CIRQLAR

FACADE SYSTEMS
INSTALLATION INSTRUCTIONS

www.cirqlarconstruct.com

CONTENTS

BENEFITS

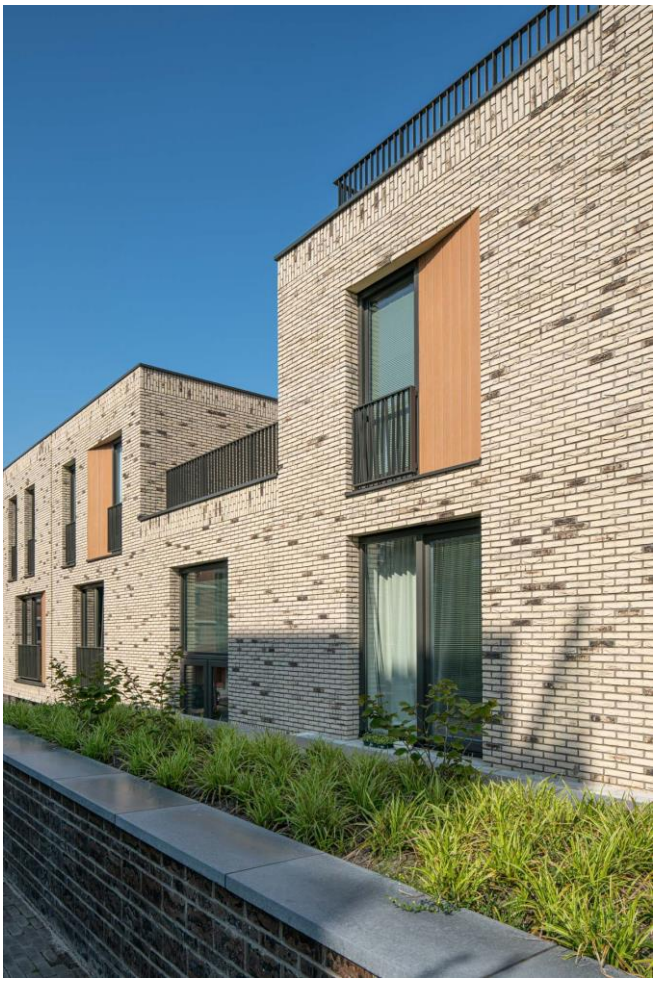
The added plus for your facade

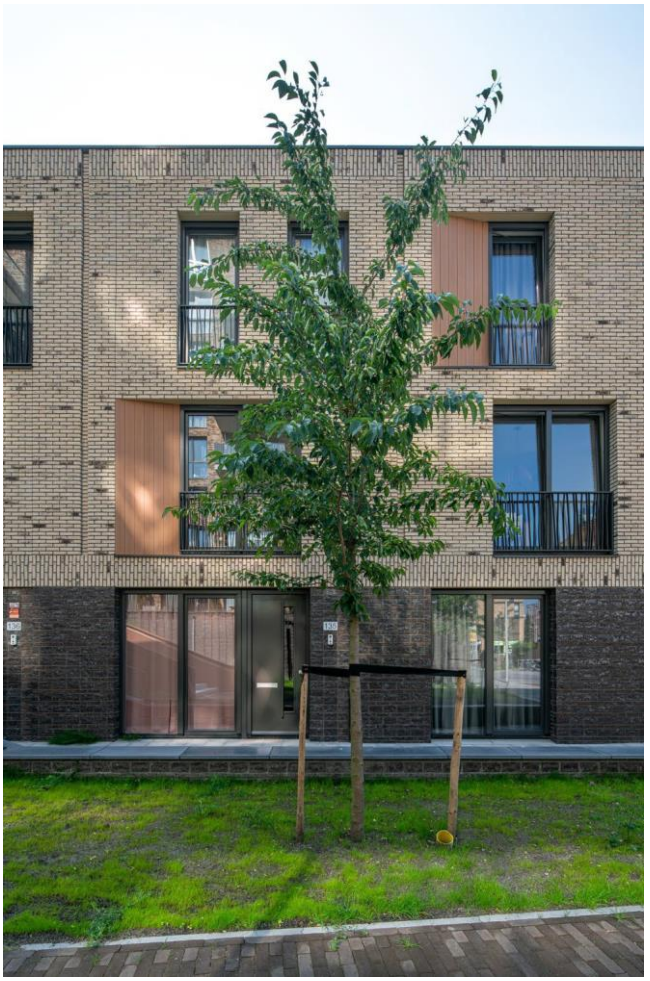
- ✓ Easy installation using timber tools and techniques
- ✓ Easy aftercare
- ✓ No defects
- ✓ Weather resistant
- ✓ Water resistant ~ resistant to rain, sea water and chlorinated water
- ✓ UV resistant so no greying
- ✓ Dimensionally stable
- ✓ No splintering, cracking or flaking
- ✓ Durability Class 1 to fungal attack i.e. rot
- ✓ Fire protection European class from E to B available
- ✓ Wide range of colour fast colours
- ✓ Recyclable
- ✓ Cirqlar made of Resysta

15 YEAR GUARANTEE

- swell-free
- crack-free
- splinter-free
- rot-free

CIRQLAR

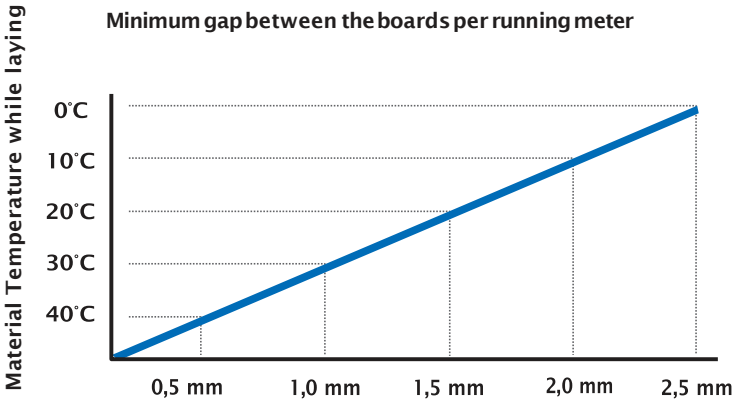




CIRQLAR

Allowing for dimensional change

- Cirqlar only expands and contracts due to temperature. Unlike other materials, Cirqlar does not swell and shrink due to air humidity or direct contact with water. Cirqlar only expands along its length.
- Thermal expansion must be considered when installing your Cirqlar product. Expansion is allowed for by using appropriate fixings (see Fixings) and expansion gaps (see table below).
- When cutting to length, Cirqlar must be kept at a constant temperature, ideally in the shade. Exposure to direct sunlight will result in an increased change in length.
- When installing, appropriate expansion gaps should be allowed for lengthways between boards or between the end of a board and a fixed structure, like a wall. Please use the graph below to calculate the gap you need. This is calculated at 1mm gap per 1m length of Cirqlar per 10 degree Celsius (°C) change in temperature.



Preservation

Due to the unique properties of Cirqlar,

the following will NOT occur;

- ✓ Discolouration or greying
- ✓ Cracking due to swelling and shrinking
- ✓ Splinters
- ✓ Ingress of water and rotting
- ✓ Cupping
- ✓ Resin discharge

Storage

- Please store Cirqlar made of Resysta material horizontally on a level surface.
- If storing Cirqlar on beams, the beams should not be more than 30 cm apart.
- The profiles should never be covered with plastic or foil - either before or after installation. Condensation and accumulated water can cause staining.

Fixings

When applying a screw directly to Cirqlar, the lineal thermal expansion of Cirqlar must be allowed for (see left graph). To do this, you must;

- Use screws with a smooth underside to the head (ideally flat underside).
- Ensure that the pilot hole is a minimum of 1.8 x Ø of the screw shaft.
- Tighten screws carefully. Do not overtighten to allow the movement of Cirqlar and to avoid any damage.

Please note

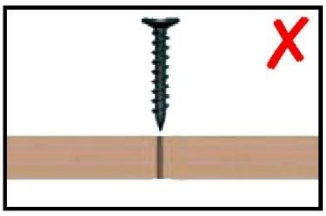
Waste pieces and dust should be disposed of in compliance with the regulations of your water management authority. Please do not burn Cirqlar.

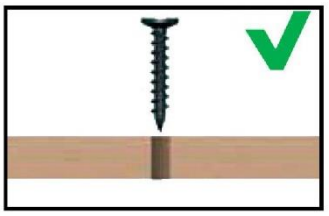
INSTALLATION TIPS

General application instructions

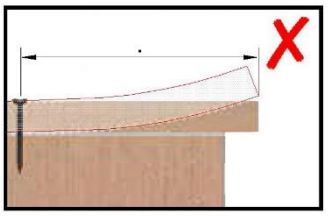
Some basic considerations should be given when working with Cirqlar. Greater detail can be found on the following pages.

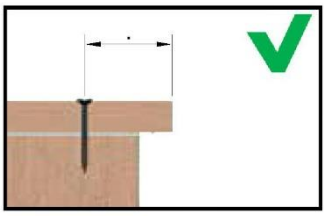
Adequate pre-drilling



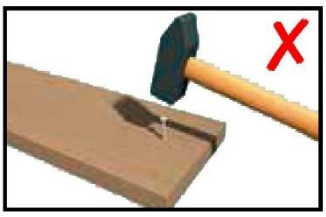


Reduce projecting

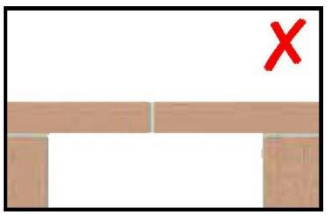


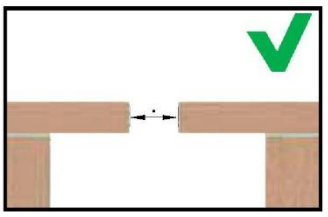


Use screws to fasten



Sufficient spacing for thermal





Sawing

Cirqlar profiles made of Resysta may be cut longitudinally and laterally with customary saws.

Milling

Any profiles can be milled easily by means of customary woodworking tools.

Sanding

Cirqlar profiles made of Resysta should be sanded in longitudinal direction only. Depending on the required finish, we recommend the use of sand paper with grit of 60 – 80. Fine-grit sand paper should only be employed for the removal of dirt.

Drilling

Can be performed using ordinary woodworking drills.

Screws

Due to Cirqlar's high density, the use of nails is not recommended. Screws should be used and should be appropriate for outdoor use, ideally stainless steel. The screw penetration depth should be three times its diameter. Pilot holes should be 1.7-1.8 times the screw diameter shaft (1.7-1.8 x Ø) to allow movement.

Bonding

Cirqlar profiles made of Resysta may be glued with standard PU-adhesives or other appropriate plastic adhesives. The surface must be cleaned and be free of loose particles and dirt to ensure optimal bonding.

Please note

Cirqlar is not a structural material. The products should not be used for supporting or structural purposes. Local building regulations should be followed along with any laying instructions and technical information.

COLOUR GLAZE (FCG)

1. Application

To obtain a uniform and optimal colour result, the glaze should be applied in constant weather conditions.

Ideal application conditions are 5 – 25 degrees Celsius (°C) temperature and 50% – 60% relative air humidity.

Glaze should be applied to individual profiles before installation.

Before application, the surface should be thoroughly cleaned to achieve a consistent finish.

Please do not apply in direct sunlight or if there is any likelihood of rain

2. Care

- ✓ Care on a regular basis not required.

3. Cleaning

- Dirt may be removed with a gentle jet wash or with a soft brush.
- More stubborn items may be removed with a stiffer brush or gentle sanding with a fine grit sandpaper (120 grit plus).

4. Maintenance

- Glaze may wear or dull over the course of time. It may be reinvigorated by diluting 3 parts water to 1 part glaze and applying with a paint brush or a gentle jet wash.

Please note
Cirqlar siding is always pre treated in the factory with the color glaze and sealing.

SEALING (RFS)

The sealer (RFS) seals the surface and any small gaps. This makes the surface more hard-wearing and does not allow dirt particles to adhere, making the surface easier to clean. The ingress of moisture is also prevented

1. Application

The sealer consists of 2 components which must be applied within 30 minutes of mixing, with a flat brush.
The sealer should be applied in consistent conditions

Please do not apply in direct sunlight or if there is any likelihood of rain.

Application instructions are available – please ask

2. Care

- ✓ Care on a regular basis not required.

3. Cleaning

- Dirt may be removed with a gentle jet wash or with a soft brush.
- More stubborn items may be removed with a stiffer brush or gentle sanding with a fine grit sandpaper (120 grit plus).

4. Maintenance

- ✓ Maintenance should normally not be required.
- In areas of high traffic, wearing may occur. To renew, the original sealer must be removed by sanding (as with paint or varnish on wood) and a new coat applied.
- Scratches will not affect the durability of your Cirqlar product. They do not need to be refinished as with other materials

PRODUCT RANGE*

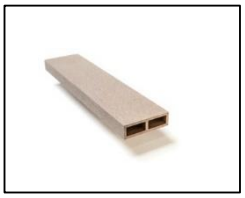
CIRQLAR CSP 151

Brand	Cirqlar
Colour	On Request
Height x Width	12 mm x 173 mm

CIRQLAR CSP 105

Brand	Cirqlar
Colour	On Request
Height x Width	12 mm x 128 mm

CIRQLAR CHP 2070



Brand	Cirqlar
Colour	On Request
Height x Width	20 mm x 70 mm

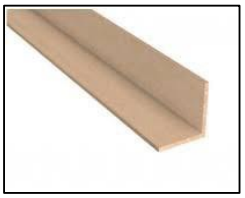
CIRQLAR CHP 1590

Brand	Cirqlar
Colour	On Request
Height x Width	15 mm x 90 mm

CIRQLAR CHP 20140

Brand	Cirqlar
Colour	On Request
Height x Width	20 mm x 140 mm

CIRQLAR CCP 5050 CORNER PORFILE



Brand	Cirqlar
Colour	On Request
Height x Width	50 mm x 50 mm

* Additional profiles are available from the general product guide.

Facade System 1

1. Substructure

The substructure must be designed according to professional carpentry guidelines. The dead load and the high diffusion resistance of Cirqlar profiles made of Resysta have to be taken into consideration. The facade may be fixed to either a wooden substructure, Cirqlar battens or other appropriate materials.

We recommend the use of the Cirqlar substructures because of their durability and water resistance.

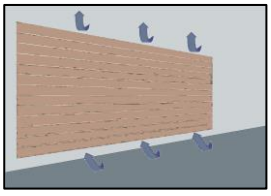
The support battening can be installed vertically or horizontally. The following spacing has to be considered prior to support assembly.

Only vertical support battening = installation CSP horizontal.

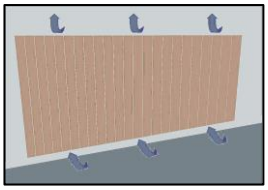
Horizontal battens on to of vertical battening = installation CSP vertical.

2. Rear ventilation

Due to the high diffusion resistance of Cirqlar profiles made of Resysta, a rear ventilation of the facade is always required. The rear ventilation space must measure at least 20 mm, at the bottom, at the back and at the top of the products.



Ventilation on Horizontal application

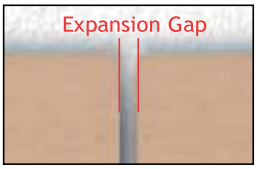


Ventilation on Vertical application

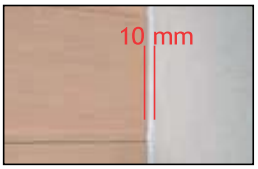
3. Centre distance

PROFILE		MAXIMUM SPAN
CSP 151		400 mm
CSP 105		400 mm

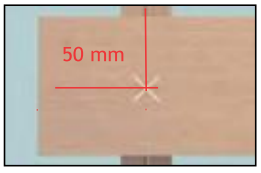
4. Spacing



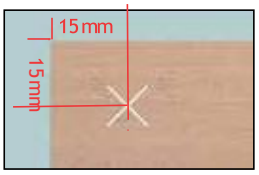
For the correct expansion gap, please see the graph on page 4.



When connected to another building (part), an expansion joint of 10 mm is required.



The distance from the profile end to the nearest fixing must not exceed 50 mm.

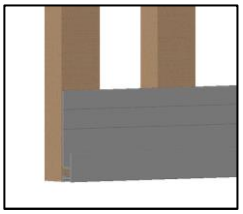


The distance from fixing to the profile edge must measure at least 15 mm

Facade System 1

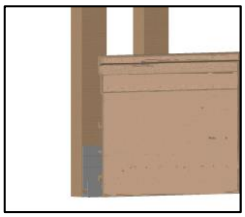
5. Fixing

a) Start by fixing the Cirqlar starting profile



Fasten the starting profile with screws to the lowest batten(horizontal application) or at the first batten at the left/right (vertical application).

b) Fixing the first Cirqlar profile

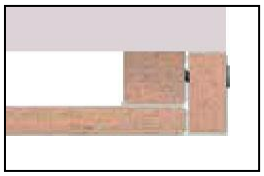


Place the first profile in the "hook" and place all the screws in the middle of the pre drilled holes to make sure the profile is able to extend and shrink.

c) Fixing the next profile

Insert further profiles in the previous and fasten them in the middle of the slotted holes.

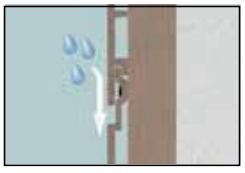
d) Fixing the ultimate profile



Make sure the last slotted hole is maximum 50mm from the edge of the CCP profile. If there is no pre drilled hole, please create one of 5mm x 40mm(HXB).

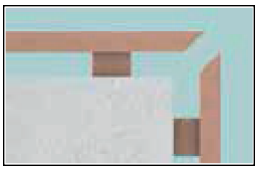
Cut the Cirqlar CCP 5050 on one side towards 12mm, the height of the CPS 105/151. If needed you can cut the CCP 5050 in the cumulated size of 12mm plus the thickness of the batten. Screw or glue the CPP 5050 thereafter against the sub batten and the groove of the CSP 105/151.

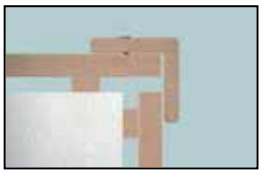
e) Drainage for horizontal installation



Please mount the profiles to ensure controlled water drainage.

6. Examples for fixing the vertical profile next to a window frame





6.1 Cut the Cirqlar CCP 5050 mm corner profile to 50 mm x 12mm and glue it with tack at the groove site of the profile .This solution is useful for connections with window frame for example.

6.2 Let the window frame overlap the groove part of the profile.

Corner finishes are similar to those of wooden facades. Thermal expansion must be considered.

7. Corner detailing horizontal application

At both sites of the corner, you will the groove part of the profiles. Then glue the corner profile with high tack on top of the groove areas.

Please note

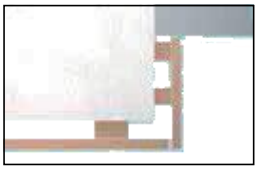
1. Never screw the profiles to tight. You will need to be able to move the profile with your hand after the installation.
2. Your supplier can answer questions about special applications such as high buildings and wind

8. Joining

Joining to roof frames, window lintels, window reveals, apron walls etc. has to be carried out in a manner that avoids ingress of water into the substructure (if it is wood) and allows for controlled water drainage. In this regard the use of aluminium Z profiles is an option.

Connections can also be carried out with various Cirqlar profiles made of Resysta, for instance apron walls with Strokes.

When designing the connections, thermal expansion of Cirqlar profiles must be taken into account.



Facade System 1

9. Corner detailing vertical application

End the wall with the groove side of the profile and start around the corner with the groove as well. The 4 mm deepened position of the groove is making it possible that the Cirqlar corner profile 50 mm x 50 mm x 4 mm is fitting exactly.

10. Edges

Moisture ingress at the profile edges cannot occur. To improve colour adherence, we recommend rounding off sharp edges by sanding prior to colour treatment with 80- 100 grit sand paper.

Facade System 2

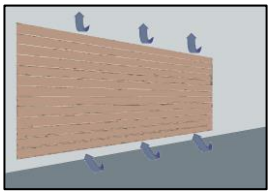
1. Substructure

The substructure must be designed according to professional carpentry guidelines. The weight and the high diffusion resistance of Cirqlar profiles made of Resysta have to be taken into consideration. The facade may be fixed to either a wooden substructure, Cirqlar battens or other appropriate materials.

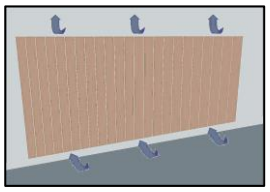
All fixings and materials must meet building regulations and manufacturers guidelines.

We recommend the use of the Cirqlar substructures because of their durability and water resistance.

2. Rear ventilation



Ventilation on Horizontal application



Ventilation on Vertical application

Due to the high diffusion resistance of Cirqlar profiles, a rear ventilation of the facade is always required. The rear ventilation distance must measure at least 20mm.

3. Centre distance

PROFILE		MAXIMUM CENTRE DISTANCE at upright installation
CHP 2070		600 mm
CHP 1590		600 mm
CHP 20140		600 mm

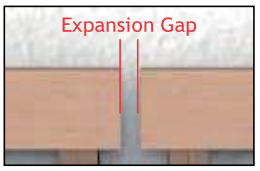
4. Joint pattern

We recommend the formation of staggered joints (ship's deck pattern). In this case the lining-up of the joints can be accomplished more neatly and the mounting tolerances are less visible.

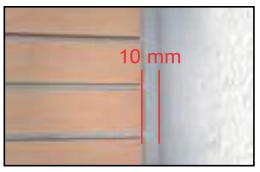
In the case of end-to-end joints, we recommend covering the joint.

This can be achieved with widely available aluminium T-rails. Varying changes in length will occur and could lead to a slightly irregular joint pattern.

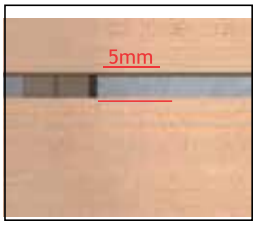
5. Spacing



For the correct expansion gap, please see the graph on page 4.



When adjacent to another building, an expansion joint of 10 mm is required.

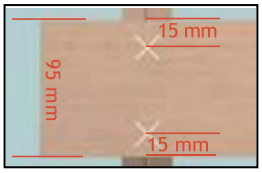


A horizontal gap of at least 5 mm must be maintained between the profiles.

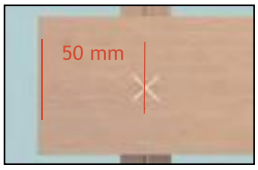
Facade System 2

6. Fixing profiles

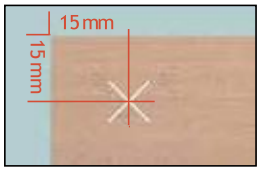
For visible screw fixing into Cirqlar, the screw depth should be approximately 3 times the diameter of the screw (3 x Ø). Cirqlar profiles made of Resysta should be pre- drilled 1.7-1.8 times the screw diameter (1.7-1.8 x Ø).



For profiles more than 95 mm wide, 2 screws / fasteners must be used across the width.



The distance from the profile end to the nearest fixing must not exceed 50 mm.



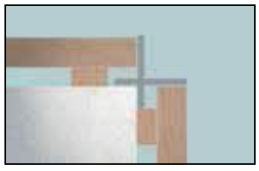
The distance from the fixing to the profile edge must measure at least 15 mm.

7. Corner detailing

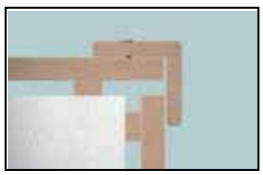
Corner finishes are similar to those of wooden facades. Thermal expansion must always be considered.

Open mitre joint.

Open straight joint.



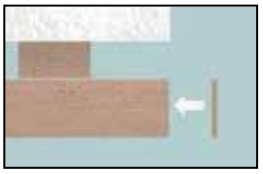
Open corner with standard aluminium end plate.



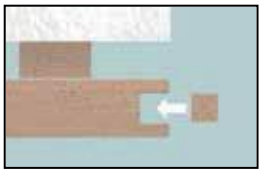
Corner end with a 50 mm x 50 mm Cirqlar angle.

8. End finishing

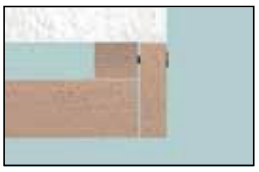
To avoid heavy weight, many Cirqlar profiles are produced as hollow chamber profiles.
The following options exist for finishing profile ends;



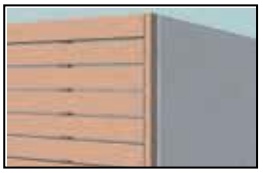
Close the ends with Cirqlar Strokes.



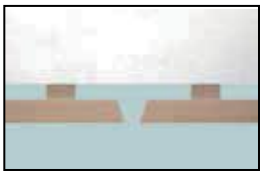
Close the ends with end plate (prior milling of a groove is required).



Covering the hollow chamber with end plate.



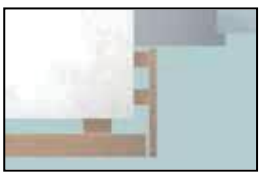
Covering the hollow chamber with end plate.



Concealing the hollow chamber by means of bevel cut.

9. Joining

Joining to roof frames, window lintels, window reveals, apron walls etc. has to be carried out in a manner that avoids ingress of water into the substructure and allows for controlled water drainage. In this regard the use of aluminium Z-profiles is recommended.



Different Cirqlar profiles can also be utilized for connections, e.g. window reveals with Cirqlar Strokes.

Facade System 2

10. Edges

Moisture ingress at the profile edges cannot occur. To improve colour adherence, we recommend rounding off sharp edges by sanding prior to colour treatment with 80 – 100 grit sandpaper.

11. Frontal protection

Cirqlar profiles made of Resysta do not feature capillary action. Therefore, no surface protection is necessary to protect Resysta as it would be with other materials. Lacquer may be used, but this is only for aesthetic reasons.

12. Splash water protection

Owing to the high durability (resistance) of Cirqlar profiles made of Resysta the material is not affected by water. Increased soiling can, however, be expected and can result in staining. We recommend treating these areas with sealer (RFS).

13. Completion

Any drilled holes, dowel holes and cut surfaces occurring after mounting should be glazed in situ. By applying the glaze with a cloth, scratches and damage can be refinished.

TECHNICAL DATA

Density	ASTM D2395:2002	approx. 1.46 g/cm^3
Coefficient of Linear Thermal Expansion	ASTM D696	3.6x10(-5) mC
Weathering and UV Resistance	QUV Test	Cirqlar surfaces treated with glaze show extremely high resistance
Skid Resistance	DIN 51097	C Rating (highest rating)
European fire standards and national legislation	EN13501-1	European class from E to B (ask your dealer for more information).
Durability (Resistance to Wood-Destructive Fungi)	DINV ENV 12038:2002	the material has not been affected, highest durability – Class 1
Emission	DIN EB ISO 9001/14001	passed
Brinell Hardness (HB)	EN 1534	81,1 N/mm^2
Friction Coefficient µ untreated	EN 13893	0,46
Friction Coefficient µ with 2K	EN 13894	0,52
Screw Withdrawal Resistance	EN 320.2011-07	5777 N
heat conductivity	EN 12664	0.199 W/(mK)
water vapor permeability	DIN EN ISO 12572	¤=1300 -> sd 7.22m diffusion inhibiting
Water Absorption at 100% ambient air humidity	ISO 62	0,31%
Bending Strength	ISO 178	46 N/mm^2
Bending Modulus	ISO 178	3850 N/mm^2
Tensile Strength	ISO 527	21,8 N/mm^2
Tensile Modulus	ISO 527	2340 N/mm^2
Shearing Strength	EN 392	16,8 N/mm^2

Contact us for more information

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