TECHNICAL GUIDE

Compact Panels for Interiors

polyrey

We create for you.

www.polyrey.com

Since 1956, Polyrey has been developing, manufacturing and marketing decorative and technical solid grade laminate panels for interior fitting and design. Polyrey offers Compact solid grade laminate for solutions such as wall panelling and furniture manufacturing (table tops, toilet cubicles, lockers etc.). Polyrey's Compact panels are the perfect partners for all projects, from commercial developments in offices, Healthcare and Residential housing.

MADE IN FRANCE

CONTENTS

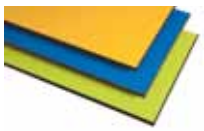
1 | COMPACT PANEL SOLUTIONS FOR INTERIORS

Polyrey's Compact products are thick High Pressure Laminate panels consisting of layers of kraft paper and two decorative sides impregnated with thermosetting resin.

Given their strengthened technical properties and the innovative Santized® antibacterial treatment, these boards are perfect for intensive usage (public places), humid places (sanitary rooms) or sensitive spaces (healthcare). They are ideal for horizontal (worktops, table tops) or vertical installation (wall coverings, cubicles). Compact is classed as self-supporting from 8 mm thick and machineable throughout its whole thickness, and their installation flexibility allows great creative freedom.

A | Product Range

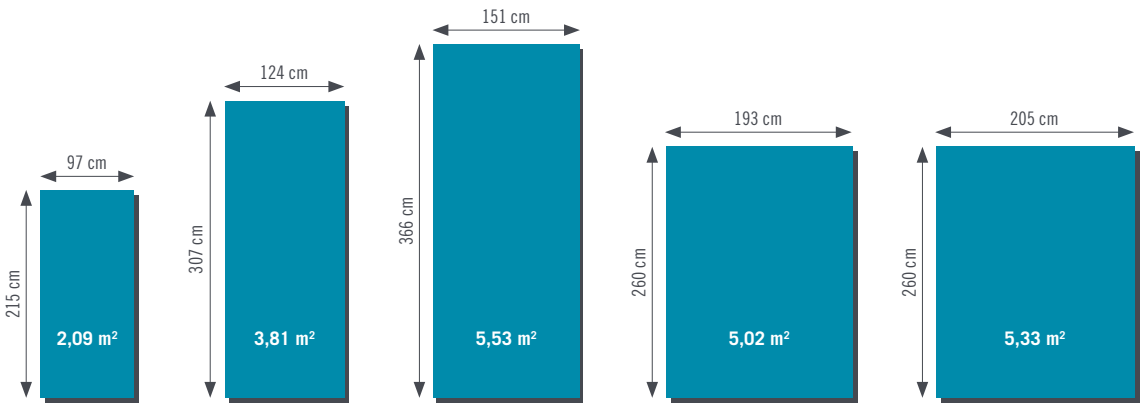
1. Reysipur® Compact



Reysipur® Compact panels are available in almost 300 decors in a Satin Eggshell finish (FA) and in a wide range of sizes to allow for maximum optimisation.

It is the ideal technical and decorative solution for demanding places.

PRODUCT	REYSIPUR® Compact HPL Laminate				
SIZE	215 × 97 cm	307 × 124 cm	366 × 151 cm	260 × 193 cm	260 × 205 cm
THICKNESS	4 - 6 - 8 - 10 - 12,5 mm			6 - 10 - 12,5 mm	
GRADE	Standard Black kraft core			Standard Brown kraft core	Standard Brown or black kraft core
	Fire retardant Black kraft core				



Contact us about decor sizes available and lead times.
Other size formats – Sheet sizes (eg : 432 × 166 cm) / thicknesses / grades upon request.


CST:

2. Monochrom® Compact

Monochrom® Compact is a self-supporting thick HPL panel available in pure white or deep black hues in a selection of finishes - Satin Eggshell, Gloss or Textured Stone. This through-colour core product is unique in its sophicated elegance and quality, providing furniture with graphic modernity and creating solid one-piece effects.

WHITE

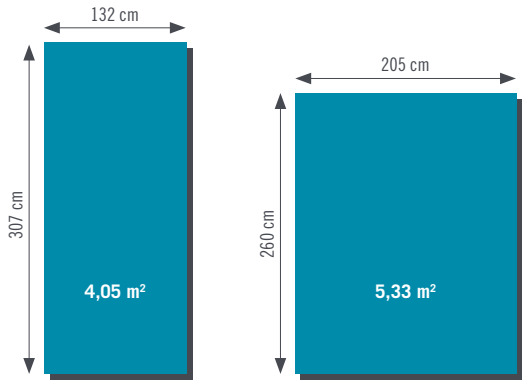
PRODUCT	MONOCHROM® Compact Solid Grade Laminate	
SIZE	307 × 132 cm	260 × 205 cm
THICKNESS	10 - 12,5 mm	8 - 10 - 12,5 mm
GRADE	Fire retardant White kraft core	
FINISH	FA - ROCHE - BRIHG	FA

BLACK

PRODUCT	MONOCHROM® Compact Solid Grade Laminate
SIZE	307 × 132 cm
THICKNESS	10 - 12,5 mm
GRADE	Standard Deep black kraft core
FINISH	FA - ROCHE - BRIHG

Compact White core is also available in a selection of plain colours in a satin Eggshell finish (FA), size 260 x 205 cm.

Depending on the core's colour, it is not always possible to obtain a perfect combination between Monochrom® Compact and Reysipur® Compact.



Contact us about decor sizes available and lead times.
Other size formats – Sheet sizes / thicknesses / grades upon request.

B | *Applications*

Compact panels are mainly used for applications such as wall panelling, furniture manufacturing and worktops in the following sectors :

HEALTHCARE

Laboratories : bench tops, furniture
Hospitals and assisted living facilities : small tables, tables and headboards
Hallways and handrails
Cubicles and shower areas
Cleanrooms

PRODUCT ADVANTAGES

- Resistant to usual disinfecting and cleaning products (such as Anios, Clinimax or Ecolab)
- Hygienic and integrated Santized® antibacterial treatment
- Resistant to impact and scratches caused by trolleys
- Transparent to X-rays

INTERIOR FITTING

Reception desks
Wall panelling and partitions
Contemporary furniture

PRODUCT ADVANTAGES

- Resistant to abrasion, impact and scratches
- Various thicknesses available starting from 4 mm
- Available in nearly 300 decors
- Various profiles and creative cuts outs can be achieved

RESIDENTIAL

Window sills and frames
Step risers
Kitchen worktops / tables
Sideboards

PRODUCT ADVANTAGES

- Antibacterial and approved for food contact
- Water-repellent and resistant to water splashes
- Self-supporting when 8 mm thickness and above
- Possibility to inlay a sink or a hob

EDUCATION & LEISURE

School furniture
Lockers and cloakrooms
Changing rooms, Showers, Cubicles
Partitions and doors
Camping, Spas, Leisure centres

PRODUCT ADVANTAGES

- Water-repellent and rot-proof, resistant in wet areas
- Resistant to acts of vandalism
- Possibility to inlay tubs or sinks
- Two decorative sides for freestanding vertical applications

TRANSPORT

Interior fitting
Signage

PRODUCT ADVANTAGES

- Various sizes and thicknesses for all interior wall cladding and horizontal applications
- Resistant to repeated impacts of trolleys and bags
- Good colour fastness of decor achieved over time
- Engraving of texts and images into the face of the material can be achieved

INDUSTRY

Food processing / Freezer storage rooms
Construction site cubicles
Automobile manufacturing

PRODUCT ADVANTAGES

- Easy to maintain, resistant to industrial cleaning products
- Waterproof, rot-proof and available in a fire retardant grade
- Food safe
- Sanitized® antibacterial treatment as standard



C | *Performances*

1. Easy installation

- Self-supporting when 8 mm thickness and above.
- Machinable throughout its entire thickness and engraveable.
- No need for additional edging products.
- Compact panels are particularly suitable for renovation.

2. Fire safety

The fire performance grade required depends on the type of building (public places, houses etc.), the product's role (structure, covering) and its position within the building.

Grade	Euroclass	Class M	Polyrey Product	Thickness	Description	Certificate
Fire retardant	B- s1, d0	M1	Compact REYSIPUR®	≥ 6 mm	Compact fire retardant CGF	FCBA
	NA		Compact REYSIPUR®	4 mm	Compact fire retardant CGF	LNE
	B- s2, d0		Compact MONOCHROM® White	≥ 8 mm	Compact fire retardant BCF	FCBA
Standard	C- s1, d0	M2	Compact REYSIPUR® / MONOCHROM® Black	≥ 8 mm	Compact standard CGS	FCBA
	D- s2, d0	M3	Compact REYSIPUR®	6 mm	Compact standard CGS	CWFT
	NA		Compact REYSIPUR®	4 mm	Compact standard CGS	CWFT

3. Highly resistant material

- As a solid and dense material, Compact panels are highly resistant to : impact, scratches, chemical products, wear etc.
- Water-repellent, impervious to water and rot-proof, Compact panels are particulary suitable for wet areas. They are resistant to water, steam, mould, rot, frost and heat.
- Heat resistance of Compact is higher than most plastic products. Short term contact of 180 °C or slightly above is possible.

4. Optimal hygiene

Compact panels meet the highest hygienic requirements : non-porous material, smooth edges, ease of cleaning and maintenance. The product is not degraded by normal disinfectants and organic solvents, such as acetone or domestic alcohols.

Compact panels are approved for food contact in a test report issued by IANESCO (Western Chemical Analysis and Testing Institute) in relation to aqueous food and fatty acids during short periods or repeated contact. The migration rates are substantially below the tolerated thresholds and they do not affect the food in any way. Specific migration tests concern formaldehyde and melamine.

Compact panels are easy to maintain and use of the appropriate cleaning products will allow the most common stains to be removed.

Type of stain	Domestic cleaning product	White spirit	Acetone
Ball point pen		×	×
Glue			×
Coffee	×		
Lipstick	×		×
Nail lacquer			×
Nicotine	×		
Oil	×		×
Rust	×		
Polish	×		×
Tea	×		
Paint			×
Grease	×		×
Felt tip pen		×	
Fingerprints	×		×
Fruit juice	×		
Wax	×		×
Wine	×		

For more details, please see the table on pages 44-45.

5. Sanitized® Antibacterial protection

All our Compact panels benefit from active silver-ion based protection. The antiseptic action of silver is of a necessary requirement in health centres, restaurants and public spaces.
Incorporated during the manufacturing process, silver ions effectively reduce the proliferation of bacteria throughout the life of the material.

In contact with a bacterium such as Staphylococcus aureus, Ag+ ions neutralise it and prevent cell division, thus limiting the risk of infection.

The Sanitized® treatment does not use nano-particles. Approved with contact with food (Food and Drug Administration), it does not migrate to the substances in contact with it, unlike organically based treatment methods.

The technology used is not sensitive to detergents and other cleaning products.

The Sanitized® antibacterial treatment destroys more than 99.9 % of bacteria.

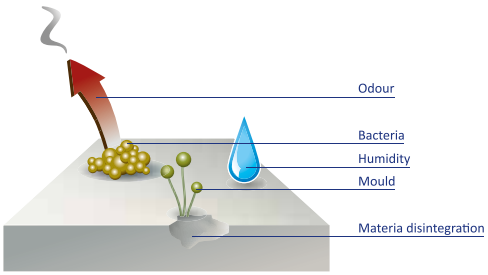
Effectiveness tested on 7 bacteria according to standard JISZ 2801(1) :

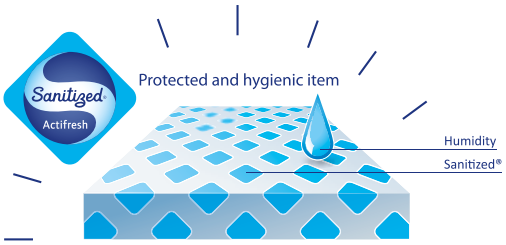
- Escherichia coli ATCC 8739
- Enterococcus hirae ATCC 8043
- Listeria monocytogenes ATCC 15313
- Staphylococcus aureus (MRSA) ATCC 33592
- Staphylococcus aureus ATCC 6538
- Salmonella enteritidis(2) ATCC 13076
- Mycobacterium smegmatis ATCC 19420

(1) Japanese standard JS Z 2801 internationally recognized (ISO).
(2) 99.84 % effectiveness.

Active Biocidal Substance
SILVER-ION

Standard panel	Polyrey's Sanitized® treated panel





6. Ecological material

Our two industrial sites are ISO 14001 certified. Since 2003, Polyrey benefits from a control chain that assures follow-up and transparency in relation to the entire manufacturing process. **All our compact panels are PEFC eco-certified** (minimum 40 %).

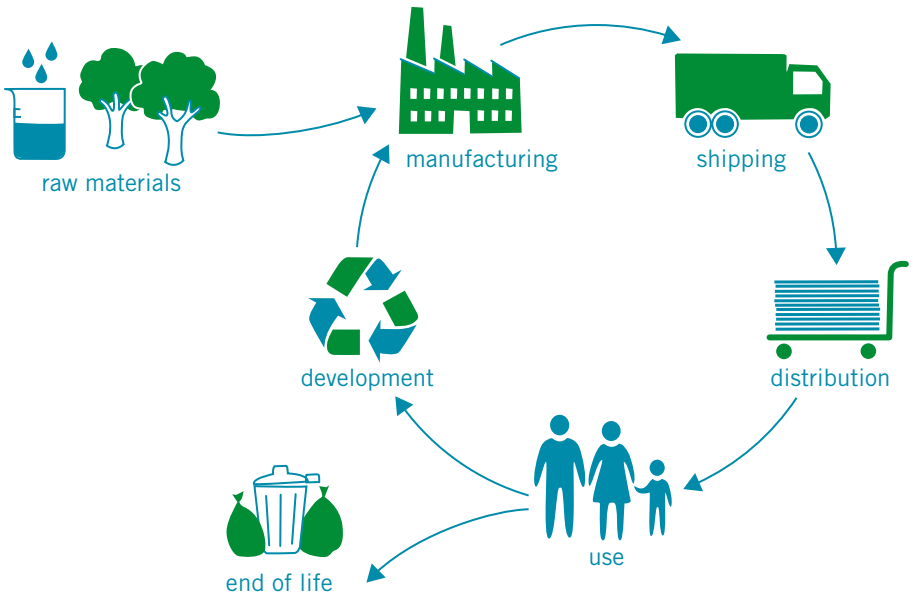
Chemically inert gas emissions generated by the Compact panels surface are below detection thresholds of the measuring tools used. In addition, Compact panels do not contain pentochlorophenol, asbestos, halogen elements, phtalates, bisphenol A or heavy metals and they comply with REACH regulations.

Our Compact panels benefit from **classification A relating to emissions of VOC** and other hazardous gases.

Being concerned about its environmental footprint, Polyrey has adopted a life cycle analysis (LCA), aiming to measure and assess the environmental impacts across all stages of its compact panels, encompassing the manufacturing, shipping, installation, maintenance and removal of the product (1).

The LCA checks and attests, throughout the entire life cycle, the physical streams of material and energy related to the activities of the product life and it evaluates the impacts on the environment.

In order to be objective, the LCA processes are carried out by an independent company (FCBA).



(1) The elimination of Compact panel waste by incineration (at 700 °C) in authorised facilities allows to retrieve energy thanks to the high heat of combustion (between 18 and 20 MJ/Kg).

Due to their ecological properties, **our Compact panels may be integrated within green building projects**, in compliance with the applicable labels (HQE, BREAM, LEED or DGNB), thus allowing to assess the ecological grade of the buildings.

In order to support you in this process, we can assist you in providing the relevant certification by making technical documents available to download from our website www.polyrey.com, such as the document Health and Environmental Product Declarations. Such declarations are issued according to the process of analysis and control of the life cycle of our materials.

FDES

Health and Environmental Product Declaration

The construction industry has decided to follow the method described by the AFNOR P01-010 regulations entitled "Environmental and health declaration of construction products".

This tool allows to develop a consistent environmental declaration (gross data and environmental impact indicators).

It also represents what is called an ”environmental and health declaration”, in compliance with the international standards (ISO 14040 and ISO 14025).

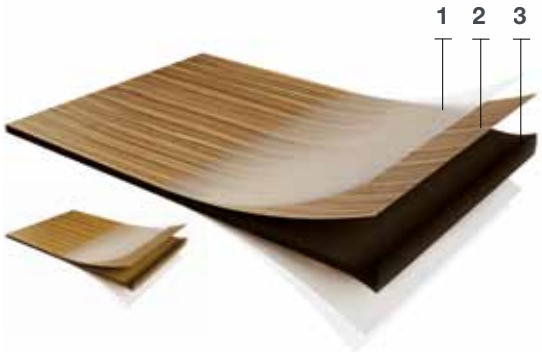
The regulations allow to obtain relevant and reliable information about :

- The environmental impacts of the products across all stages of their life cycle.
- The assessment of the health risk (emissions of dangerous substances, VOC etc.).
- The assessment of comfort in interior spaces.

2 | TECHNICAL PROPERTIES

A | Composition

REYSIPUR® COMPACT



1 Protective overlay on printed decors.

2 Decorative paper on both sides impregnated with melamine resin.

3 Layers of brown or black kraft paper impregnated with phenolic resin.

MONOCHROM® COMPACT

1 Decorative paper on both sides impregnated with melamine resin.

2 Layers of deep dyed kraft paper impregnated with thermosetting resin.

Crack resistant

Scratch resistant

Heat resistant

Ease of maintenance

Hygienic surface

Resistant to chemical and household products

Abrasion resistant

Colour fastness under artificial light

Resistant to cigarette burns

Impact resistant

1. Reysipur® Compact

	Grade		Standard	Fire retardant
	Decor / finish		All decors - FA	
	Thickness		4 - 6 - 8 - 10 - 12.5 mm	
Conforms EN 438-4	Classification		CGS	CGF
Characteristics	**Standard**	**Units**		
PHYSICAL AND DIMENSIONAL PROPERTIES				
Volumetric density	EN ISO 1183-1	g/cm³	≥ 1.35	≥ 1.35
Thickness tolerance	EN 438-2-5	mm	4 mm : ± 0.30 / 6 mm : ± 0.40 8 -10 mm : ± 0.50 / 12.5 mm : ± 0.60	4 mm : ± 0.30 / 6 mm : ± 0.40 8 -10 mm : ± 0.50 / 12.5 mm : ± 0.60
Length and width tolerance	EN 438-2-6	mm	- 0 / + 10	- 0 / + 10
Straightness tolerance	EN 438-2-7	mm/m	≤ 1.5	≤ 1.5
Squareness tolerance	EN 438-2-8	mm/m	≤ 1.5	≤ 1.5
Flatness tolerance	EN 438-2-9	mm/m	4 mm : ≤ 8.0 / 6-8 mm : ≤ 5.0 10-12.5 mm : ≤ 3.0	4 mm : ≤ 8.0 / 6-8 mm : ≤ 5.0 10-12.5 mm : ≤ 3.0
Dimensional stability at high temperature • Longitudinal • Transverse	EN 438-2-17	%	 4 mm : ≤ 0.40 / 6-8-10-12.5 mm : ≤ 0.30 4 mm : ≤ 0.80 / 6-8-10-12.5 mm : ≤ 0.60	 4 mm : ≤ 0.40 / 6-8-10-12.5 mm : ≤ 0.30 4 mm : ≤ 0.80 / 6-8-10-12.5 mm : ≤ 0.60
MECHANICAL PROPERTIES				
Modulus of elasticity	ISO 178	MPa	≥ 9000	≥ 9000
Bending strength	ISO 178	MPa	≥ 80	≥ 80
Traction strength	ISO R527	MPa	≥ 60	≥ 60
Resistance to boiling water • Mass increase • Thickness increase • Appearance	EN 438-2-12	 % Class [a]	 4 mm : ≤ 5 / 6-8-10-12.5 mm : ≤ 2 4 mm : ≤ 6 / 6-8-10-12.5 mm : ≤ 2 4	 4 mm : ≤ 7 / 6-8-10-12.5 mm : ≤ 3 4 mm : ≤ 9 / 6-8-10-12.5 mm : ≤ 6 4
Impact resistance (large diameter ball) (drop height for ≤ 10mm diameter imprint)	EN 438-2-21	mm	4 mm ≥ 1400 6-8-10-12.5 mm ≥ 1800	4 mm ≥ 1400 6-8-10-12.5 mm ≥ 1800
Resistance to surface cracking	EN 438-2-24	Class [a]	4	4
SURFACE PROPERTIES				
Surface defects • Spots • Linear	EN 438-2-4	 mm²/m² mm/m²	 ≤ 1 ≤ 10	 ≤ 1 ≤ 10
Abrasion resistance (initial point)	EN 438-2-10	No. of revolutions	≥ 150	≥ 150
Resistance to steam	EN 438-2-14	Class [a]	4	4
Dry heat resistance 180 °C	EN 438-2-16	Class [a]	4	4
Resistance to humidity	EN 12721	Class [a]	4	4
Scratch resistance	EN 438-2-25	Grade [b]	3	3
Stain resistance •Groups 1 & 2 • Group 3	EN 438-2-26	Class [a]	 5 4	 5 4
Colour fastness under artificial light	EN 438-2-27	Grayscale	4 to 5	4 to 5
Resistance to cigarette burns	EN 438-2-30	Class [a]	3	3
FIRE PERFORMANCE				
Fire rating	EN 13501-1	Euroclass	< 8 mm : D, s2 - d0 / ≥ 8 mm : C, s1 - d0	≥ 6 mm : B, s1 - d0
Calorific value	EN ISO 1716	MJ/kg	18 - 20	18 - 20
HEALTH AND ENVIRONMENTAL CHARACTERISTICS				
Food safe	EN 13130-1		Yes	Yes
Formaldehyde emission	EN 717-2	Class	E1	E1
Volatile organic compounds emission	ISO 16000-9	Class	A	A
Antibacterial properties	JIS Z 2801	Reduction in %	> 99.9	> 99.9

CGS : Standard Grade Compact **CGF :** Fire Retardant Grade Compact
(a) **Class : 1=** Surface damage. **2 =** Severe appearance alteration. **3 =** Moderate change. **4 =** Slight change visible from certain angles. **5 =** No change.
(b) **Grade : 2 =** Continuous scratches at 2N. **3 =** Continuous scratches at 4N.

2. Monochrom® Compact

	Grade		Fire retardant	Standard
	Core type		White	Deep black
	Decor / finish		FA - BRIHG - ROC	
	Thickness		8 - 10 - 12.5 mm	10 - 12.5 mm
Conforms EN 438-4 and 438-9	Classification		BCF	CGS
Characteristics	**Standard**	**Units**		
PHYSICAL AND DIMENSIONAL PROPERTIES				
Volumetric density	EN ISO 1183-1	g/cm³	≥ 1.40	≥ 1.35
Thickness tolerance	EN 438-2-5	mm	8-10 mm : ± 0.70 / 12.5 mm : ± 0.80	-10 mm : ± 0.50 / 12.5 mm : ± 0.60
Length and width tolerance	EN 438-2-6	mm	- 0 / + 10	- 0 / + 10
Straightness tolerance	EN 438-2-7	mm/m	≤ 1.5	≤ 1.5
Squareness tolerance	EN 438-2-8	mm/m	≤ 1.5	≤ 1.5
Flatness tolerance	EN 438-2-9	mm/m	≤ 5.0	≤ 3.0
Dimensional stability at high temperature • Longitudinal • Transverse	EN 438-2-17	% 	 ≤ 0.50 ≤ 0.80	 ≤ 0.30 ≤ 0.60
MECHANICAL PROPERTIES				
Modulus of elasticity	EN ISO 178	MPa	≥ 9000	≥ 9000
Bending strength	EN ISO 178	MPa	≥ 80	≥ 80
Traction strength	EN ISO 527-2	MPa	≥ 60	≥ 60
Resistance to boiling water • Mass increase • Thickness increase • Appearance	EN 438-2-21	 % % Class [a]	 ≤ 3 ≤ 4 BRIHG : 3 / Others : 4	 ≤ 2 ≤ 2 BRIHG : 3 / Others : 4
Impact resistance (large diameter ball) (drop height for ≤ 10mm diameter imprint)	EN 438-2-21	mm	≥ 1800	≥ 1800
Resistance to cracking SURFACE	EN 438-2-24	Class [a]	BRIHG : 3 / Others : 4	BRIHG : 3 / Others : 4
Resistance to cracking CORE	EN 438-2-24	Class [a]	3	3
SURFACE PROPERTIES				
Surface defects • Spots • Linear	EN 438-2-4	 mm²/m² mm/m²	 ≤ 1 ≤ 10	 ≤ 1 ≤ 10
Abrasion resistance (initial point)	EN 438-2-10	No. of revolutions	≥ 150	≥ 150
Resistance to steam	EN 438-2-14	Class [a]	BRIHG : 3 / Others : 4	BRIHG : 3 / Others : 4
Dry heat resistance 180 °C	EN 438-2-16	Class [a]	BRIHG : 3 / Others : 4	BRIHG : 3 / Others : 4
Scratch resistance	EN 438-2-25	Grade [b]	BRIHG : 2 / Others : 3	BRIHG : 2 / Others : 3
Stain resistance • Groups 1 & 2 • Group 3	EN 438-2-26	Class [a]	 5 4	 5 4
Colour fastness under artificial light	EN 438-2-27	Grayscale	4 to 5	4 to 5
Resistance to cigarette burns	EN 438-2-30	Class [a]	3	3
FIRE PERFORMANCE				
Fire rating	EN 13501-1	Euroclass	B-s2,d0	C-s1,d0
Calorific value	EN ISO 1716	MJ/kg	18 - 20	18 - 20
HEALTH AND ENVIRONMENTAL CHARACTERISTICS				
Food safe	EN 13130-1		Yes	Yes
Formaldehyde emission	EN 717-2	Class	E1	E1
Antibacterial properties	JIS Z 2801	Reduction in %	> 99.9	> 99.9

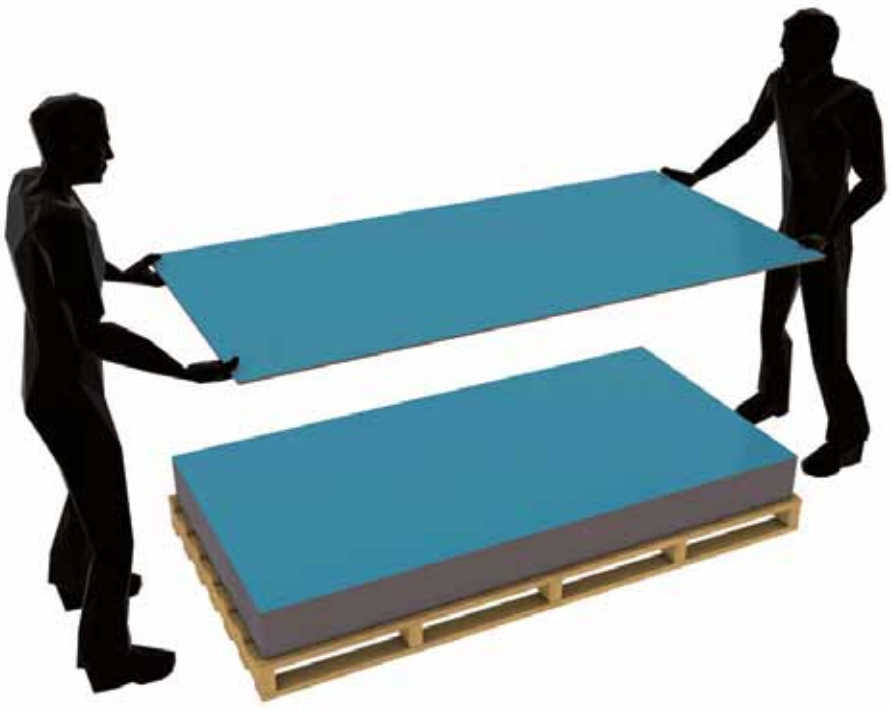
BCF : Through-colour fire retardant Compact **CGS :** Standard grade Compact
(a) **Class : 1=** Surface damage. **2 =** Severe surface alteration. **3 =** Moderate change. **4 =** Slight change visible from certain angles. **5 =** No change.
(b) **Grade : 2 =** Continuous scratches at 2N. **3 =** Continuous scratches at 4N.

3 | SHIPPING AND STORAGE

A | Handling

When handling, it is recommended to lift the panels individually to avoid scratching.

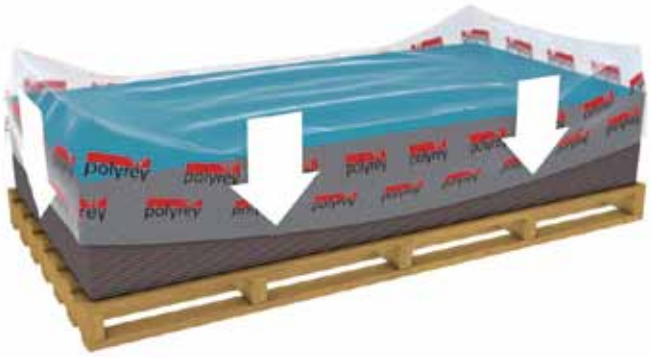
It is recommended to prevent the decorative surfaces from sliding against one another. It is possible to use a gripping system, such as a suction pad.



Always make sure that the two sides of the panel are clean and that no abrasive particles are present.

B | *Palletisation and storage conditions*

- Use flat and rigid pallets that are at least the same sizes as the panels to avoid sliding and unstable positioning.
- Maximum spacing between supporting boards must be 600 mm.
- Store the panels in closed premises, safe from humidity and heat (10 to 30 °C – 40 to 60 % RH).
- In the case of horizontal storage on pallets, put a protective paper of an adequate size between the pallet and the panels and on the top panel.
- It is advisable to keep the panels wrapped inside their original packaging (plastic lining).
- Flat storage of the panels prevents deformations occuring.
- Do not store filmed panels for longer than six months.



C | *Conditioning*

- Prior to installation, it is recommended to store the Compact panels for about 3 days in premises with the following environmental conditions :
  - temperature from 18 to 25 °C.
  - relative humidity from 40 to 60 %.
- When installing the Compact panels, remove the protection films from both sides simultaneously.
- For optimal results, we recommend that identical ventilation is assured on both sides.

4 | MACHINING OF COMPACT PANELS

ESSENTIAL RULES

Use the same machines as for laminate :

- CNC machine,
- saw, spindle moulder, router,
- drill.

We strongly recommend to use diamond tipped tools even when the use of carbide tools is possible.

Leave the protection film on while machining and, if possible, while installing. Remove the film from both sides simultaneously.

Depending on the machinery used, preliminary tests are necessary to determine the characteristics of the tools and suitable rotation speed in order to avoid overheating and ineffective machining. The following speed rates are provided on an indicative basis.

The following conditions should be complied with to obtain optimal use of the product :

	REYSIPUR®	MONOCHROM®
Maximum temperature	60 °C	50 °C
Maximum hygrometry	95 %	95 %
Minimum hygrometry	15 %	20 %

A | Cutting

The cuts must be made along the length of the whole panel. It is therefore necessary to measure the length of each cut panel to avoid dimensional and shade variations when they are placed together.

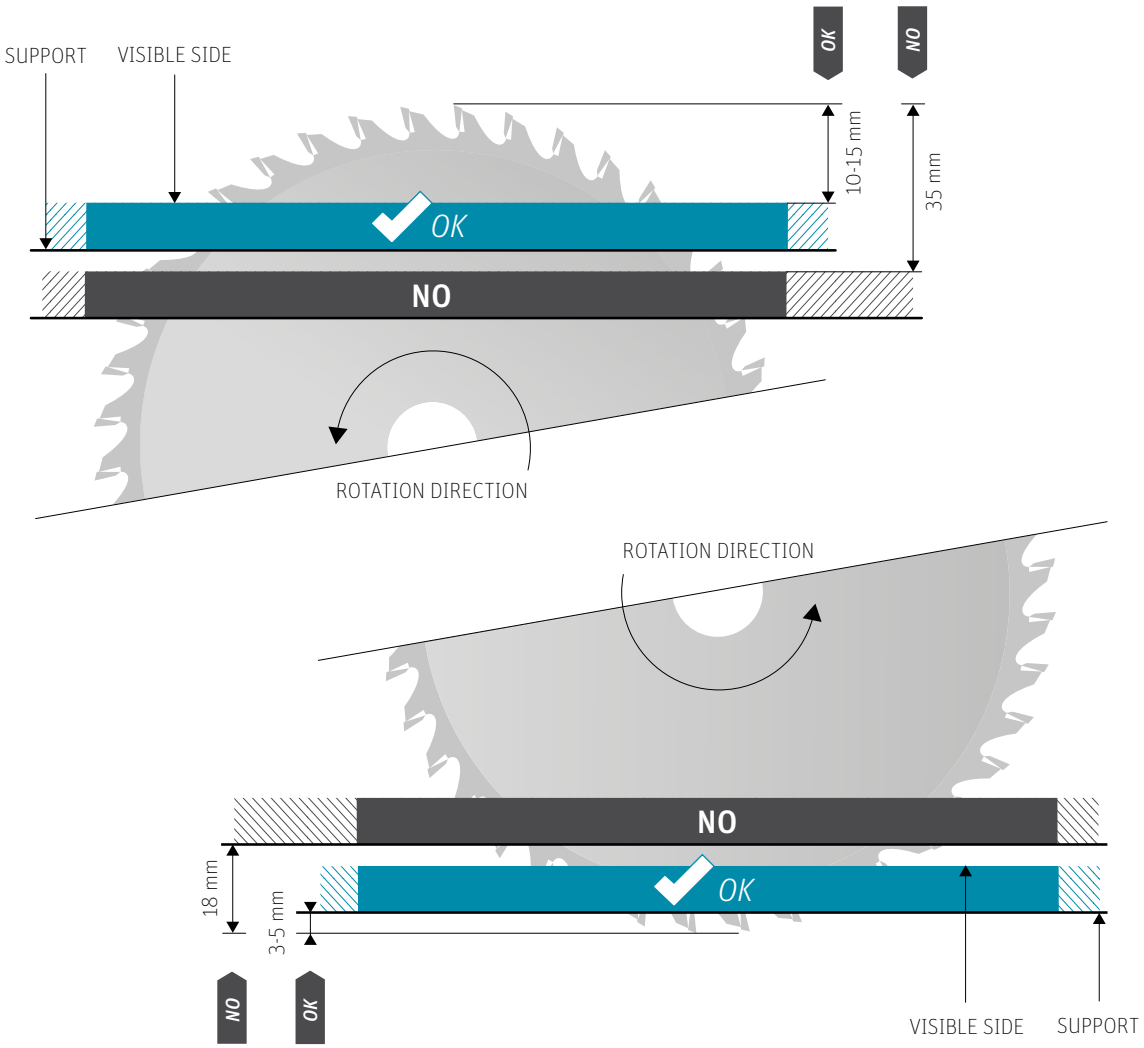
1. Industrial circular saw

To achieve good quality cutting, it is advisable to :

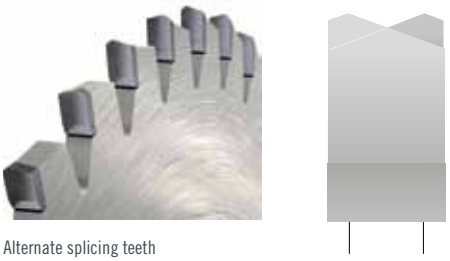
- work with a well sharpened blade, uncovered, with an edge as straight as possible.
- use a rigid sacrificial panel to achieve a good result. To avoid the underside from breaking out, use a scoring saw blade to scribe the underside, before cutting with the main blade.

Depending on the panels intended use (and if the quality of the cut is not good enough after cutting) it is possible to grind them down.

To protect both decorative surfaces, it is necessary to get the exit angle as clean as possible, meaning height. By raising the saw, you improve the quality of the cut on the upper face at the expense of the lower face and vice versa.



Alternation of flat teeth and trapezoid teeth



Alternate splicing teeth

The feed speed depends on the thickness of the panel and the quality of the cut required. The thicker and denser the panel is, the slower the speed needs to be.

	REYSIPUR®	MONOCHROM®
Tool type	Carbide	Diamond
Rotation speed	4000 - 9000 rev/min	
Number of teeth	80 - 120	

White Monochrom® Compact panels are more sensitive by nature and will therefore require the use of well sharpened or diamond tipped tools, as well as proper finishing after cutting. The speed must be slow, and a sacrificial panel is obligatory.

2. Manual circular saw

The use of a stabilising material is possible but does not allow optimal quality results. In this case, we suggest the use of carbide or diamond blades with more than 42 teeth.

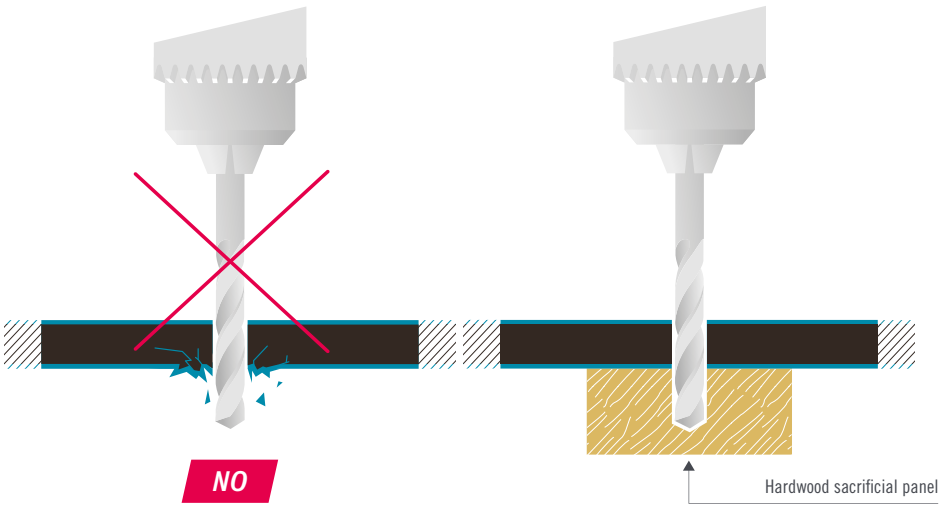
3. Cutting with a CNC

	REYSIPUR®	MONOCHROM®
Tool type	Carbide	Diamond
Rotation speed	20000 - 28000 rev/min	

The CNC is ideal for cutting and machining of Compact.

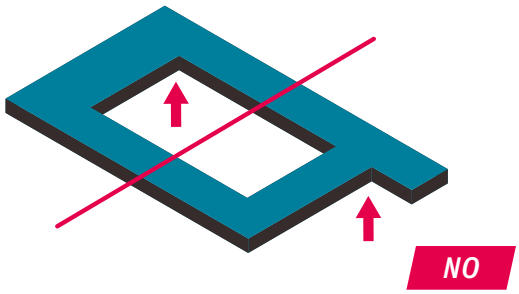
B | *Drilling*

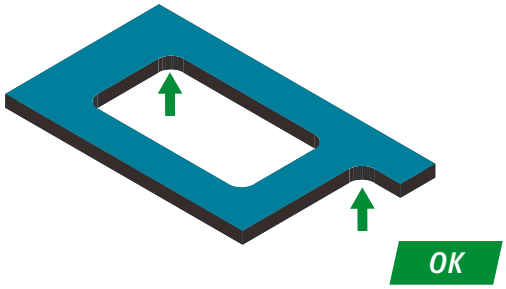
- It is preferable to use carbide drill bits with a point angle of 60° to 80° (do not use drill bits with an angle of more than 120°). The use of an iron HSS is also possible for small jobs or small drill diameters (less than 10 mm).
- To avoid breakouts on the exit side of the tool :
  - the drill must not be pushed down suddenly,
  - it is recommended to work with a solid base underneath that can be pierced such as a panel which has dense particles or hard plywood.



- Pilot holes are required for thicknesses of 12.5 mm :
  - For pilot holes, the depth of the hole will be the same as the residual thickness, meaning **1.5 mm for Reysipur®**, and **3 mm for Monochrom®**.
  - When drilling is parallel to the board surface (drilling into the thickness of the board) **a minimum thickness of 3 mm** should be left between the edge of the drilled hole and the surface of the board.
- During the drilling of pilot holes, avoid using tips with alignment points to avoid the risk of cracking, piercing, or marking the under side.

C | *Openings and external angles*





Sharp angles are detrimental to the characteristics of the Compact and laminate panels in general and can lead to cracks forming in certain circumstances (low humidity for example) or during fabrication.

External angles and openings **must be systematically rounded off**. The inside radius must be at least 5 mm for Reysipur® and 8 mm for Monochrom®.

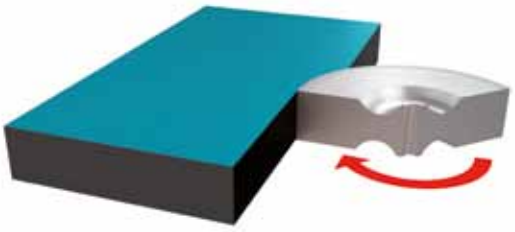
This radius must be increased for cut lengths of more than 250 mm.

D | *Treatment of edges*

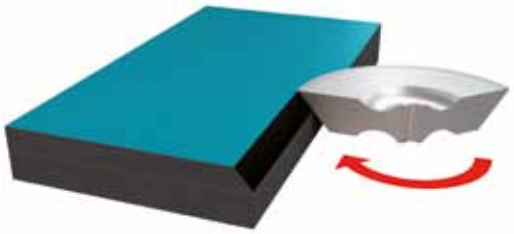
Although Compact sheets do not require any further edging treatments,the edges can be machined to obtain a quality finish or to create a specific edging effect.

- If an edge will remain visible after assembly, it is possible to machine it (for example profiling, moulding, chamfering, bevelling) then sand and polish, for a perfect finish.
- After the sanding, we recommend that the edges are coated with a suitable oil based product that will create the perfect edge (for example linseed oil).
- It is recommended to file off sharp edges to avoid injury.
- For optimum quality, we suggest using the tool's maximum rotation speed.

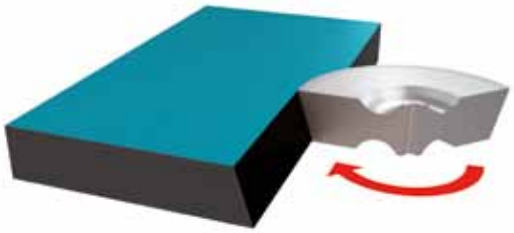
Calibration



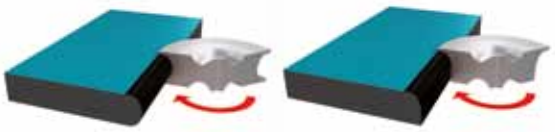
Chamfering



Bevelling



Half round / quarter round



E | *Engraving*

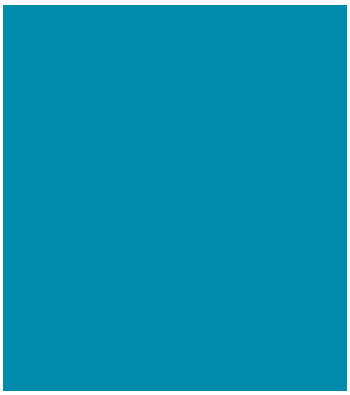
It is possible to engrave Compact panels. The engraving process can be achieved by using engraving machines that are equipped with tungsten carbide. It is also possible to use alternative engraving techniques such as laser, sandblasting…

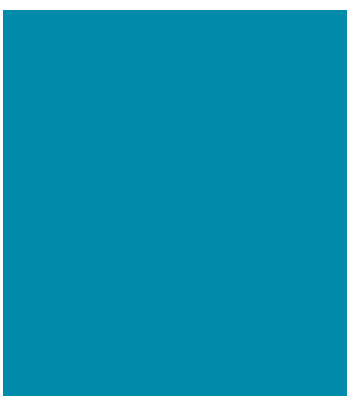
REYSIPUR®

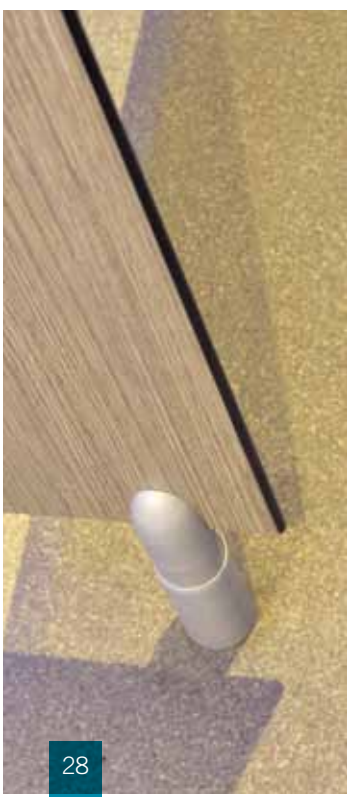
For better performance of Reysipur® Compact panels, the engraved area may be coated with linseed oil, paint or resin.

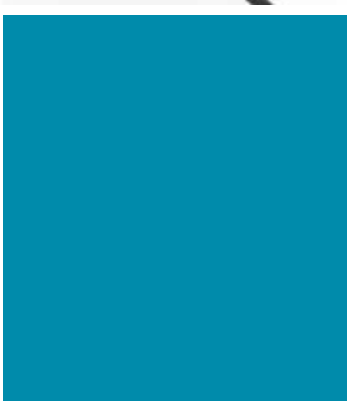
MONOCHROM®

As for Monochrom® Compact panels, it is possible to sand the engraved areas with steel wool or 120 grit size sandpaper.









5 | ASSEMBLY AND FIXING

ESSENTIAL RULES

It is essential to use the appropriate thickness of Compact according to the type of application it is being used for :

- **4 mm :** exclusively for applications where panels are fixed along the surface or inserted into a section.
- **6 mm :** often used in U sections (rolling furniture in hospitals or restaurants).
- **6 and 8 mm :** wall panelling
- **10 and 12.5 mm :** worktops, desktops, furniture doors, cubicles, support sections.

To minimise the risk of bowing of panels during the assembly of the Compact panels, place the panel in the correct way, dimensional variations being different depending on whether it is the length of the panel or transverse.

For damp rooms (lockers, shower panels, cubicles etc…), the Compact panel must be able to dry sufficiently after use. Therefore to protect the panels from stagnant humidity, supporting feet can be used to ensure ventilation around the full panel.

A | *Horizontal installation*

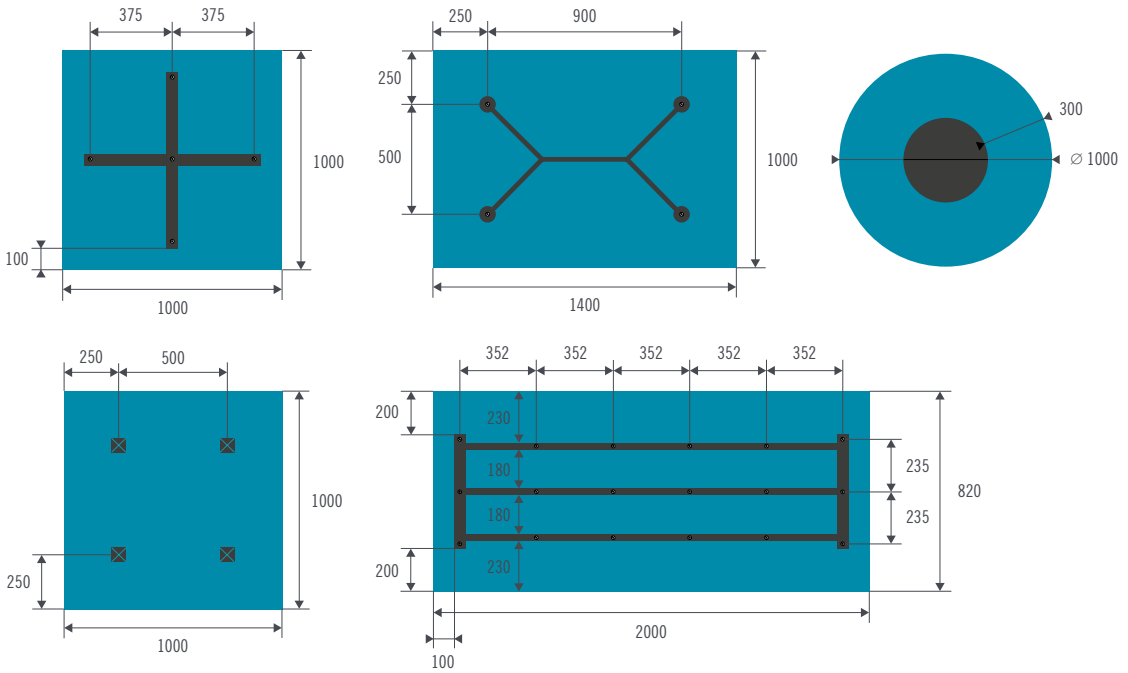
Two types of fixing are possible for the horizontal assembly of Compact panels.

1. Gluing

- For the gluing of Compact panels to wooden supports, we advise the use of a mastic glue (please refer to the manufacturers guidelines for specific instructions on adhesives).
- The gluing must be carried out on clean and dust free surfaces.
- The mastic glue must be laid in strings and not in blocks.

2. Mechanical fixing

- Mechanical fixing can be achieved using screws (stainless steel screws or treated steel) or inserts.
- Pre-drill using a drill bit with a diameter smaller than the screw to make fixing easier.
- The head of the screw must always cover the hole. The screws must be tightened but not blocked.
- Screwed should be positioned at 900 mm centres for panels of 12.5 mm and 600 mm for panels of 10 mm, with a minimum distance of 250 mm from all edges. Construction on a frame or support structure helps reduce the risk of warping.
- The distance between fixing points must be calculated and start from the middle of the panel.

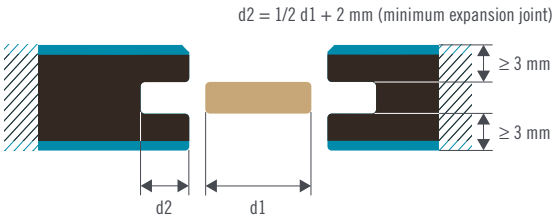


3. Connection

During the assembly of the panels, we advise fixing them board to board or with a glued tongue and groove system. This can be made in compact, wood or metal.

Leave at least 3 mm either side of the groove. The groove must be deeper than 2 mm and 0.5 mm larger than the tongue.

We advise to make a V groove on the visible side to avoid level differences and improve the aesthetics.



B | *Vertical installation for wall panelling*

Reysipur® Compact panels may be used for wall panelling.

We strongly advise the use of panels **at least 8 mm thick**. The use of 6 mm panels is also possible, but only for hight between 600 and 1240 mm.

The installation of Compact panels must be on completely dry walls and support sections. For refurbishment work, if the masonry is damp, it must be completely dried out prior to installation.

To avoid bending and tension, you must **respect the advice given**. A circulation of air is necessary between the wall and panel, as well as the top and bottom of the panels, to allow an equilibrium between temperature and humidity. Recommended opening for ventilation is between 5 and 20 mm.

Laminate Compact panels can develop slight dimensional variations due to atmospheric changes. Take these variations into account during assembly by planning a solution beforehand :

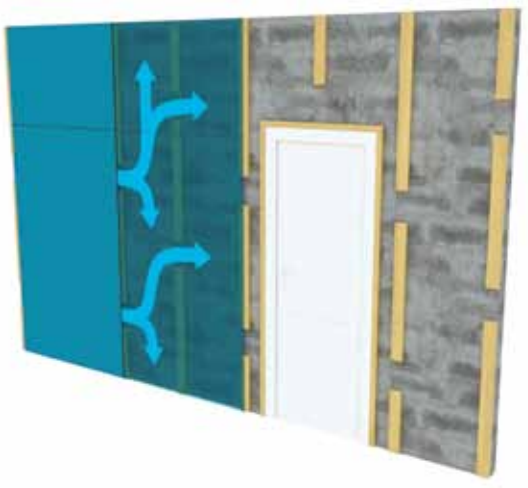
LENGTHWISE	ACROSS
+ 1.0 mm/m	+ 2.5 mm/m
- 2.0 mm/m	- 3.0 mm/m

The joints can be filled in with a transparent or coloured silicone.

1. Fixing to a framework

This type of fixing is suitable for any type of support (plasterboard, plaster, or stone wall).

- Put a rafter system in, made of wooden planks, compact or metal sections, fixed vertically at regular intervals (spacing 600 mm) and split to allow air circulation.
- The rafters can be fixed with glue or screws or rivets.

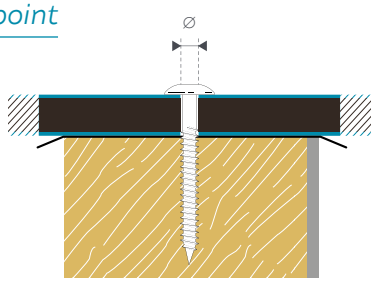


1.1 Mechanical fixing on to framework

The panels can develop dimensional variations due to heat and humidity. These variations are maximum 3 mm when horizontal and 5.5 mm/lm when vertical.

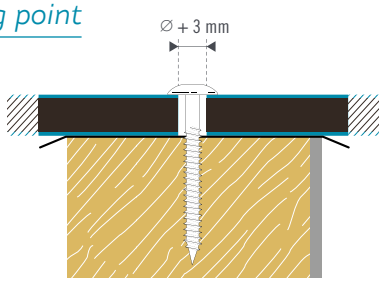
The fixing of the panels must take these variations into account : it is recommended to fix the panel by one fixed point and other sliding points. The fixed point is in the central part of the panel. It's role is to keep the panel in the right position and distribute the dimensional variations. The flexible points allow the panel a certain amount of movement.

Fixed point

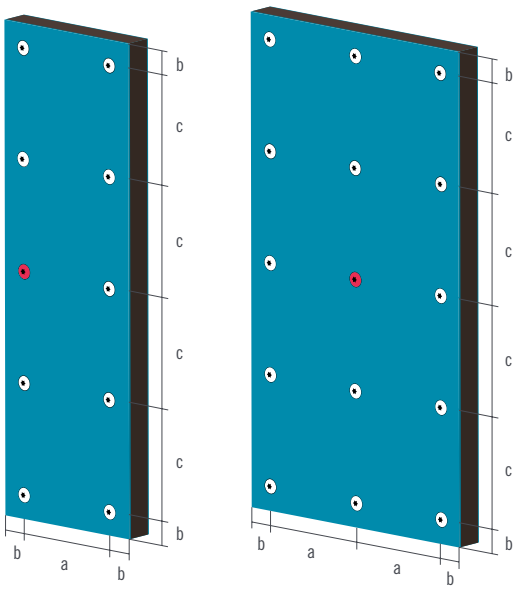


The diameter of the holes for the fixed points must be equivalent to the diameter of the screw.

Sliding point



The diameter of the holes for the sliding points must be 3 mm bigger than the screw, so 8 mm for a screw of 5 mm in diameter.



Fixed point

Sliding point

a : distance between fixing points

b : distance between fixing points and panel edges : minimum 20 mm

Generally, the drill guard must be at least 20 mm for vertical and horizontal boards. To ensure a good centralization of the screws, it is recommended to use step drills.

Panel thickness	a = distance between fixing point	Maximum length per module	Cantilever
6 mm	450 mm	600 mm	-
8 mm	550 mm	1240 mm	250 mm
10 mm	700 mm	1240 mm	250 mm

1.2 Gluing to a support structure

ESSENTIAL RULES

- Temperature must be at least 10 °C and a maximum of 35 °C.
- During the first 5 hours after the fixing, the temperature must not be less than 10 °C.
- The panels must be placed on a support that allows good ventilation.
- The supports must always be put vertically, and the string of mastic must also be put vertically.
- The height of battens must be 45 mm for intermediates or extremity supports, and 90 mm for edges.
- For products with standard thicknesses, the distance between the battens must be around 600 mm. If the products are less than 8 mm thick, we advise to contact the POLYREY technical service.
- This type of fixing can be used for compact batten, wooden batten, or aluminium frame. In every case the preparation is different.

A. Preparation of panels

The compact panels must be stored flat on planks to make sure air can pass between each compact. The length of storage must be 72 hours minimum.

- Sand the surfaces to be glued with fine abrasive paper.
- Dust and clean with a solvent.
- Let the solvent evaporate.
- Apply a thin coat of primer (type 3M P111 or equivalent), in the 2 hours after cleaning.
- Allow the recommended time for drying.
- After applying the primer, the panels must be fixed within 24 hours.

B. Gluing to a wooden support structure

The strips must be planed wood, untreated and dry (humidity min 16 %).

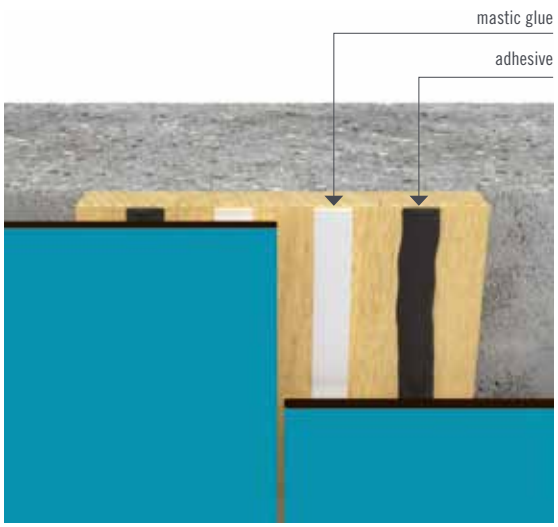
- The strips can be treated with a fine coat of primer (type 3M P594 or equivalent).
- Allow the recommended time for drying.
- After applying the primer, the mastic and the panels must be fixed to the strips within 24 hours.

C. Gluing to a metal support structure

- For good grip of the primer on the metal surface, slightly sand with fine abrasive paper.
- Dust and clean with a solvent.
- Let the solvent evaporate.
- Apply a fine coat of primer (type 3M P592 or equivalent) in the 2 hours after cleaning.
- Allow the recommended time for drying.
- After applying the primer, the panels should be fixed within 24 hours.

D. Application of mastic-glue

- Apply double faced adhesive tape 3 mm thick along the length, without taking off the protective film. This tape will keep the Compact panel in place while the glue takes hold.
- Apply the mastic glue (type 3M P760 or equivalent) directly to the support, using a triangular nozzle (12 mm high for a base of 8 mm) It can be applied with a manual or compressed air gun, 10 mm from the edge of the support on the adhesive.
- Make sure the string of mastic glue is positioned to fix the extremity of the Compact panel.



E. Positioning and fixing

- Remove the protective film from the double-face adhesive tape.
- When the Compact panel is in position, pressure should be applied to obtain good contact with the adhesive. This must be carried out within 10 minutes following the application of the mastic.
- Allow the recommended time for the glue to dry.
- Any traces of mastic should be removed with acetone before it sets.

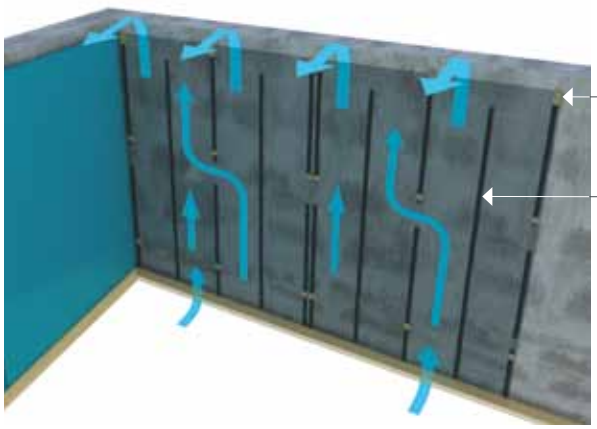
2. Fixing by gluing to a masonry support

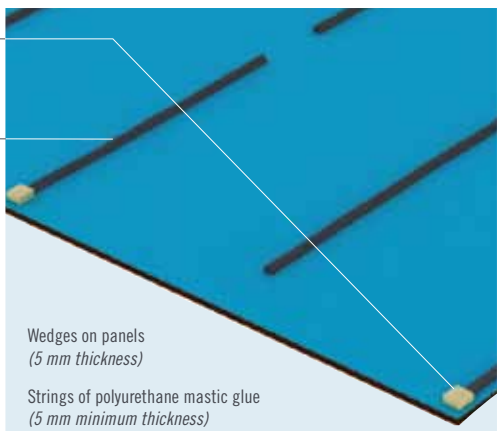
It is recommended to use this method **only** for the fixing of small surfaces (skirting boards).

For the preparation of panels, follow the instructions on page 33.

Lay vertical strings of polyurethane mastic glue at least 5 mm thick, 10 mm away from the edge, 30 cm apart from one another and with breaks between them to ensure air circulation. To allow for the ventilation space, place wedges 5 mm thick in the strings behind the panels.

For gluing conditions, follow the glue manufacturer's instructions.





Wedges on panels
(5 mm thickness)

Strings of polyurethane mastic glue
(5 mm minimum thickness)

C | *Vertical installation for furniture manufacturing*

ESSENTIAL RULES

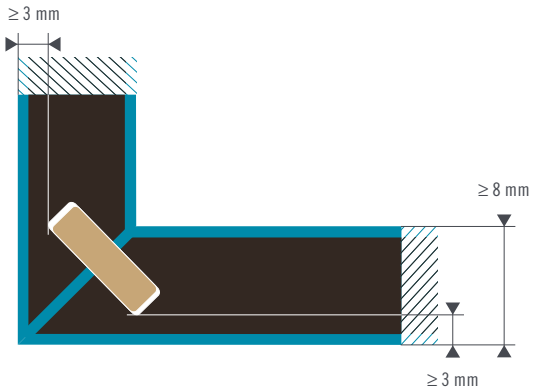
- To avoid material stress during fabrication, it is recommended to machine the first cut following the direction of the sheet ; the dimensional variations depends on the length and on the width of the compact panel.
- For vertical items of furniture (such as furniture doors), it is essential to ensure ventilation behind the product through an opening in the thickness of the Compact panel.

1. Assembly by gluing

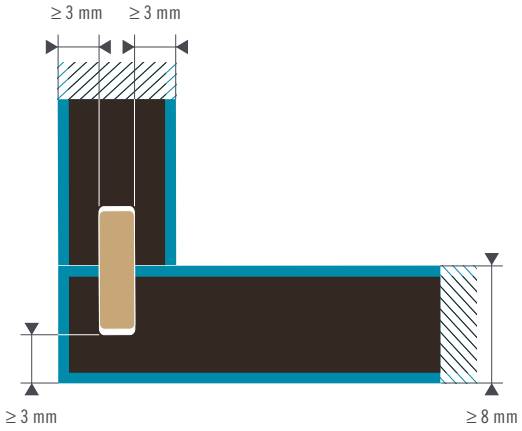
- When gluing, the surfaces should be perfectly dusted and exempt from grease.
- It is necessary to use reactive glues :
  - Polyurethane without solvent
  - Epoxy
  - Mastic
- Please refer to the manufacturers recommendations prior to use of the adhesive.

1.1 Corner jointing (L-shape)

- **Mitre joint :**
  - Avoid big size panels (less than 1 m).
  - This assembly technique allows concealing the edge completely.
  - It is advisable to strengthen the assembly with a tongue.

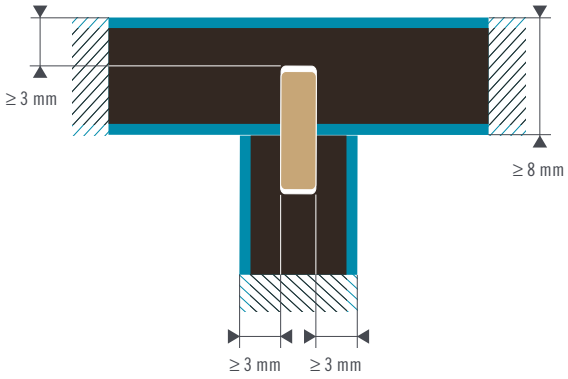


- **Straight jointing :**
  - It is recommended to assembly with intermittent grooves and hidden tongues, thus allowing for good positioning of parts.
  - This jointing technique is not suitable for panels with thickness lower than 8 mm.
- The groove width and the remaining partitions should be at least 3 mm.



1.2 Intermediate jointing (T-shape)

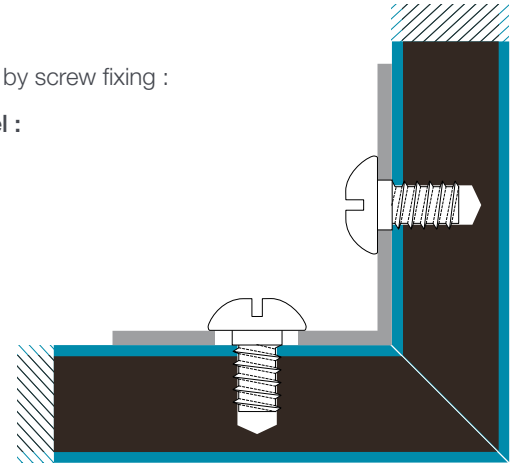
The same rules apply as for the straight jointing.



2. Jointing using ironmongery

The fixing of metal hinges and hardware is usually done by screw fixing :

- **either directly by screwing into the Compact panel :**
  - Thread cutting screw
  - Self-tapping then screwing
- **inserts or expandable plugs**



- The installation of fixing elements in the compact panel edge is to be avoided.
- Depending on the characteristics of the panels, it is necessary to make different sliding fixing points and one fixed point.
- Mechanical fixing may be performed for all types of assembly (mitre cut, straight cut or T cut).

3. Installation of hinges

Some applications, especially the manufacture of doors (kitchen, laboratory), require the use of hinges.

- The weight of the door determines the number of hinges to be used.
- When using invisible hinges, it is necessary to leave a minimum gap of 3 mm under the ferule.
- Recommended hinges : 2 point fixing.
- Hinges screwed on the edge of the Compact are to be totally avoided.

6 | MAINTENANCE

A | Resistance to staining and chemical products

The hard, non-porous surface of high pressure laminate panels makes compact panels highly resistant to staining and chemical products (according to standard EN438).

1. Products giving no deterioration after a maximum of 16 hour contact

Name	Formula
A	
Acetone	CH_3COCH_3
Weak acids, such as :	
• acetic	CH_3COOH
• ascorbic	$C_6H_8O_6$
• aspartic	$C_4H_7O_4N$
• benzoic	C_6H_5COOH
• boric	$B(OH)_3$
• citric	$C_6H_8O_7$
• cresylic	$CH_3C_6H_4COOH$
• formic acid below 10 %	$HCOOH$
• lactic	$CH_3CHOHCOOH$
• oleic	$C_{18}H_{34}O_2$
• phenic	C_6H_5OH
• salicylic	$C_6H_4OHCOOH$
• stearic	$C_{17}H_{35}COOH$
• tartaric	$C_4H_8O_6$
• uric	$C_5H_4N_4O_3$
Active carbons	C
Alcoholic and non alcoholic beverage	—
Alcohols and fatty alcohols :	
• primary alcohols	RCH_2OH
• secondary alcohols	

Name	Formula
• tertiary alcohols	
Aldehydes	R-CHO
Aluns	$KAl(SO_4)_2$, 12 H_2O
Amides	$R\text{-}CONH_2$
Primary amines	$R\text{-}NH_2$
Secondary amines	
Tertiary amines	
Aminoacetophenone	$NH_2C_6H_4COCH_3$
Ammonia	NH_4OH
Amyl acetate	$CH_3COOC_5H_{11}$
Amylic alcohol	$C_5H_{11}OH$
Amylums	—
Arabinose	$C_5H_{10}O_5$
Asparagine	$C_4H_8O_3N_2$
B	
Beauty products	—
Benzaldehyde	C_6H_5CHO
Benzene	C_6H_6
Benzidine	$NH_2\text{-}C_6H_4\text{-}C_6H_4NH_2$
Biogel	—
Blood	—

Name	Formula
Broth	—
Butanol-Butylic alcohol	$CH_3CH_2CH_2CH_2OH$
Butyl acetate	$CH_3COOC_4H_9$
C	
Cadmium acetate	$Cd(CH_3COO)_2$
Caffeine	$C_8H_{10}N_4O_2$
Calcium carbonate	$CaCO_3$
Calcium oxyde	CaO
Carbon tetrachloride	CCl_4
Carbons	C
Caseine	—
Cements	—
Chloral hydrate	$Cl_3C\text{-}CH(OH)_2$
Chlorobenzene	C_6H_5Cl
Chloroform	$CHCl_3$
Cholesterol	$C_{27}H_{45}OH$
Cocaine	$C_{17}H_{21}NO_4$
Coffee	—
Colloidal sulfur	S
Cresol	$CH_3C_6H_4OH$
Culture broth (benchmarks I and II)	—
Cyclohexane	C_6H_{12}
Cyclohexanol	$C_6H_{11}OH$

Name	Formula
D	
Detergents	—
Dextrose (glucose)	$C_6H_{12}O_6$
Dichlorethane	$ClCH_2$-CH_2Cl
Dichlorethylene	CH_2=CCL_2
Dichloromethane	CH_2CL_2
Digitonin	$C_{56}H_{92}O_{29}$
Dimethyl sulfoxyde	$(CH_3)_2SO$
Dimethylformamide	$HCON(CH_3)_2$
Dioxane	$C_4H_8O_2$
Dulcitol	$C_6H_{14}O_6$
Dyes	—
E	
Esters	R-COO-R'
Ethanol	C_2H_5OH
Ether	R-O-R'
Ethyl acetate	$CH_3COOC_2H_5$
Ethyl acetique ester	$CH_3COOC_2H_5$
Ethyl ether	C_2H_5-O-C_2H_5
F	
Animal and vegetable fats	—
Fatty materials	—
Food	—
Foodstuff	—
Various foodstuff, for livestock farming included	—
Forage	—
Formaldehyde-Formol	HCHO
Fructose	$C_6H_{12}O_6$
Fruit sugar	$C_6H_{12}O_6$
G	
Galactose	$C_6H_{12}O_6$
Gelatines	—
Glucose	$C_6H_{12}O_6$
Water soluble glues	—
Glycerin	$HOCH_2$-$CHOH$-CH_2OH
Glycocoll	NH_2-CH_2-$COOH$
Glycol	$HOCH_2$-CH_2OH
Graphite	C
Grease	—
H	
Heating oil	—
Heparin	—
Heptanol	$C_7H_{15}OH$
Hexane	C_6H_{14}
Hexanol	$C_6H_{13}OH$
Hydrated lime	$Ca(OH)_2$
Hydrogen peroxide 3 % volume	H_2O_2
Hydroquinone	HOC_6H_4OH
Hypophysin	—
I	
Imido «Roche»	—

Name	Formula
Ink	—
Inosine	$C_9H_{11}O_5N_4$
Inseticides	—
Isoamyl acetate	$CH_3COOC_5H_{11}$
Isopropanol	C_3H_6OH
K	
Kaolinite clay	Al_2O_3, $2SiO_2$, $2H_2O$
Ketones	R-CO-R'
L	
Lacquers	—
Lactose	$C_{12}H_{22}O_{11}$
Lampblack	—
Lead acetate	$Pb(CH_3COO)_2$
Lipstick	—
Lithium hydroxyde (below 10 %)	LiOH
M	
Magnesium hydroxyde	$Mg(OH)_2$
Maltose	$C_{12}H_{22}O_{11}$
Mannite	$C_6H_{14}O_6$
Mannose	$C_6H_{12}O_6$
Mercury	Hg
Mesolnosite	$C_6H_6(OH)_6$
Methanol	CH_3OH
Methyl ethyl ketone	$CH_3CH_2COCH_3$
Methylene chloride	CH_2-Cl_2
Milk	—
Mud	—
N	
Nail polish	—
Nail polish removers	—
Naphtalene	$C_{10}H_8$
Naphtol	$C_{10}H_7OH$
Naphtylamine	$C_{10}H_7NH_2$
Nicotine	$C_{10}H_{14}N_2$
Nitrophenol	$C_6H_4NO_2OH$
O	
Octanol	$C_8H_{17}OH$
Animal, mineral and vegetable oils	—
Ointments	—
P	
Paraffin	CnH_2n^{+2}
Pentanol	$CH_3(CH_2)_4OH$
Peptones	—
Perfumes	—
Petrol-oil	—
Petroleum jelly	—
Phenol	C_6H_5OH
Phenolphtalein	$C_2OH_{14}O_4$
Substituted phenols	—
Plaster (gypsum)	$CaSO_4$, $2H_2O$
Polish	—

Name	Formula
Potassium below 10 %	KOH
Propanol	C_3H_7OH
Propylene glycol	$CH_3CHOHCH_2OH$
Pyridine	C_5H_5N
Q	
Quinine	—
R	
Raffinose	$C_{18}H_{32}O_{16}$,$5H_2O$
Blood typing reagents	—
Nonne-Apelt's reagents	—
Pandy's reagents	—
Topfer's reagents	—
Rhamnose	$C_6H_{12}O_5$, H_2O
S	
Salicylaldehyde	$C_7H_6O_2$
Saline solutions (also blended) different from those indicated in part 2 :	
• Aluminium chloride	$AlCl_3$
• Aluminium sulfate	$Al_2(SO_4)_3$
• Ammonium chloride	NH_4Cl
• Ammonium nitrate	NH_4NO_3
• Ammonium sulfate	$(NH_4)_2SO_4$
• Ammonium sulfide	$(NH_4)_2S$
• Ammonium thiocyanate	NH_4SCN
• Barium chloride	$BaCl_2$
• Barium sulfate	$BaSO_4$
• Cadmium sulfate	$CdSO_4$
• Calcium carbonate	$CaCO_3$
• Calcium chloride	$CaCl_2$
• Calcium nitrate	$Ca(NO_3)_2$
• Copper sulfate	$CuSO_4$
• Lead nitrate	$Pb(NO_3)_2$
• Lithium carbonate	Li_2CO_3
• Magnesium carbonate	$MgCO_3$
• Magnesium chloride	$MgCl_2$
• Magnesium sulfate	$MgSO_4$
• Nickel sulfate	$NiSO_4$
• Potassium bromate	$KBrO_3$
• Potassium bromide	KBr
• Potassium carbonate	K_2CO_3
• Potassium chloride	KCl
• Potassium ferrocyanide	$K_4Fe(CN)_6$, $3H_2O$
• Potassium iodate	KIO_3
• Potassium nitrate	KNO_3
• Potassium perborate	$KClO_4$
• Potassium sulfate	K_2SO_4
• Potassium tartrate	$K_2C_4H_4O_6$, $2H_2O$
• Sodium bicarbonate	$NaHCO_3$
• Sodium carbonate	Na_2CO_3
• Sodium chlorate	$NaClO_3$
• Sodium chloride	NaCl

Name	Formula
• Sodium citrate	$Na_3C_6H_5O_7$, $5H_2O$
• Sodium diethylbarbiturate	$NaC_8H_{11}N_2O_3$
• Sodium nitrate	$NaNO_3$
• Sodium perborate	$NaBO_2$,H_2O_2,$3H_2O$
• Sodium potassium tartrate (Rachelle's or Seignette's salt)	$KNaC_4H_4O_6$, $4H_2O$
• Sodium silicate	Na_2SiO_3
• Sodium sulfate	Na_2SO_4
• Sodium sulfide	NA_2S
• Sodium tartrate	$Na_2C_4H_4O_6$, $2H_2O$
• Sodium thiosulfate	$Na_2S_2O_3$
• Trisodium phosphate	Na_3PO_4
• Zinc chloride	$ZnCL_2$
• Zinc sulfate	$ZnSO_4$
Cooking salt	NaCl
Saponin	—
Serine	$HOCH_2CH(NH_2)COOH$
Shampoo	—
Soaps	—
Sodium acetate	$NaCH_3COO$
Sodium hydroxide below 10 %	NaOH

Name	Formula
Soil	—
Organic solvents	—
Soot	—
Sorbitol	$C_6H_{14}O_6$
Standard Agar 1 and 2	—
Starch	—
Starches	—
Styrene	C_6H_5-CH=CH_2
Sucrose	$C_{12}H_{22}O_{11}$
Sugars and syrups	—
T	
Talc	$3MgO,4SiO_2,H_2O$
Tanin	$C_{76}H_{52}O_{46}$
Tea	—
Tetrahydrofuran	C_4H_8O
Tetraline	$C_{10}H_{12}$
Thiourea	NH_2CSNH_2
Thymol	$C_{10}H_{14}O$
Toluene	$C_6H_5CH_3$
Toothpaste	—
Trehalose	$C_{12}H_{22}O_{11}$

Name	Formula
Trichlorethylene	$CHCl=CCl_2$
Trichloroethane	$CHCl_2$-CH_2Cl
Trypsin	—
Tryptophan	$C_{11}H_{12}N_2O_2$
Turpentine	$C_{11}H_{12}N_2O_2$
U	
Urea	H_2NCONH_2
Urine	—
V	
Vanillin	$C_8H_8O_3$
Vinegar	CH_3COOH
W	
Washing powder	—
Water	H_2O
Watercolours	—
Wax	—
Wine	—
X	
Xylene	$C_6H_4(CH_3)_2$
Y	
Natural/chemical yeast	—

2. Product shows no visible signs of deterioration only if the contact is short term

Compact panels are not affected when drops or splashes of the following substances are removed within 10 to 15 minutes by rinsing the product with a clean wet cloth and then wiped dry.

Name	Formula
A	
The following acids, also in saturated solutions :	
• formic	H COOH
• oxalic	COOH-COOH
• picric	$C_6H_2OH(N_2)_3$
Acids in solution below 10 % :	
• aminosulphonic	NH_2SO_3H
• arsenic	H_3AsO_4
• chloridric	HCl
• fluoridric	HF
• nitric	HNO_3
• oxalic	COOHCOOH
• perchloric	$HClO_4$
• phosphoric	H_3PO_4

Name	Formula
• sulphuric	H_2SO_4
• sulphurous	H_2SO_3
Aniline	$C_6H_5NH_2$
B	
Bleach	NaOCl
C	
Crystal Violet	$C_{24}H_{28}N_3Cl$
D	
Decolorant-Stripper	—
Descaling agents	—
Dye	—
F	
Fuchsine	$C_{19}H_{19}N_3O$
H	
Hardener-based glues	—

Name	Formula
Hardener-based paints	—
Hydrogen peroxide up to 30 % vol.	H_2O_2
I	
Iodine tincture	I_2
L	
Lithium hydroxyde above 10 %	LiOH
M	
Methyl violet	—
Methylene blue	$C_{16}H_{18}N_3ClS$
P	
Potassium hydroxide above 10%	KOH
R	
Esbach's reactive	—

Name	Formula
Million's reactive	OHg_2NH_2Cl
Nylander's reactive	—
S	
Saline solutions of :	
• ammonium acid sulfate	NH_4HSO_4
• ferric chloride	$FeCl_3$
• ferrous chloride	$FeCl_2$
• mercurochrome	$C_{20}H_8O_6Br_2HgNa_2$, $3H_2O$
• mercury bichromate	$HgCr_2O_7$
• mercury chloride	$HgCl_2$

Name	Formula
• potassium acid sulfate	$KHSO_4$
• potassium bichromate	$K_2Cr_2O_7$
• potassium chromate	K_2CrO_4
• potassium iodine	KI
• potassium permanganate	$KMnO_4$
• silver nitrate	$AgNO_3$
• sodium acid sulfate	$NaHSO_4$
• sodium hydrogen sulfite (or sodium bisulfite)	$NaHSO_3$

Name	Formula
• sodium thiosulfate (or sodium hyposulfite)	$Na_2S_2O_3$
Soda above 10 %	NaOH
T	
Tinctures	—

3. Product could be permanently damaged unless substances are immediately removed

The following chemicals and substances may leave mat and rugged rings and should be removed immediately by cleaning and wiping dry.

Name	Formula
Acids above 10 % :	
• aminosulphonic	NH_2SO_3H
• arsenic	H_3AsO_4
• hydrochloric	HCl
• nitrix	HNO_3
• perchloric	$HClO_4$
• phosphoric	H_3PO_4

Name	Formula
• sulphuric	H_2SO_4
Strong acids :	
• aqua regia	HNO_3+HCl (1+3)
• chromic	$Cr_2O_7H_2$
• hydrobromic	HBr
• hydrofluoric	HF
• sulfochromic	$K_2Cr_2O_7+H_2SO_4$

4. Aggressive vapours and gases that will affect the surface

Name	Formula
Acid vapor	—
Bromine vapor	Br_2
Chlorine vapor	Cl_2
Nitric vapor	NxOy
Sulphur dioxide vapour	SO_2

B | *Cleaning advice*

- Daily maintenance is easy using a soapy sponge or soft cloth.
- For stubborn stains, use an appropriate organic solvent (such as white spirit, acetone, household alcohol etc.), rinse with warm water and wipe with an all-purpose paper towel.
- Never use abrasive products (scouring powder, steel wool, black soap) or bleaching agents, wax furniture polishes, cleaning products containing strong bases, acids or their salts (limescale removers, hydrochloric acid, drain cleaning products, silver cleaning products etc.).
- Spots of glue may be removed immediately. Neoprene or silicone joint blobs must be removed with the appropriate solvent and vinyl glue with warm water. Residual flakes of glue may be removed with acetone.
- Abrasion marks are more visible on dark decors (micro-scratches). Such marks are just a visual alteration, which does not imply low quality of the surface. This characteristic should be taken into account depending on the final use of the product.
- Gloss surfaces are more subject to scratching due to their smooth structure. Scratch marks are just a visual alteration which does not imply low quality of the surface. This characteristic should be taken into account depending on the final use of the product.
- Due to its textured and mat structure, the ROCHE finish, in association with dark decors, may show crest alterations during the life of the panel. The appearance of “bright” parts does not imply low quality of the structure. This characteristic should be taken into consideration depending on the final use of the product.
- The Monochrom® White core does not alter after coming into contact with many types of stains (fruit juice, oil, hydrogen peroxide 30 %, acetone etc.), but it is more sensitive to certain coloured staining agents such as wine, eosin and so on. It is recommended to remove the stains immediately. In case of persistent stains, it is possible to treat the edges by sanding with fine sandpaper and a sanding block. Polyrey tests the Compact panel cores in the same way as surfaces, but according to standard EN438 the formers are not subject to specific needs in terms of stain resistance.
- Respecting certain rules ensures a longer life of compact laminate panels :

- Systematically use cutting boards and heatproof mats to protect surfaces.
- Immediately wipe spilled liquids and avoid leaving stagnant water.
- Prevent abrasive objects from sliding across the surface.

	1 POWDER AND DIRT, CONDENSATION OF FATTY VAPORS, TRACES OF SOAP, CHALK, PENCIL	2 DEPOSITS ARE TRACES DUE TO WATER, TRACES OF RUST	3 COFFEE, TEA, FRUIT JUICE, SYRUP	4 GREASE, OIL, FINGERPRINTS, PENCILS (FELT-TIP PENS, MARKERS, BALL-POINT PENS), TRACES OF CIGARETTES, RUBBER TRAILS, TRACES OF TAR	5 TRACES OF WAX (CANDLES, MOULD RELEASE AGENTS), WAX CRAYONS	6 LIPSTICK, SHOE POLISH, FURNITURE POLISH, WAX-BASE PRODUCTS, ALL TYPES OF PENCILS
LIGHT RECENT DIRT	All-purpose paper towels, soft cloths (dry or wet), sponges and other non-abrasive cloths. In case of wet cleaning, wipe with domestic all-purpose paper towels.					
	It is necessary to clean Compact decorative panels as regularly as possible throughout their life. It is forbidden to use polishing products, particularly those containing wax or silicone.					
MEDIUM OR RECENT DIRT	Very hot water, clean cloths or suede cloths, sponge or soft brush (such as nylon brush), usual cleaning products without abrasive particles, washing-up liquid, washing detergent, black soap or bar soap. Soak with solution or product and leave on based on the degree of dirt. End by rinsing with clean water. Completely remove the cleaning product to prevent the formation of rings. Wipe the surface with a clean cloth or domestic all-purpose paper towel. Change the cloth frequently. Glass detergents may also be used.					
					Remove residuals of wax and paraffin with a wood or plastic scraper. Make sure the surface does not get scratched.	
				Organic solvents (acetone, burning alcohol, petrol, perchloroethylene, methyl, ethyl ketone, white spirit, nail polish remover).		
	For regular cleaning, never use scourers or abrasive products (scouring powder, steel wool) or polishing products, wax, furniture detergents or bleaching agents. Do not use cleaning products containing strong bases, acids or their salts (limescale removers with phormic acid and sulfamide acid, drain cleaners, hydrochloric acid, silver cleaner or pipe cleaning products).					
PERSISTENT OR OLD DIRT		Leave a liquid washing-up detergent or a paste prepared with washing powder and water overnight. Liquid detergents, polishing pastes and bleaching agents should only be used with caution and occasionally. With shiny finishes, follow specific precautions (see page 43).				
		To remove persistent residuals of limescale, use a weak acid based product (acetic such as domestic vinegar, citric or aminosulphonic diluted at 10 %).				
	In case of cleaning with dangerous chemicals, follow the accident prevention advice: open the windows, do not stand near naked flames, wear gloves and protective glasses.					

7 HUMAN, ANIMAL AND VEGETABLE ORGANIC MATERIAL (BLOOD, URINE, FAECES ETC.)	8 TRACES AND RINGS DUE TO CERTAIN SOLVENTS	9 WATER PAINTS, PAINT REMOVERS, WATER TINCTURES, WATER GLUES, VINYL GLUES	10 SOLVENT-BASED PAINTS AND LACQUERS, SOLVENT-BASED TINCTURES AND GLUES, PROJECTIONS OF AEROSOL, STAMP-PAD INK	11 PAINTS, 2-COMPONENT LACQUERS AND GLUES, SYNTHETIC RESINS, SUCH AS POLYURETHANE	12 MASTICS, SILICONES, SILICONE-BASED MAINTENANCE PRODUCTS
→			Organic solvents.	Remove immediately with water or solvents.	Rub dry without scratching (wood or plastic scraper). Remove the silicone.
		Important instructions : Rings typically appear when cleaning with solvents, cold water or greasy cloths. To avoid discolouration or appearance of rings after cleaning, it is recommended to rinse with warm water and wipe with all-purpose paper towel.			
→			Organic solvents (such as acetone, burning alcohol, petrol, perchloroethylene, methyl, ethyl ketone, white spirit).	Cleaning only before hardening. It is necessary to remove immediately with water or solvents.	Remove the silicone mastic glue with a wood en or plastic scraper without scratching. Remove silicone-based wax with a specific solvent (white spirit) and wash with warm water mixed with detergent.
Treatment with disinfecting products. Steam cleaning or high pressure cleaner. Disinfection according to specific instructions.		Water or organic solvents.	For the application of glues and lacquers, it is recommended to contact the manufacturer concerning the most suitable product in order to avoid or remove dirt due to manufacturing activities.		
→		Using water, solvents or paint removers, soften, take off and lift the film.		No cleaning possibility after hardening.	Remove silicone-based mastic glues with a wooden or plastic scraper without scratching. Remove silicone-based wax with a specific solvent (white spirit) and wash with warm water mixed with cleaning product.
			Graffiti may be removed with a suitable solvent (it is advisable to test the product first).		

AL-AL kitchen - Photo / Arthur Los

TECHNICAL GUIDE

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