	95	100	105	110	115	120	125	130	Deflection criteria
	12.8	9.4	7.1	5.6	4.5	3.5	2.7	2.4	2.1	1.7	1.3	1.1	0.9	0.7	0.6	0.5	0.4	0.4	0.3	0.3	0.2	0.2	L/150
	12.8	9.4	7.0	4.9	3.5	2.6	2.0	1.8	1.6	1.2	1.0	0.8	0.6	0.5	0.4	0.4	0.3	0.3	0.2	0.2	0.1	0.1	L/200
15	11.1	7.0	4.6	3.2	2.3	1.7	1.3	1.1	1.0	0.8	0.6	0.5	0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.0	L/300
	8.7	5.4	3.6	2.5	1.8	1.3	1.0	0.8	0.7	0.6	0.4	0.3	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	Recommendation
	55.6	40.8	31.2	24.7	20.0	16.5	13.8	12.7	11.8	10.1	8.8	7.7	6.8	6.1	5.5	4.9	4.5	4.1	3.7	3.4	3.1	2.9	Break
	18.4	13.5	10.3	8.1	6.6	5.4	4.5	4.2	3.7	2.9	2.4	1.9	1.6	1.3	1.1	0.9	0.8	0.7	0.6	0.5	0.4	0.4	L/150
	18.4	13.5	10.3	8.1	6.2	4.6	3.5	3.1	2.7	2.2	1.7	1.4	1.2	1.0	0.8	0.7	0.6	0.5	0.4	0.3	0.3	0.2	L/200
18	18.4	12.1	8.1	5.6	4.1	3.0	2.3	2.0	1.8	1.4	1.1	0.9	0.7	0.6	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.1	L/300
	15.1	9.5	6.3	4.4	3.1	2.3	1.7	1.5	1.3	1.0	0.8	0.6	0.5	0.4	0.3	0.2	0.2	0.1	0.1	0.0	0.0	0.0	Recommendation
	80.1	58.8	45.0	35.5	28.7	23.7	19.9	18.4	17.0	14.6	12.7	11.2	9.9	8.8	7.9	7.1	6.4	5.9	5.3	4.9	4.5	4.2	Break
	25.4	18.6	14.2	11.2	9.1	7.5	6.3	5.8	5.3	4.6	4.0	3.4	2.8	2.4	2.0	1.7	1.4	1.2	1.1	0.9	0.8	0.7	L/150
	25.4	18.6	14.2	11.2	9.1	7.5	6.2	5.5	4.8	3.8	3.1	2.5	2.1	1.7	1.5	1.2	1.0	0.9	0.8	0.7	0.6	0.5	L/200
22	25.4	18.6	14.1	9.8	7.1	5.3	4.1	3.6	3.2	2.5	2.0	1.6	1.3	1.1	0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.3	L/300
	25.4	16.5	11.0	7.7	5.5	4.1	3.1	2.7	2.4	1.9	1.5	1.2	1.0	0.8	0.6	0.5	0.4	0.3	0.3	0.2	0.1	0.1	Recommendation
	110.3	81.0	62.0	48.9	39.6	32.7	27.5	25.3	23.4	20.1	17.5	15.4	13.6	12.1	10.9	9.8	8.9	8.1	7.4	6.8	6.2	5.7	Break
	32.8	24.0	18.4	14.5	11.7	9.7	8.1	7.4	6.9	5.9	5.1	4.5	4.0	3.5	3.0	2.5	2.2	1.9	1.6	1.4	1.2	1.1	L/150
	32.8	24.0	18.4	14.5	11.7	9.7	8.1	7.4	6.9	5.7	4.6	3.8	3.1	2.6	2.2	1.9	1.6	1.4	1.2	1.0	0.9	0.8	L/200
25	32.8	24.0	18.4	14.5	10.5	7.9	6.0	5.3	4.7	3.7	3.0	2.5	2.0	1.7	1.4	1.2	1.0	0.9	0.7	0.6	0.5	0.5	L/300
	32.8	24.0	16.2	11.3	8.2	6.1	4.6	4.1	3.6	2.8	2.3	1.8	1.5	1.2	1.0	0.8	0.7	0.6	0.5	0.4	0.3	0.2	Recommendation
	142.4	104.6	80.1	63.2	51.2	42.3	35.5	32.7	30.2	26.0	22.7	19.9	17.6	15.7	14.1	12.7	11.5	10.5	9.6	8.8	8.1	7.4	Break
	65.5	48.0	36.7	29.0	23.4	19.3	16.2	14.9	13.8	11.9	10.3	9.0	8.0	7.1	6.3	5.7	5.2	4.7	4.3	3.9	3.6	3.3	L/150
	65.5	48.0	36.7	29.0	23.4	19.3	16.2	14.9	13.8	11.9	10.3	9.0	8.0	7.1	6.3	5.7	5.1	4.4	3.8	3.3	2.9	2.6	L/200
38	65.5	48.0	36.7	29.0	23.4	19.3	16.2	14.9	13.8	11.7	9.5	7.8	6.4	5.4	4.6	3.9	3.3	2.9	2.5	2.1	1.9	1.6	L/300
	65.5	48.0	36.7	29.0	23.4	19.1	14.6	12.9	11.4	9.1	7.3	6.0	4.9	4.1	3.4	2.9	2.4	2.1	1.8	1.5	1.3	1.1	Recommendation
	284.3	208.8	159.8	126.2	102.2	84.4	70.9	65.3	60.4	52.0	45.3	39.8	35.2	31.4	28.1	25.4	23.0	20.9	19.1	17.6	16.2	14.9	Break

Static system: Double span girders with surface load, with equal weight on both ends.
Calculated values according to DIN EN 12369-1:2001-04

Panel thickness [mm]	30	35	40	45	50	55	60	62.5	65	70	75	80	85	90	95	100	105	110	115	120	125	130	Deflection criteria
	12.8	9.4	7.1	5.6	4.5	3.7	3.1	2.9	2.7	2.3	2.0	1.7	1.5	1.3	1.2	1.1	1.0	0.9	0.8	0.7	0.7	0.6	L/150
	12.8	9.4	7.1	5.6	4.5	3.7	3.1	2.9	2.7	2.3	2.0	1.7	1.5	1.3	1.2	1.0	0.9	0.7	0.6	0.5	0.5	0.4	L/200
15	12.8	9.4	7.1	5.6	4.5	3.7	3.1	2.9	2.6	2.0	1.6	1.3	1.1	0.9	0.8	0.6	0.5	0.5	0.4	0.3	0.3	0.2	L/300
	12.8	9.4	7.1	5.6	4.5	3.5	2.7	2.4	2.1	1.7	1.4	1.1	0.9	0.8	0.7	0.6	0.5	0.4	0.4	0.3	0.3	0.3	Recommendation
	55.6	40.8	31.2	24.7	20.0	16.5	13.8	12.7	11.8	10.1	8.8	7.7	6.8	6.1	5.5	4.9	4.5	4.1	3.7	3.4	3.1	2.9	Break
	18.4	13.5	10.3	8.1	6.6	5.4	4.5	4.2	3.8	3.3	2.9	2.5	2.2	2.0	1.7	1.6	1.4	1.3	1.2	1.1	1.0	0.9	L/150
	18.4	13.5	10.3	8.1	6.6	5.4	4.5	4.2	3.8	3.3	2.9	2.5	2.2	2.0	1.7	1.6	1.4	1.3	1.1	1.0	0.9	0.8	L/200
18	18.4	13.5	10.3	8.1	6.6	5.4	4.5	4.2	3.8	3.3	2.9	2.4	1.9	1.6	1.4	1.2	1.0	0.8	0.7	0.6	0.5	0.5	L/300
	18.4	13.5	10.3	8.1	6.6	5.4	4.5	4.1	3.6	2.9	2.4	1.9	1.6	1.4	1.2	1.0	0.9	0.7	0.7	0.6	0.5	0.5	Recommendation
	80.1	58.8	45.0	35.5	28.7	23.7	19.9	18.4	17.0	14.6	12.7	11.2	9.9	8.8	7.9	7.1	6.4	5.9	5.3	4.9	4.5	4.2	Break
	25.4	18.6	14.2	11.2	9.1	7.5	6.3	5.8	5.3	4.6	4.0	3.5	3.1	2.7	2.4	2.2	2.0	1.8	1.6	1.5	1.3	1.2	L/150
	25.4	18.6	14.2	11.2	9.1	7.5	6.3	5.8	5.3	4.6	4.0	3.5	3.1	2.7	2.4	2.2	2.0	1.8	1.6	1.5	1.3	1.2	L/200
22	25.4	18.6	14.2	11.2	9.1	7.5	6.3	5.8	5.3	4.6	4.0	3.5	3.1	2.7	2.4	2.1	1.8	1.5	1.3	1.1	1.0	0.9	L/300
	25.4	18.6	14.2	11.2	9.1	7.5	6.3	5.8	5.3	4.6	4.0	3.4	2.8	2.4	2.0	1.7	1.5	1.3	1.1	1.0	0.9	0.8	Recommendation
	110.3	81.0	62.0	48.9	39.6	32.7	27.5	25.3	23.4	20.1	17.5	15.4	13.6	12.1	10.9	9.8	8.9	8.1	7.4	6.8	6.2	5.7	Break
	32.8	24.0	18.4	14.5	11.7	9.7	8.1	7.4	6.9	5.9	5.1	4.5	4.0	3.5	3.1	2.8	2.6	2.3	2.1	1.9	1.8	1.6	L/150
	32.8	24.0	18.4	14.5	11.7	9.7	8.1	7.4	6.9	5.9	5.1	4.5	4.0	3.5	3.1	2.8	2.6	2.3	2.1	1.9	1.8	1.6	L/200
25	32.8	24.0	18.4	14.5	11.7	9.7	8.1	7.4	6.9	5.9	5.1	4.5	4.0	3.5	3.1	2.8	2.6	2.3	2.0	1.7	1.5	1.3	L/300
	32.8	24.0	18.4	14.5	11.7	9.7	8.1	7.4	6.9	5.9	5.1	4.5	4.0	3.5	3.0	2.5	2.2	1.9	1.7	1.5	1.3	1.2	Recommendation
	142.4	104.6	80.1	63.2	51.2	42.3	35.5	32.7	30.2	26.0	22.7	19.9	17.6	15.7	14.1	12.7	11.5	10.5	9.6	8.8	8.1	7.4	Break
	65.5	48.0	36.7	29.0	23.4	19.3	16.2	14.9	13.8	11.9	10.3	9.0	8.0	7.1	6.3	5.7	5.2	4.7	4.3	3.9	3.6	3.3	L/150
	65.5	48.0	36.7	29.0	23.4	19.3	16.2	14.9	13.8	11.9	10.3	9.0	8.0	7.1	6.3	5.7	5.2	4.7	4.3	3.9	3.6	3.3	L/200
38	65.5	48.0	36.7	29.0	23.4	19.3	16.2	14.9	13.8	11.9	10.3	9.0	8.0	7.1	6.3	5.7	5.2	4.7	4.3	3.9	3.6	3.3	L/300
	65.5	48.0	36.7	29.0	23.4	19.3	16.2	14.9	13.8	11.9	10.3	9.0	8.0	7.1	6.3	5.7	5.2	4.7	4.3	3.9	3.6	3.3	Recommendation
	284.3	208.8	159.8	126.2	102.2	84.4	70.9	65.3	60.4	52.0	45.3	39.8	35.2	31.4	28.1	25.4	23.0	20.9	19.1	17.6	16.2	14.9	Break

For information on further thicknesses please visit our website at www.pfleiderer.com

Characteristic values for structural design

P4 panels

Nominal board thickness (mm)		**> 6 >= 13**	**> 13 >= 20**	**> 20 >= 25**	**> 25 >= 32**	**> 32 >= 40**
Strength values in N/mm²						
Board load						
Deflection	$f_{m,k}$	14.2	12.5	10.8	9.2	7.5
Pressure	$f_{c,90,k}$	10.0	10.0	10.0	8.0	6.0
Shear	$f_{v,k}$	1.8	1.6	1.4	1.2	1.1
Shear load						
Deflection	$f_{m,k}$	8.9	7.9	6.9	6.1	5.0
Pulling	$f_{t,k}$	8.9	7.9	6.9	6.1	5.0
Pressure	$f_{c,k}$	12.0	11.1	9.6	9.0	7.6
Shear	$f_{v,k}$	6.6	6.1	5.5	4.8	4.4
Rigidity values in N/mm²						
Board load						
Modulus of elasticity	E_{mean}[a]	3,200	2,900	2,700	2,400	2,100
Shear modulus	G_{mean}[a]	200	200	200	100	100
Shear load						
Modulus of elasticity	E_{mean}[a]	1,800	1,700	1,600	1,400	1,200
Shear modulus	G_{mean}[a]	860	830	770	680	600
Raw density value in kg/m³						
Raw density	ρ_k	650	600	550	550	500

[a] The following calculated values apply to the characteristic rigidities $E_{0.5}$ and $G_{0.5}$:

$E_{0.5} = 0.8 \times E_{mean}$

$G_{0.5} = 0.8 \times G_{mean}$

P5 panels

Nominal board thickness (mm)		**> 6 >= 13**	**> 13 >= 20**	**> 20 >= 25**	**> 25 >= 32**	**> 32 >= 40**
Strength values in N/mm²						
Board load						
Deflection	$f_{m,k}$	15.0	13.3	11.7	10.0	8.3
Pressure	$f_{c,90,k}$	10.0	10.0	10.0	8.0	6.0
Shear	$f_{v,k}$	1.9	1.7	1.5	1.3	1.2
Shear load						
Deflection	$f_{m,k}$	9.4	8.5	7.4	6.6	5.6
Pulling	$f_{t,k}$	9.4	8.5	7.4	6.6	5.6
Pressure	$f_{c,k}$	12.7	11.8	10.3	9.8	8.5
Shear	$f_{v,k}$	7.0	6.5	5.9	5.2	4.8
Rigidity values in N/mm²						
Board load						
Modulus of elasticity	E_{mean}[a]	3,500	3,300	3,000	2,600	2,400
Shear modulus	G_{mean}[a]	200	200	200	100	100
Shear load						
Modulus of elasticity	E_{mean}[a]	2,000	1,900	1,800	1,500	1,400
Shear modulus	G_{mean}[a]	960	930	860	750	690
Raw density value in kg/m³						
Raw density	ρ_k	650	600	550	550	500

[a] The following calculated values apply to the characteristic rigidities $E_{0.5}$ and $G_{0.5}$:

$E_{0.5} = 0.8 \times E_{mean}$

$G_{0.5} = 0.8 \times G_{mean}$

P6 panels

Nominal board thickness (mm)		**> 6 >= 13**	**> 13 >= 20**	**> 20 >= 25**	**> 25 >= 32**	**> 32 >= 40**
Strength values in N/mm²						
Board load						
Deflection	$f_{m,k}$	16.5	15.0	13.3	12.5	11.7
Pressure	$f_{c,90,k}$	10.0	10.0	10.0	8.0	6.0
Schub	$f_{v,k}$	1.9	1.7	1.7	1.7	1.7
Shear load						
Deflection	$f_{m,k}$	10.5	9.5	8.5	8.3	7.8
Pulling	$f_{t,k}$	10.5	9.5	8.5	8.3	7.8
Pressure	$f_{c,k}$	14.1	13.3	12.8	12.2	11.9
Shear	$f_{v,k}$	7.8	7.3	6.8	6.5	6.0
Rigidity values in N/mm²						
Board load						
Modulus of elasticity	E_{mean}[a]	4,400	4,100	3,500	3,300	3,100
Shear modulus	G_{mean}[a]	200	200	200	100	100
Shear load						
Modulus of elasticity	E_{mean}[a]	2,500	2,400	2,100	1,900	1,800
Shear modulus	G_{mean}[a]	1,200	1,150	1,050	950	900
Raw density value in kg/m³						
Raw density	ρ_k	650	600	550	550	500

[a] The following calculated values apply to the characteristic rigidities $E_{0.5}$ and $G_{0.5}$:

$E_{0.5} = 0.8 \times E_{mean}$

$G_{0.5} = 0.8 \times G_{mean}$

P7 panels

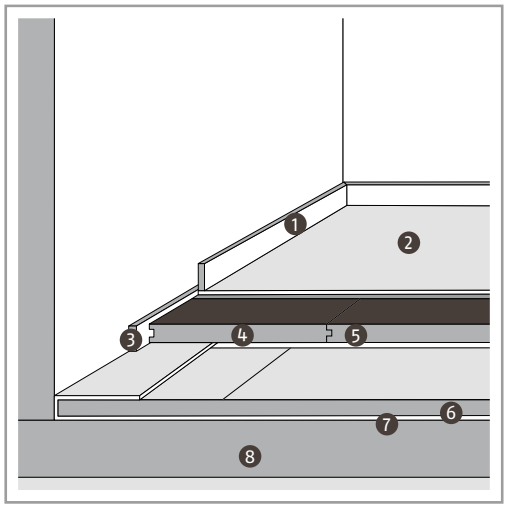
Nominal board thickness (mm)		**> 6 >= 13**	**> 13 >= 20**	**> 20 >= 25**	**> 25 >= 32**	**> 32 >= 40**
Strength values in N/mm²						
Board load						
Deflection	$f_{m,k}$	18.3	16.7	15.4	14.2	13.3
Pressure	$f_{c,90,k}$	10.0	10.0	10.0	8.0	6.0
Schub	$f_{v,k}$	2.4	2.2	2.0	1.9	1.9
Shear load						
Deflection	$f_{m,k}$	11.5	10.6	9.8	9.4	9.0
Pulling	$f_{t,k}$	11.5	10.6	9.8	9.4	9.0
Pressure	$f_{c,k}$	15.5	14.7	13.7	13.5	13.2
Shear	$f_{v,k}$	8.6	8.1	7.9	7.4	7.2
Rigidity values in N/mm²						
Board load						
Modulus of elasticity	E_{mean}[a]	4,600	4,200	4,000	3,900	3,500
Shear modulus	G_{mean}[a]	200	200	200	100	100
Shear load						
Modulus of elasticity	E_{mean}[a]	2,600	2,500	2,400	2,300	2,100
Shear modulus	G_{mean}[a]	1,250	1,200	1,150	1,100	1,050
Raw density valuein kg/m³						
Raw density	ρ_k	650	600	550	550	500

[a] The following calculated values apply to the characteristic rigidities $E_{0.5}$ and $G_{0.5}$:

$E_{0.5} = 0.8 \times E_{mean}$

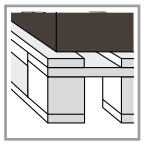
$G_{0.5} = 0.8 \times G_{mean}$

Installation of floating floors



The most common type of laying tongued and grooved panels is the installation of floating floors described below. For normal loads the panel thickness should be at least 22 mm.

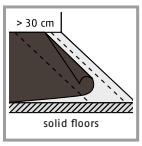
1. Skirting
2. Flooring, e.g. laminate flooring
3. Rolled edge strip > 10 mm
4. LivingBoard, PremiumBoard MFP or P2, P3 floor panels
5. Tongued and grooved panel
6. Impact sound insulation
7. Vapour barrier, e.g. 0.2 mm PE foil
8. Concrete ceiling



Before installation, the floor panel must be stored several days protected from water at the place of installation to allow it to adjust to ambient air conditions. The room temperature should be above 10 °C.

Preparations

1. The supporting substructure should be capable of bearing loads, even, dry and clean.

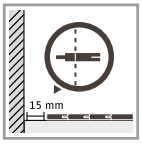


2. On solid floors in old and new buildings we recommend the use of vapour barriers made, for example, of 0.2 mm thick polyethylene sheeting. It should be laid with generous overlaps (at least 30 cm) or welded joints.

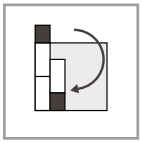
3. Depressions in the existing floors should be filled with loose, rot-proof bulk materials (e.g. natural expanded shale). Please do not use sand under any circumstances!

4. Better impact sound insulation is achieved with mineral insulating boards.

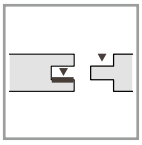
Installation



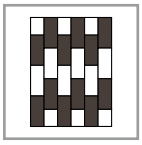
1. For the avoidance of creaking noises, an expansion gap of 15 mm should be left between the wall and the flooring board. The tongues should be removed for the first row. Intermediate expansion joints are required in the case of larger areas (more than 10 m in length).



2. The remainder of the last flooring board of the first row can be used as the starting element of the second row in order to avoid wastage.

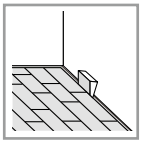


3. Apply white synthetic resin glue (PVAc) to the lower flank of the groove and the upper side of the tongue. Insert the flooring board with the tongue into the groove of the already installed area.

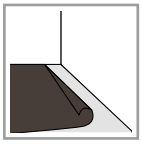


4. The boards should be installed in a bond with offset joints (offset by at least 15 cm) – i.e. without cross joints.

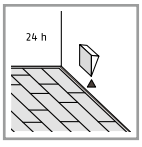
Finishing work



1. After installing all boards and before the glue has set, the boards should be wedged against the wall – for an optimum bond and to prevent creaking noises.

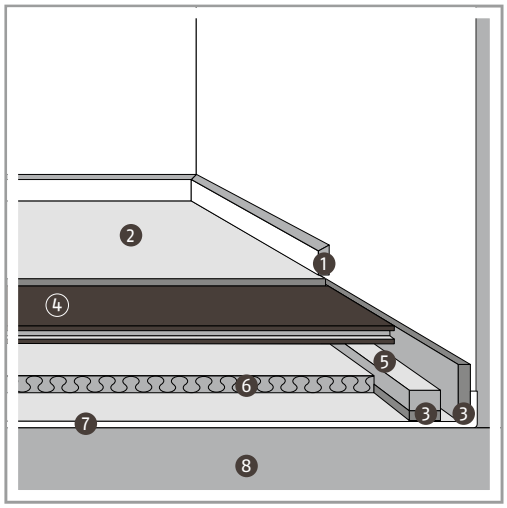


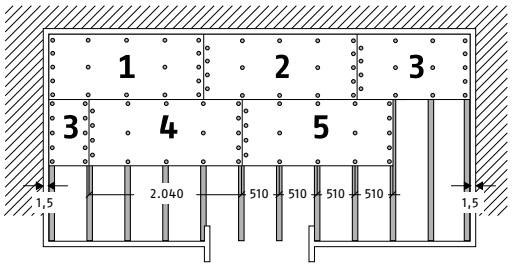
2. The installed boards must be provided with a covering or polyethylene sheeting without delay in order to avoid one-sided drying out.



3. The wedges can be removed following an appropriate glue drying period (about 24 hours).

Installation on flooring sleepers on top of solid floors

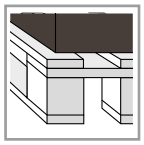




Flooring boards are frequently used in old buildings. However, since they often exhibit depressions several centimetres deep, they must first be levelled with bulk materials before the actual installation process. Installation on flooring sleepers is a more practical and cheaper alternative here. Boards of the type class P4 or higher must be used

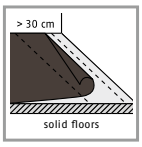
1. Skirting with sealing strips at wall and floor levels
2. Flooring, e.g. laminate flooring
3. Rolled edge strip > 10 mm
4. LivingBoard, PremiumBoard MFP
5. Sleeper
6. Insulation felt
7. Vapour barrier, e.g. 0.2 mm PE foil
8. Concrete ceiling

The tops of the flooring sleepers should be carefully levelled to the same height and then aligned horizontally. The flooring sleepers must not have any direct connection to the adjacent walls. In order to achieve high thermal and sound insulation, additional insulation felt could be installed between the flooring sleepers. The flooring boards are laid afterwards. A ventilation space of 10 to 20 mm should remain between the upper surface of the insulating material and the underside of the flooring board. Please install the boards with the long side at a right angle to the flooring sleepers with offset joints. It is best to align the joints of the short sides to the flooring sleepers. The boards are screwed to the flooring sleepers at distances of approx. 33 cm. The required edge distances must be observed. The minimum cross-section of the flooring sleepers is 58 mm x 38 mm. The flooring sleepers should be laid parallel to the walls.

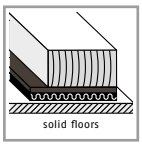


Before installation, the floor panel must be stored several days protected from water at the place of installation to allow it to adjust to ambient air conditions. The room temperature should be above 10 °C.

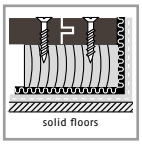
Installation



1. On solid floors in old and new buildings we recommend the use of vapour barriers made, for example, of 0.2 mm thick polyethylene sheeting. It should be laid with generous overlaps (at least 30 cm) or welded joints.

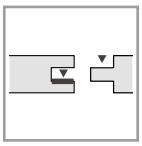


2. The height is adjusted by the use of different underlay material. Solid wood, hard fibre, plastic or raw chip board strips should be laid out for this. These are held together by wood glue when assembling.



3. When screwing, care must be taken that the screws do not reach the solid floor. All insulations at the wall should be extended up to the top surface of the covering (approx. 10 cm), and the sheeting should remain intact – also during subsequent work. The overlap of the sheeting should ideally be located under the flooring sleepers.

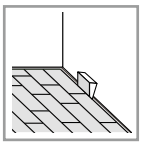
4. Better impact sound insulation is achieved by the use of mineral insulating materials. Glass wool insulating materials are recommended. In the case of higher requirements for impact sound, please use commercially available spring rail systems for sound insulation.



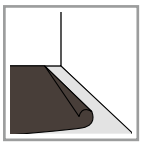
5. White synthetic resin glue (PVAc) should be applied to the lower flank of the groove and the upper side of the tongue. Gluing increases the overall rigidity of the board.

6. In accordance with the top covering the screws holes should be filled if necessary and possibly pre-drilled with a countersink bit. **Use screws with a full thread (not partial thread)!**

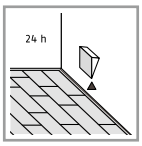
Finishing work



1. After installing all boards and before the glue has set, the boards should be wedged against the wall – for an optimum bond and to prevent creaking noises.

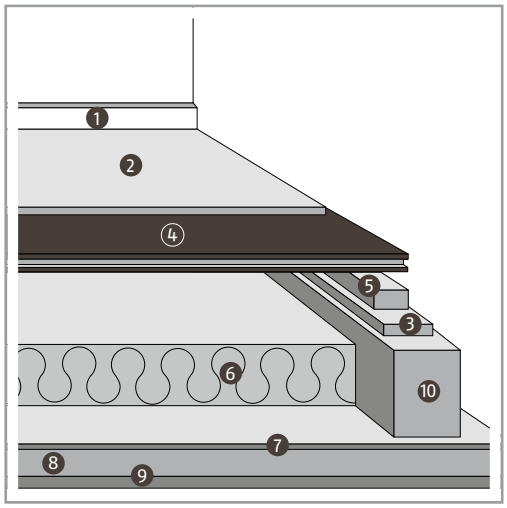


2. The installed boards must be provided with a covering or polyethylene sheeting without delay in order to avoid one-sided drying out.



3. The wedges can be removed following an appropriate glue drying period (about 24 hours).

Installation on flooring sleepers on top of timber beam floors

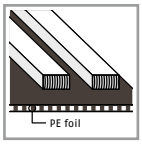


With renovations or even new buildings, building situations sometimes occur in which a board-type material of the type class P4 or higher must be installed on floor beams. We recommend the following procedure: A check should be carried out to ascertain whether thermal or moisture protection is necessary. Timber beam floors should not be covered on both sides with vapour-tight sheeting. The installation of insulating felt between the floor beams offers better thermal and sound insulation.

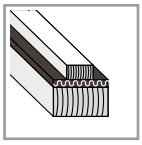
1. Skirting
2. Flooring, e.g. laminate flooring
3. Rolled edge strip > 10 mm
4. LivingBoard, PremiumBoard MFP
5. Sleeper
6. Insulating felt
7. Vapour barrier, e.g. 0.2 mm PE foil
8. Battens
9. Ceiling
10. Floor beam

General notes

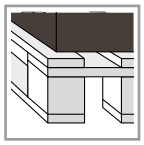
When renovating, attention must be paid to the condition of the old timber beams; in case of doubt, advice should be sought from an expert. This absolutely necessary is particular in the case of a change of use and the associated higher loads. A static proof must be drawn up if the beam spacing exceeds that specified in the table.



If vapour-tight sheeting is recommended to protect against moisture, a vapour barrier consisting of 0.2 mm thick polyethylene sheeting is used only on the underside of the timber beam floor (warm side), i.e. above the ceiling.

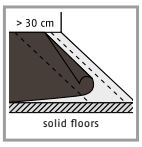


For reasons of sound insulation the flooring boards should not be installed directly on the timber beams. It is better to use a softly elastic covering and additional flooring sleepers here.

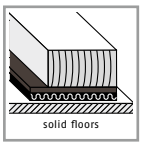


Before installation, the floor panel must be stored several days protected from water at the place of installation to allow it to adjust to ambient air conditions. The room temperature should be above 10 °C.

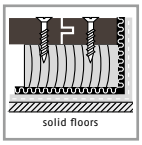
Installation



1. On solid floors in old and new buildings we recommend the use of vapour barriers made, for example, of 0.2 mm thick polyethylene sheeting. It should be laid with generous overlaps (at least 30 cm) or welded joints.

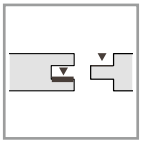


2. The height is adjusted by the use of different underlay material. Solid wood, hard fibre, plastic or raw chip board strips should be laid out for this. These are held together by wood glue when assembling.



3. When screwing, care must be taken that the screws do not reach the solid floor. All insulations at the wall should be extended up to the top surface of the covering (approx. 10 cm), and the sheeting should remain intact – also during subsequent work. The overlap of the sheeting should ideally be located under the flooring sleepers.

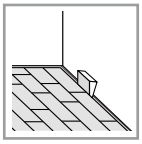
4. Better impact sound insulation is achieved by the use of mineral insulating materials. Glass wool insulating materials are recommended. In the case of higher requirements for impact sound, please use commercially available spring rail systems for sound insulation.



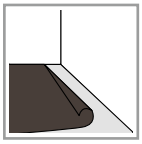
5. White synthetic resin glue (PVAc) should be applied to the lower flank of the groove and the upper side of the tongue. Gluing increases the overall rigidity of the board.

6. In accordance with the top covering the screws holes should be filled if necessary and possibly pre-drilled with a countersink bit. **Use screws with a full thread (not partial thread)!**

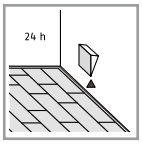
Finishing work



1. After installing all boards and before the glue has set, the boards should be wedged against the wall – for an optimum bond and to prevent creaking noises.



2. The installed boards must be provided with a covering or polyethylene sheeting without delay in order to avoid one-sided drying out.



3. The wedges can be removed following an appropriate glue drying period (about 24 hours).

Glossary

Surface soundness

Surface soundness means the force that it takes to detach the top layer of a chipboard. In the test process a steel stamp is glued on to a ring-grooved panel. The steel stamp is pulled upwards with increasing force until the panel surface breaks. The panels must reach a value of at least 0.8 N/mm². This applies to all thicknesses.

Abrasion behavior

Abrasion resistance is the capacity of a melamine-faced surface to resist fraying. Abrasion is measured by the following method: the test specimen rotate underneath a cylinder covered with sanding paper. Abrasion is an average value determined from two measured values: The first value is measured as soon as the decor surface is damaged, the second value is measured after fraying. In general, plain decors have better abrasion values than print decors. This is due to the fact that plain decors are through-dyed, whereas print decors are only printed on to a surface. Average abrasion values of print decors: up to 100 revolutions; plain decors 400 up to approx. 700 revolutions, depending on paper thickness.

Bending strength

Bending strength indicates the bending behavior of a chipboard under load and is measured in N/mm². Testing consists of a defined weight pressing vertically midspan on to a chipboard that rests on supports to the left and right only. The load is increased during the testing, whereby the bending of the board at each position is measured and recorded. The value stated in the tables indicates the minimum load that can be applied to a panel without breaking it. The bending strength is also dependent on the panel thickness whereby the following rule applies: the thinner the panel the higher its bending strength. This apparent contradiction is related to the point load applied or to the higher stiffness of thicker panels respectively.

CE marking

CE stands for Communauté Europèenne, French for European Union. The CE marking is a product labelling under EU law related to product safety. CE marking has been mandatory since 01.04.2004 for chipboard used as construction product. With the CE marking the manufacturer confirms the conformity of a product to the relevant EU regulations and the compliance with the "essential requirements" laid down therein.

Vapour retarder

One speaks of a vapour retarder if the diffusion-equivalent air layer thickness (sd) is bigger than 10 m.

Vapour barrier

One speaks of a vapour barrier if the diffusion-equivalent air layer thickness (sd) is infinite (according to DIN 4108-3:2001-07 sd ≥ 1500 m).

DGNB

Deutsche Gesellschaft für Nachhaltiges Bauen e.V. (DGNB – German Sustainable Building Council) is a non-profit and non-governmental organization with the function to develop and promote solutions for sustainable planning, building and use of construction works. At the centre of its work is the set-up and expansion of a certification system for sustainable building as well as the awarding of a quality label in the categories gold, silver and bronze.

DIN

DIN stands for Deutsches Institut für Normung e.V., which is Germany's national standardization organization based in Berlin. Standards serve the purposes of rationalization, communication, suitability for use, quality assurance, compatibility, exchangeability, health, safety and environmental protection. Examples of standards relating to wood-based panel production:
a. DIN EN 312 (chipboard)
b. DIN EN 622 (MDF)
c. DIN EN 14322 (melamine-faced panels)

E1

All wood-based panels produced or sold in Germany must comply with class E1 emission limits. E1 means that the maximum emission of formaldehyde is 0.1 ppm (part per million). No other wood-based panels are permitted in Germany.

Modulus of elasticity

The modulus of elasticity in bending indicates the relation between tension and expansion of a material within the elastic range and is measured in N/mm². The value relates to the maximum force applied to stretch a panel which after removal of the force will return to its original shape.

HDF

High density fibreboard

HPL

High pressure laminate

HPL compact

Compact laminates consisting of several core papers.

ISO

The International Organization for Standardization – (ISO) – is the international association of standardization organizations und develops international standards in all areas with the exception of the electrics and electronics sectors.

ISO 9001

The ISO 9001 quality management standard determines minimum requirements for a quality management system which a company must comply with prior to certification.

ISO 14001

ISO 14001 defines the minimum requirements for an environmental management system. The aim is to promote environmental protection and prevent negative impacts on the environment in line with economic, social and political requirements.

Kelvin

Kelvin (K) is the unit for thermo-dynamic temperature (T). The divisions of the Kelvin scale correspond to those of the Celsius scale. However, these scales are shifted by the constant value 273.15, with the zeropoint defined at the freezing point of water for the Celsius scale and absolute zero (-273.15 °C) defined as the reference point for the Kelvin scale.

Susceptibility to scratches

The baviour of a melamine-faced surfaces exposed to scratching is expressed as the level resulting from the greatest force leaving no continous traces. Standard surfaces reach a value of at least 1.5 N, i.e. panels must resist a corresponding strain through scratching. Gloss, matt and very matt surfaces are generally more susceptible to scratches than standard surfaces and reach values between 1 and 1.2 N.

LEED

The American LEED quality seal (Leadership in Energy and Environmental Design) is a globally recognized method to assess the sustainability of buildings. The certification system was developed by the U.S. Building Council (USGBC) and is based on requirements listing 6 different topics in which score points can be collected.

MDF

Medium density fibreboard

Melamine-faced panel

DecoBoard Resin-impregnated papers are directly applied on to a raw panel.

Use class

Use class 1: For use in dry areas
Use class 2: For use in humid areas
Use class 3: For exterior use

Surface gloss

Surface gloss is exclusively dependent on the surface texture used. All Decoboard textures, except High Gloss, fall below the threshold value of ≤ 20 gloss points set out in the office furniture standard.

ppm

The term parts per million (ppm) stands for 10^{-6} and is used in science for one millionth, analogous to one percent meaning one hundredth (10^{-2}). In Germany, this unit is used in connection with formaldehyde measure and the definition of emission classes. All wood-based panels produced and sold in Germany must at least meet the requirements of emission class 1 (E1). The formaldehyde content in the test chamber may not exceed 0.1 ppm.

Tensile strength

Tensile strength is a measure of the panel's capacity to withstand a vertical force perpendicular to the surface until rupture. It is measured in N/mm². Tensile strength is also dependent on the panel thickness. This value expresses the minimum load a panel can be exposed to before breaking. Here, too, it is valid: The thinner a panel, the higher the value. This is due to the higher raw density and therefore higher compression of thin panels.

RAL UZ 76 – "Blauer Engel" (Blue Angel)

In Germany, the "Blauer Engel" eco-label may also be awarded to environmentally-friendly wood-based panels. For chipboards, formaldehyde emission is an important criterium in this process. Panels that emit approx. 50 % less formaldehyde than standard panels due to the use of so-called formaldehyde scavengers may obtain the eco-label RAL UZ 76 – "Blauer Engel" due to their low-emission rate. The eco-label is awarded subject to certification by the German RAL institute.

Relative air humidity

In most cases the air contains less water vapour than the corresponding degree of saturation. The relative air humidity Φ (pronounced phi) is a value that states the water content of the air. The relative air humidity results from the relation of the actual water vapour content to the degree of saturation (corresponding to a relative air humidity of 100 %).

Susceptibility to cracking

The susceptibility to cracking is the capacity of a melamine-faced surface to resist cracking at a temperature of 70 °C. A permanent contact of a melamine-faced surface with a heat source (e.g. electric appliances, ceiling lamps etc.) leads in most cases to cracking, as the surface gradually dries out and thus becomes brittle. Therefore, the direct contact with sources of heatshould to be avoided.

Raw density

Raw density is the volume weight of a panel. It is measured in kg/m³. The raw density varies dependent on the panel thickness whereby it applies that the thicker the panel, the lighter is the volume weight.

Degree of saturation

In most cases the air is not dry, it contains water in gaseous form. Water in gaseous form is invisible water vapour. The air cannot absorb an unlimited amount of water vapour, its absorption capacity is limited. The capacity of the air to absorb water vapour is dependent on its temperature. Warm air can absorb more water vapour than cold air. The maximum water absorption capacity of the air is the degree of saturation with water vapour.

Flat bonded element

Wood-based panel with HPL surface on both sides.

Thermal transmission coefficient, U-value

The thermal transmission coefficient indicates the amount of heat transmitted per hour through 1 m² of a base material board with a thickness of 1 m when the temperature difference between the adjacent air on both sides is 1 Kelvin. The unit of the thermal transmission coefficient U is Watts per square metre times Kelvin (W/m² x K).

Thermal conductivity λ

Thermal conductivity λ (pronounced lambda) indicates the amount of heat transmitted per hour through 1 m² of a 1 m thick layer of a base material board when the temperature difference between the two surfaces is 1 Kelvin. The unit of thermal conductivity λ is Watts per metre times Kelvin (unit symbol: W/m x K).

Water vapour diffusion

Building materials that are waterproof are by no means water vapour-tight. The size of a water molecule is 1/100000 mm, a water vapour molecule conversely only 1/10000000 mm. A water vapour molecule can therefore still diffuse throughs pores through which a water molecule can no longer diffuse. This process is called water vapour diffusion (from Latin diffundere = flow through).

Vapour diffusion thickness sd

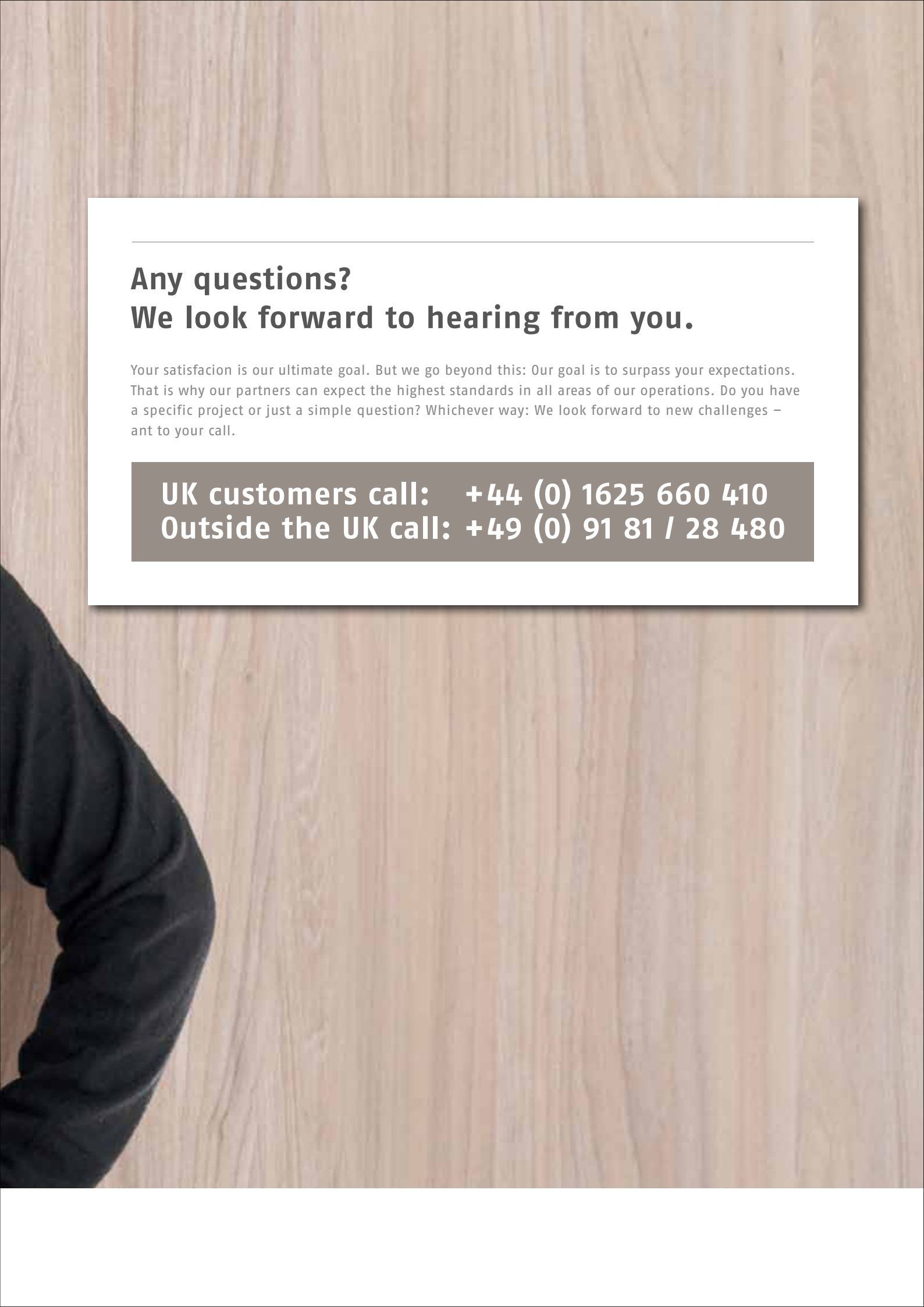
The vapour diffusion thickness [sd] of a base material board expresses its diffusion resistance as the thickness of a notional resting air layer with the same resistance. It is calculated from the thickness of the base material board (d) and the associated water vapour diffusion resistance factor μ of the building material, sd = μ x d (sd and d in mm). Example: PremiumBoard MFP, LivingBoard in 18 mm = 100 x 0.018 m = 1,8 m.

Water vapour diffusion resistance (μ-value)

Each material has a particular resistance to the diffusion of water vapour. The typical resistance of this material is expressed by the water vapour diffusion resistance factor μ (pronounced mu). The μ-values of the building materials can be determined by means of diffusion measurements. The resistance factor μ indicates how much higher the resistance of the respective material to water vapour diffusion is in comparison with air of the same layer thickness. μ is thus a ratio. The resistance of a 1 m thick air layer is taken to be 1. In diffusion calculations the least favourable value is taken as the μ-value (as a rule the lower value is taken in the case of interior applications and the higher value in the case of exterior applications).

Water vapour pressure

The surface of the earth is surrounded by a mantle of air. This air is heavy; it weighs on every body with its mass (with its weight). That is the air pressure. It is about 1 bar. The mass (the weight) of the water vapour in the air creates an additional pressure. This pressure is the partial water vapour pressure; it overlays the air pressure. The partial water vapour pressure is usually referred to in practice simply as the "water vapour pressure". The water vapour pressure is higher, the more moist the air is. It is dependent on the temperature and the relative humidity of the air; it reaches the maximum value with vapour-saturated air. That is the water vapour saturation pressure.



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Wood-based materials, raw and melamine-faced

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