

INSPIRATIONS  
CLOSE TO YOU

# DUROPAL HPL

COMPACT EXTERIOR

DUROPAL

thermopal

 PFLEIDERER

## INSPIRATIONS CLOSE TO YOU

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# ONE PFLEIDERER: INSPIRATIONS CLOSE TO YOU – FOR YOUR WORK AND YOUR REQUIREMENTS.

The Pfleiderer brand has reorganised itself. A new, international and powerful brand has emerged from the amalgamation of Pfleiderer Grajewo and Pfleiderer GmbH.

In the course of this process we have been able to harmonise all the production locations, simplify the processes and optimise our product range and services. Thus, you now have access to a range of decors, surface textures and sizes that are identical throughout the world and unique in its breadth and depth.

For you, One Pfleiderer means: a strong partner for high-quality wood-based panels with outstanding decorative surface expertise, customer-oriented service and a consistent focus on sustainability. And last but not least, countless creative and practice-oriented “inspirations close to you”.

# DUROPAL HPL COMPACT EXTERIOR

## FINE SURFACE TEXTURE FOR OUTDOORS.

Pfleiderer Premium quality now also "outdoors": With Duropal HPL Compact Exterior we are extending our product range to include a visually attractive and resistant compact panel for outdoor use. The high-quality compact laminate is characterised by its high UV and weather resistance and excellent workability. A large variety of decors ensures perfect combination with other Pfleiderer products – inside and outside.

### Excellent manufacturing and product features:

- UV-resistant
- Solvent-free
- High level of weatherproofing
- Robust
- Easy to clean
- Elegant surface finish
- Excellent processability by a special product structure
- Optimal format to reduce waste

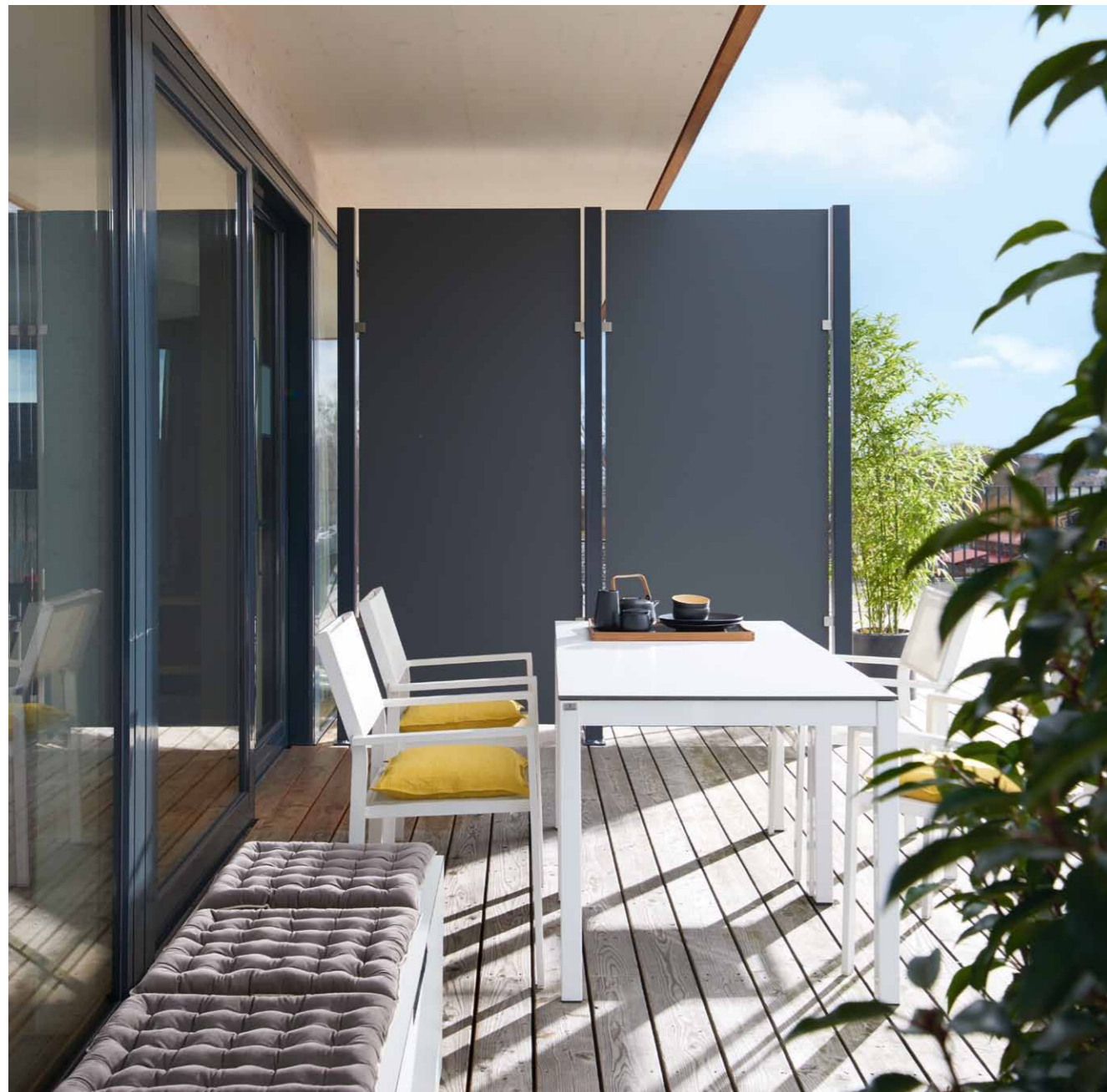
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## A SURFACE WITH EXCITING EFFECTS

Duropal HPL Compact Exterior is given a particularly attractive touch due to the Exterior Matt (EM) surface texture: The fine grain makes the surface sandy and it nonetheless reflects the light. The lustre produced in this way contributes to the high-quality of the surface and enhances the decor and form in a harmonious way under any light incidence angle. The Exterior Matt also has a convincing anti-fingerprint effect and is easy care.





## MULTI-LAYERED AND VERSATILE



Good properties meet manifold, varied applications: Duropal HPL Compact Exterior at a glance.

### Advantages

- High level of weatherproofing
- Elegant surface finish
- Excellent processability by a special surface texture
- Robust
- Anti-fingerprint effect
- Easy to clean
- Optimal format to reduce waste

### Areas of application

- Outdoor furniture
- Roof undersides
- Playground equipment
- Privacy walls/partitions
- Balcony railings

### Materials used

- Compact laminate black
- Acrylic lacquer

### Properties

- UV-resistant
- Colourfast
- Moisture-resistant
- Impact resistant
- Solvent-free

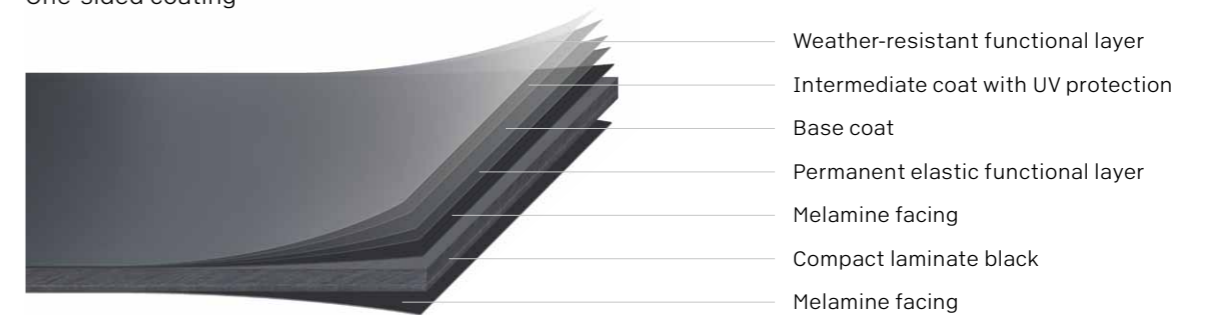
### Formats and textures

Length: 2,800 mm, Width: 2,070 mm,  
Thickness: 6/8/10/12 mm, Texture: EM/VV\*

\*Standard surface texture on the unlacquered side for one-side lacquered product

### Product build-up Duropal HPL Compact Exterior

One-sided coating



**COLLECTION**



**Variety means individuality**

Colours to suit all requirements: Duropal HPL Compact Exterior is available in a wide colour pallet of uni shades from the Pfleiderer Décor Collection. In addition, certain printed decors are also possible. We would be glad to offer further decors on request.

## STOCK COLLECTION

Decor Reference	Decor description	Next NCS code	Format in mm			Coating		
			Length	Width	Thickness	single sided	both sided	
<b>W10410</b>	Opaque White	Uni neutral	S0502-G50Y	2,800	2,070	6.0 / 8.0	●	●
<b>U11102</b>	Chalk	Uni neutral	S0502-G	2,800	2,070	6.0 / 8.0	●	●
<b>U12188</b>	Light Grey	Uni neutral	S2000-N	2,800	2,070	6.0 / 8.0	●	●
<b>U12215</b>	Anthracite	Uni neutral	S7502-B	2,800	2,070	6.0 / 8.0	●	●

Further thickness on request.



**W10410** Opaque White    **U11102** Chalk    **U12188** Light Grey    **U12215** Anthracite

## TECHNICAL DATA



### Mechanical and physical properties of Duropal HPL Compact Exterior

Properties	Test standard	Thickness in mm			
		6.0	8.0	10.0	12.0
Density (kg/m <sup>3</sup> )	EN ISO 1183-1	≥ 1,350			
Flexural strength (MPa)	EN ISO 178	≥ 80			
Flexural modulus (MPa)	EN ISO 178	≥ 9,000			
Tensile strength (MPa)	EN ISO 527-2	≥ 60			
Anchoring of the fixings (Aera) (N)	EN 438-7	≥ 3,000	≥ 3,000	≥ 4,000	≥ 4,000
Coefficient of thermal expansion	DIN 52328	18x10 <sup>-6</sup>			
Thermal conductivity (W/mK)	EN 438-7	0.3			
Fire behavior		normally flammable			
Classes of reaction to fire performance	EN 13501-1, CWFT	D-s2, d0			
Resistance to fast climate change (appearance, degree)	EN 438-2	≥ 4			
Resistance to fast climate change (flexural strength index, longitudinal)	EN 438-2	≥ 0.80			
Resistance to fast climate change (flexural strength index, transverse)	EN 438-2	≥ 0.80			

### Weather resistance for the surface texture EM

Properties	Test standard	Value in degrees
Resistance to UV radiation (contrast)	EN 438-2	≥ 3
Resistance to UV radiation (appearance)	EN 438-2	≥ 4
Resistant to artificial weathering (contrast)	EN 438-2	≥ 3
Resistant to artificial weathering (appearance)	EN 438-2	≥ 4

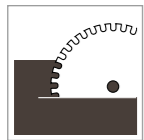
Duropal HPL Compact Exterior is produced to EN 438. All values correspond to the status of our production and are guide values. Subject to change without notice.

Certification	Institut	
ETB guidelines for components that protect against falls	EPH Dresden	Passed (panel thickness 8.0 mm / 10.0 mm)

## WORKMANSHIP TIPS

All Pfleiderer panel/board types can be sawn, cut, drilled and sanded using standard woodworking machines or woodworking tools. We recommend use of hard-metal tipped tools.

### Cutting and sawing



Duropol HPL Compact Exterior offers perfect conditions for high-quality workmanship using all standard saws. We recommend use of hard-metal tipped sawblades

### Drilling



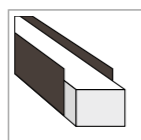
Hard metal-tipped tools and materials are to be used for all drillholes. Through-drill bits are to be used for through-holes.

### Milling



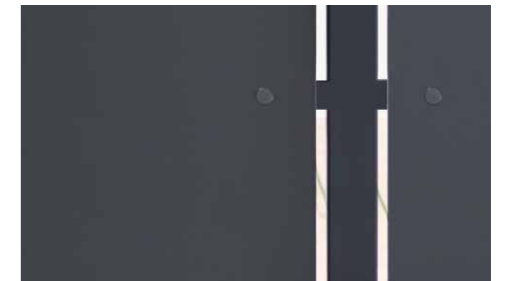
Duropol HPL Compact Exterior is ideally suitable for machining with mills or CNC machining centres.

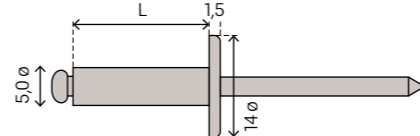
### Sanding and smoothing of the narrow surfaces



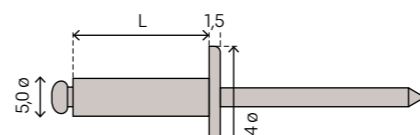
If particularly high standards are required on the narrow surfaces, Duropol HPL Compact Exterior can also be easily resanded with grit sizes between 120 and 400.

## FASTENERS



Aluminium rivet	L (mm)	Clamping range (mm)
	16	7.0–10.5
	18	9.0–12.5
	21	12.0–15.5
	23	14.0–17.5
	25	15.5–19.5

Sleeve material	Al Mg 5 material No. EN AW-5019
Riveting mandrel material	Stainless steel material No. 1.4541
Drillhole diameter, fixed point	5.1 mm
Drillhole diameter, movable point	8.5 mm
Drillhole diameter of the metal substructure	5.1 mm

Stainless steel rivet	L (mm)	Clamping range (mm)
	13	6.0–8.5
	16	9.0–11.0
	18	11.0–13.0
	21	13.0–15.0
	23	15.0–18.0
25	18.0–20.0	

Sleeve material	Stainless steel material No. 1.4567
Riveting mandrel material	Stainless steel material No. 1.4541
Drillhole diameter, fixed point	5.1 mm
Drillhole diameter, movable point	8.5 mm
Drillhole diameter of the metal substructure	5.1 mm

The rivets must be set, unrestrained, using a special setting nosepiece, the clearance should be 0.3 mm

Fasteners and painted rivet heads adapted to the Pfleiderer decor range are available from MBE GmbH:  
Moderne Befestigungs-Elemente (MBE) GmbH, Siemensstraße 1, 58706 Menden, Germany  
Phone: +49 (0)2373/17430-0, Fax: +49 (0)2373/17430-11, [www.mbe-gmbh.de](http://www.mbe-gmbh.de)

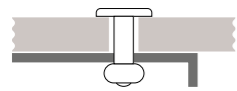


## BALCONY RAILINGS

The design of balconies and balcony railings is an important element in the process of designing buildings. With Duropal HPL Compact Exterior there are no limits to the design of the balcony railing, in addition the fall protection requirements are fulfilled.

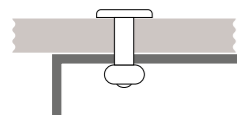
### Finishing Guidelines

To avoid deviations from the flatness, stable, planar execution of the substructure is to be used. Equally, water logging is to be avoided in the design and installation. Regardless of the material used, the substructure must be protected against corrosion. To enable swelling and shrinkage of the panel material and expansion of the substructure, without causing constraints and associated warping of the panel material, fixed and movable points must be formed.



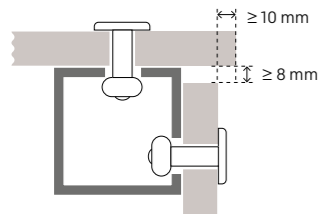
#### Movable point

Movable points (sliding points) are necessary to allow the swelling and shrinkage of panel material and expansion of the substructure without constraints.



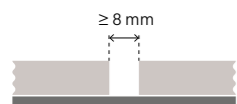
#### Fixed point

Fixed points are used to uniformly spread the expansion of the panel material and substructure over the entire panel. One fixed point is to be made for each panel.



#### Making corners

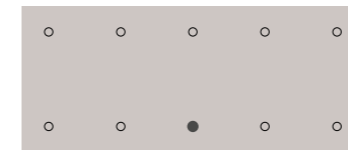
A panel overhang of 10 mm along the side panel is recommended to conceal construction tolerances from the main visible side.



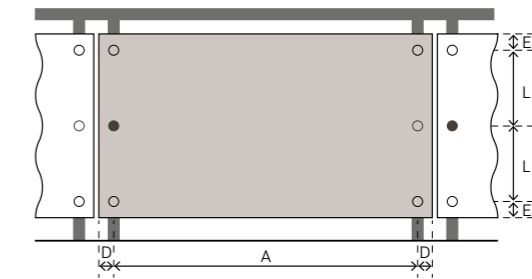
#### Expansion joints

Expansion joints of at least 8 mm must be maintained between panel joints of Duropal HPL Compact Exterior.

### Single panel system



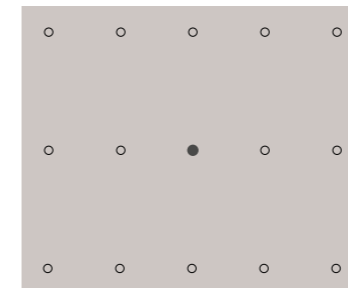
Fixed point, underneath, middle



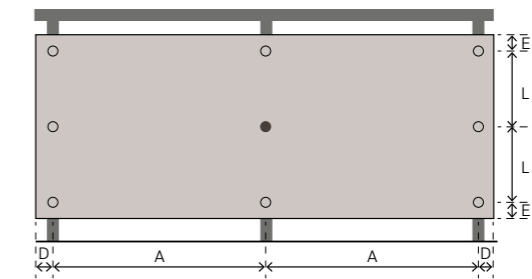
Visible fixing on posts

○ Movable point  
● Fixed point

### Multi-panel system



Fixed point, middle of panel



Visible fixing on posts

○ Movable point  
● Fixed point

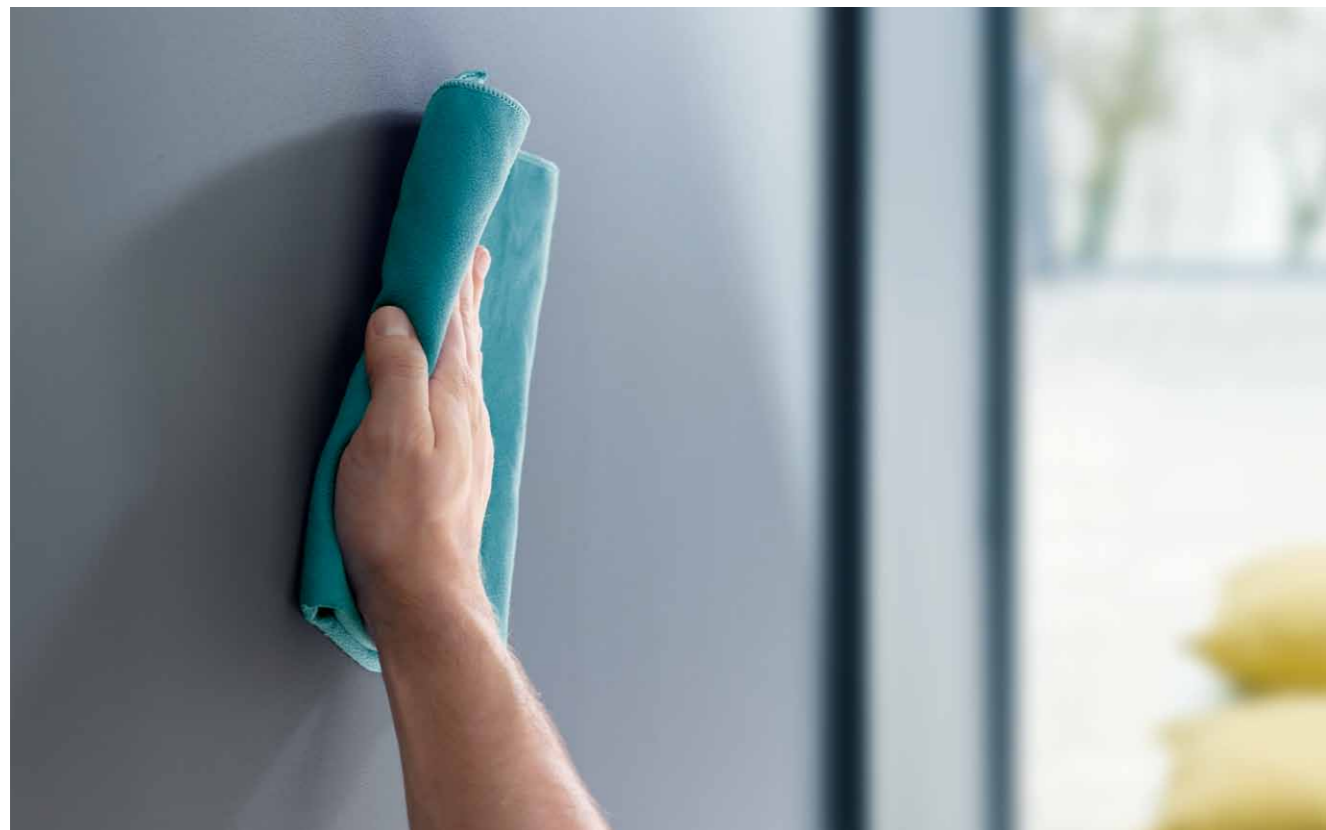
### Fixing spacings

Panel thickness (mm)	Max. fixing spacing A (mm)	Max. fixing point spacing L (mm)	Edge distance D (mm)	Free overhang E (mm)	Railing height (mm)
8.0	≤ 900	≤ 480	≥ 20	≥ 20	900–1,100
10.0	≤ 1,000	≤ 480	≥ 20	≥ 20	900–1,100

## CARE AND CLEANING INSTRUCTIONS

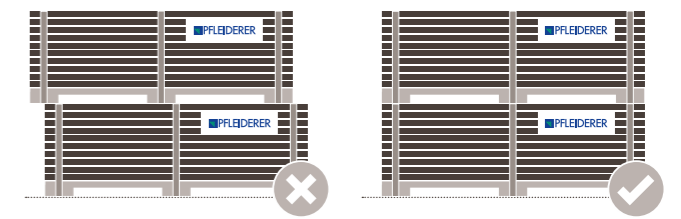
Lacquered surfaces are usually given a regular basic clean with a solution of hot water and detergent. More serious and stubborn dirt should be left to soften for a while. The damp surface is then wiped down with hot, clean water until all residues of the cleaning agent have been removed. Then rub dry with a dry, lint-free cloth, where possible in the 'decor direction' or uniformly in one direction to avoid smearing or streaks. Cleaning products, cloths or sponges with abrasive ingredients, e.g. scourers, should not be used under any circumstances. Abrasive

products and/or actions could irreparably damage the fine texture of the surface! So-called 'balm' products (skin-friendly washing-up liquids etc.) are unsuitable for cleaning as they contain substances to protect the skin that leave a film on the surface that is difficult to remove. Furthermore, alcohol-based cleaning products (e.g. glass cleaning products) or even pure plastic cleaning products are also completely unsuitable. For stubborn stains or a build-up of dirt the cleaning guidelines should be repeated.



## STORAGE AND TRANSPORT

To protect the high-quality surfaces, Pfleiderer delivers the coated surface of Duropal HPL Compact Exterior with a protective film. This film protects the surface of the panel against mechanical damage and dirt during transport, machining, storage and installation. Film covered panels should be used, having removed the film first, within 3 months of delivery at the latest. In addition, the packages are wrapped in stretch film, to reduce dirt.



### The following guidelines for Duropal HPL Compact Exterior should be noted:

- Pallets and panels should be stored on an even surface.
- Panels should be stored horizontally on dry support timbers to avoid direct ground contact.
- Panels are to be placed on equally spaced (80 cm max.) support timbers of same thickness.
- If pallets are stacked on top of one another, the bearers should be aligned. Boards should be stacked flush to avoid damage to unprotected edges and corners.
- The top board should be covered with a protective cover board or cardboard. Keep sufficient distance from walls. Direct contact should be avoided.

## SAFETY INFORMATION

**At Pfleiderer, both technical and personal safety is of the utmost importance.**

### Machining

Pfleiderer boards meet the requirements of the ChemVerbotsV regarding formaldehyde. Wood dust can be produced when machining and using raw chipboard boards or panels. Wood dust has been classified in the TR GS 900 "MAH values list" under III B as a substance with justified suspicion of carcinogenic potential. According to TR GS 553 the concentration of wood dust in the air at the workplace may not exceed  $2 \text{ mg/m}^3$ . This usually requires connecting the machines to an extraction system.

### Personal protective measures

No particular measures necessary. Pfleiderer panels are not toxic under the ChemVerbotsV (Banned Chemicals Regulations). The usual health and safety measures (work gloves, dust mask for grinding or sanding work) that apply to the working of solid wood must also be complied with when working/installing wood-based panels.



## GLOSSARY



### Resistant to artificial weathering

In this standard test to EN 438-2, a material sample is exposed to artificial daylight of xenon discharge arc lamps and rain. The test period is 1,500 h for technical class EGS and 3,000 h for technical class EDS. After the end of the test, the change in appearance, greyscale and colour is assessed.

### Resistance to UV radiation

In this standard test to EN 438-2, a material sample is exposed to strong UV radiation and humidity. The test period is 1,500 h. After the end of the test, the change in appearance, greyscale and colour is assessed.

### Flexural strength

The flexural strength describes the flexural behaviour of a panel under loading and is measured in  $\text{N/mm}^2$ . During the test a defined weight presses vertically in the middle of a panel, which is supported on the left and right only. The load is increased during the test, whereby the respective panel deflection is measured and recorded. The value given in the technical tables indicates the minimum load a panel can be exposed to without breaking. The flexural strength depends on the panel thickness; the thinner the panel, the greater the flexural strength. This apparent contradiction is related to the applied point load or greater stiffness of the thicker panels.

### ETB guidelines

Guidelines for components that protect against falls. These guidelines define impact loads with which a balcony railing is loaded when installed. By passing this test, the product may be used as fall protection on a balcony.

### HPL

High-pressure laminate is a panel material made of thermosetting resins and paper layers and has a very robust and decorative surface. As a surface material in combination with core materials, HPL is used in interiors and in the furniture sector, e.g. for doors and for worktops and tabletops. The material requirements and properties of HPL are defined in the European standard EN 438.

### HPL Compact

Compact laminate, consisting of several layers of core papers. HPL compact panels are decorative high-pressure laminate panels in accordance with EN 438 in thicknesses of more than 2 mm. They are large-format panels with decorative, resistant surface and homogeneous, closed cut edge. One or both sides of the panels have decorative colouring or decors. The surfaces can be smooth or textured.

### Fast climate change

The fast climate change in accordance with EN 438-2 describes a product test, in which a material sample is moved quickly several times a day over several weeks from a warm, humid climate into a cold, dry, warm dry or cold damp climate. This test exposes the material to different climate shocks. At the end of the test the technical material properties are determined.



**YOU CAN HAVE A CLEAR CONSCIENCE  
WHEN YOU WORK WITH US.**



Sustainable thinking and action is essential for all of our futures. Especially amongst your customers, the awareness of sustainably produced products that are suitable for a healthy living environment is constantly growing.

Pfleiderer pays attention to the absolute sustainability of all the company's activities. On all levels – economic, ecological and social: we not only manufacture our products with the utmost care, but also within the framework of a certified environment management system. In the production process, Pfleiderer pays attention to absolute ecology, e.g. in the formaldehyde-free glued panel LivingBoard, which has been synonymous with sustainable construction for almost four decades.

We also have a special responsibility as an employer: for this reason, a culture of trust focused on autonomous action is fostered in our company. Sustainability from which you benefit – through environmentally friendly products, dedicated employees and maximum satisfaction.

**ANY QUESTIONS? WE LOOK FORWARD  
TO HEARING FROM YOU.**



Your satisfaction is our ultimate goal. But we go beyond this: Our goal is to surpass your expectations. That is why our partners can expect the highest standards in all areas of our operations. Do you have a specific project or just a simple question? Whichever way: We look forward to new challenges – and to your call.

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Our General Terms and Conditions can be found on our Internet website: [www.pfleiderer.com](http://www.pfleiderer.com)

**Pfleiderer employs wood from certified sustainable forest management.**



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