Resysta®
THE BETTER WOOD

FACADE SYSTEMS
INSTALLATION INSTRUCTIONS

www.falconpp.co.uk

FALCON
PANEL PRODUCTS LTD

Contents

Resysta® THE BETTER WOOD

FALCON PANEL PRODUCTS LTD

Benefits

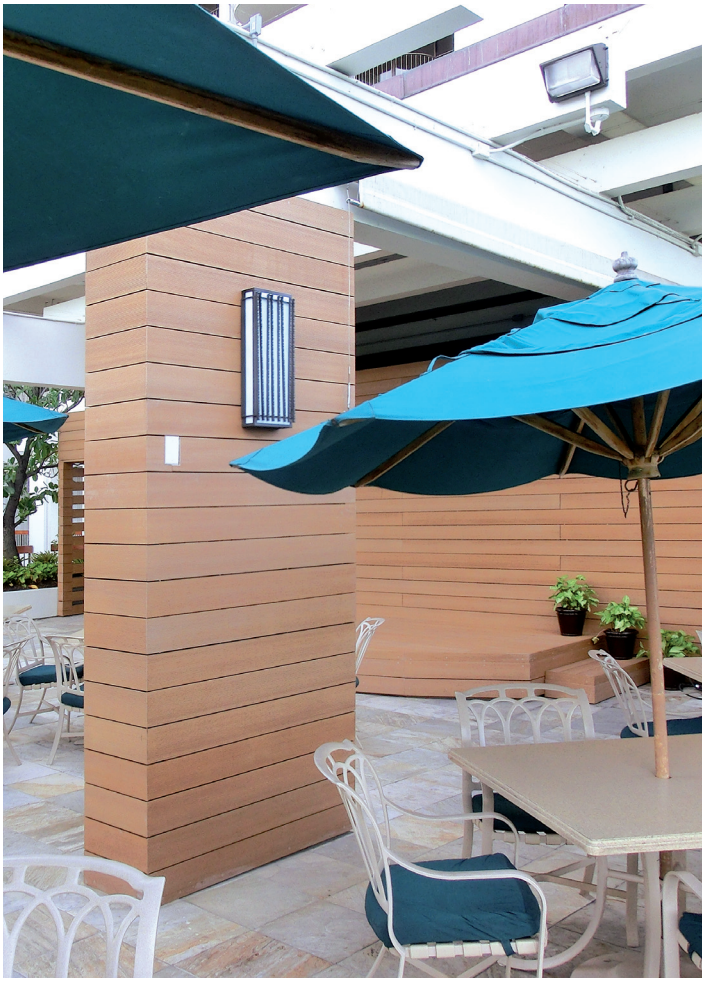
The added plus for your facade

- 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 Class E (B2) ~ Class E (B1) available
- Wide range of colourfast colours
- Recyclable
- Made from Resysta® THE BETTER WOOD

15 YEAR GUARANTEE

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

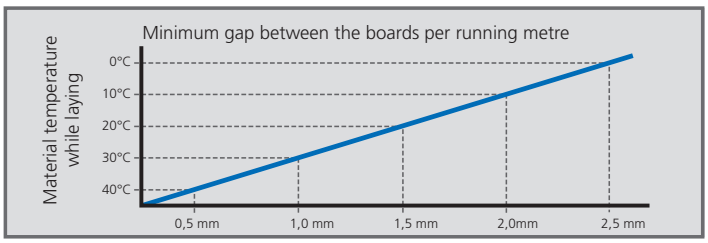
Resysta® THE BETTER WOOD



Basics

Allowing for dimensional change

- Resysta only expands and contracts due to temperature. Unlike other materials, Resysta does not swell and shrink due to air humidity or direct contact with water. Resysta only expands along its length.
- Thermal expansion must be considered when installing your Resysta product. Expansion is allowed for by using appropriate fixings (see Fixings) and expansion gaps (see table below).
- When cutting to length, Resysta 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 table below to calculate the gap you need. This is calculated at 1mm gap per 1m length of Resysta per 10 degree Celsius (°C) change in temperature.



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

Fixings

When applying a screw directly to Resysta, the lineal thermal expansion of Resysta must be allowed for (see table above).
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 1-2mm larger than the screw shaft.
- Tighten screws carefully. Do not overtighten - to allow the movement of Resysta and to avoid any damage.

Preservation

Due to the unique properties of Resysta, the following will not occur;

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

Storage

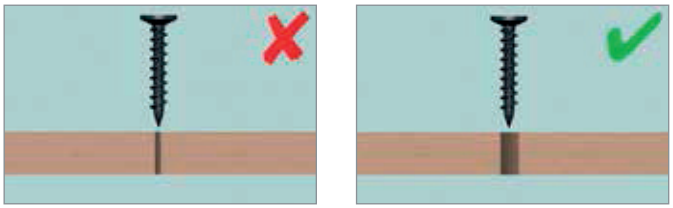
- Please store products made of Resysta material horizontally on a level surface.
- If storing Resysta on beams, the beams should not be more than 30cm apart.
- The profiles should never be covered with plastic or foil – either before or after installation. Condensation and accumulated water can cause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

Installation tips

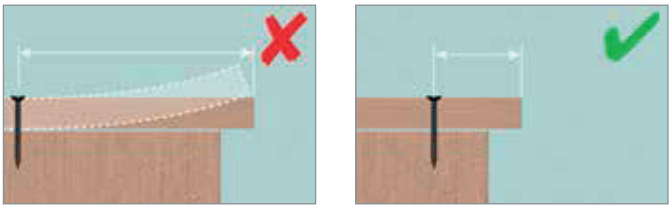
General application instructions

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

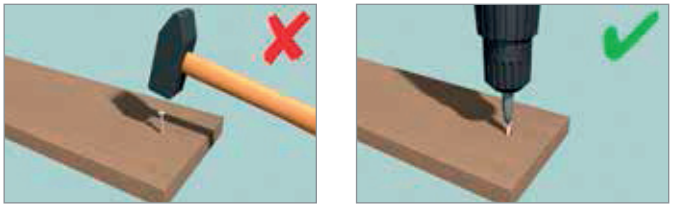
Adequate pre-drilling



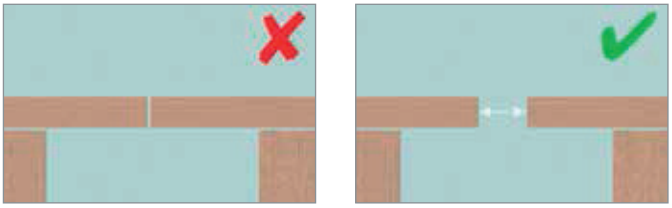
Reduce projecting



Use screws to fasten



Sufficient spacing for thermal expansion



Sawing

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.

Please note

Resysta 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.

Sanding

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 Resysta'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 – 2 mm larger than the screw shaft to allow movement.

Bonding

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

Colour Glaze (FVG)

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.

2. Care

- Care on a regular basis is 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.
- 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.

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.

- Avoid application in direct sunlight.
- Application instructions are available – please ask.

2. Care

- Care on a regular basis is 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 not normally 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 Resysta product. They do not need to be refinished as with other materials.

Product range*

Facade System 1

RESYSTA CP 140

Material	Resysta
Colour	Natural
Width x Height	173 x 13 mm

RESYSTA CP 95

Material	Resysta
Colour	Natural
Width x Height	128 x 13 mm

Facade System 2

WCWA FP 300/33

Material	Resysta
Colour	Natural
Height x Width	290 x 33 mm
Length	1500 mm

WCWA CR 300/33

Material	Resysta
Colour	Natural
Height x Width	290 x 300 mm
Length	300 mm
Depth	33 mm

WCWA LE 300/33

Material	Resysta
Colour	Natural
Height x Width	290 x 33 mm
Length	1500 mm

WCWA RE 300/33

Material	Resysta
Colour	Natural
Height x Width	290 x 33 mm
Length	1500 mm

Facade System 3

FPH 7020

Material	Resysta
Colour	Natural
Width x Height	70 x 20 mm

FPHR 10520

Material	Resysta
Colour	Natural
Width x Height	105 x 20 mm

* Additional profiles are available from the general product guide.

Installation 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 profiles made of Resysta have to be taken into consideration.
The facade may be fixed to either a wooden substructure, Resysta battens or other appropriate materials.

We recommend the use of the Resysta 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.

- Vertical support battening = installation CP horizontal.

- Horizontal support battening = installation CP vertical.

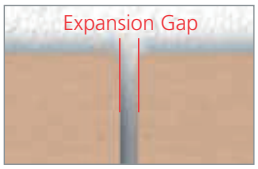
2. Rear ventilation

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

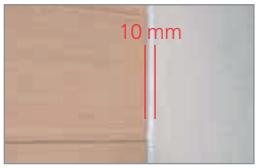
3. Centre distance

PROFILE		MAXIMUM SPAN
CP 140		625 mm

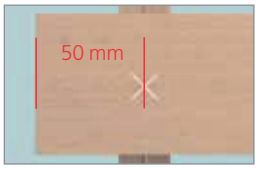
4. Spacing



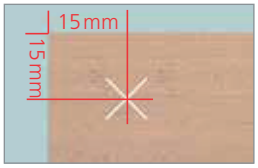
- For the correct expansion gap, please see the table on page 4.



- When connected to another building, 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.

Installation guide

Facade System 1

5. Fixing

a) Fixing the first profile

- Fasten the first fixing at the side of the profile. The fixing should be placed close to the rear balk to avoid potential deflection.
- Fasten the second screw in the groove of the profile.

Note:
Drill the pilot hole approximately 1–2mm larger than the screw shaft diameter.

b) Fixing the next profile

- Insert further profiles in the previous one and fasten them in the groove.

c) Fixing the final profile

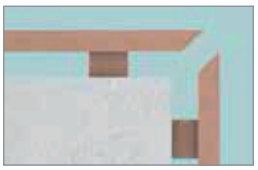
- If necessary, cut the closing profile to the correct width and fix at the edge. The fixing should be placed close to the rear balk to avoid potential deflection.

d) For horizontal installation

- Please mount the profiles to ensure controlled water drainage.

6. Corner detailing

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



Open mitre joint

Open straight corner

Open joints can be concealed e.g. with a 40mm Resysta angle.

7. Lateral end piece

- Recessed end piece.

- Overlaying end piece.

- Consider joint distances for lateral end pieces.

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 and allows for controlled water drainage.
In this regard the use of aluminium Z-profiles is recommended.

- Connections can also be carried out with various profiles made of Resysta, for instance apron walls with FP 200/5.
- When designing the connections, thermal expansion of profiles made of Resysta must be taken into account.

Installation guide

Facade System 1

9. Edges

Moisture ingress at 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.

10. Frontal protection

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.

11. Splash water protection

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

Installation guide

Facade System 2

1. Substructure

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

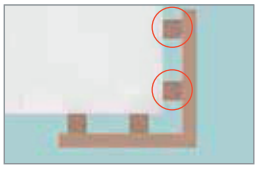
All fixings and materials must meet building regulations and manufacturers guidelines.

We recommend the use of the Resysta 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.

- Vertical support battening = horizontal installation.

- Horizontal support battening = vertical installation.



- When using the corner element, 2 fixing points on each side are required. (See Installation Instructions on page 7).

2. Rear ventilation

Due to high diffusion resistance of profiles made of Resysta, a rear ventilation of the facade is always required. The rear ventilation space must measure at least 20 mm and may not be narrowed.

3. Centre distance

PROFILE		MAXIMUM SPAN
WCWA		700 mm

4. Joint pattern

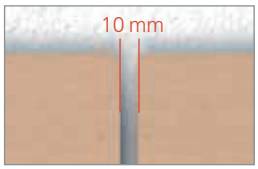
- We recommend the formation of staggered joints. In this case, the lining-up of the joints can be accomplished more neatly and the mounting tolerances are less visible.

- In the case of end-to-end joints, installation tolerances and variations in length could lead to a slightly irregular joint pattern.

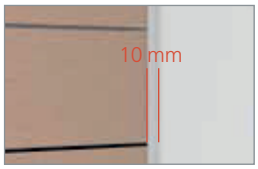
Installation guide

Facade System 2

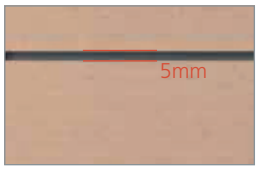
5. Spacing



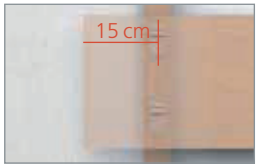
- For the correct expansion gap, please see the table on page 4.



- When connected 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.



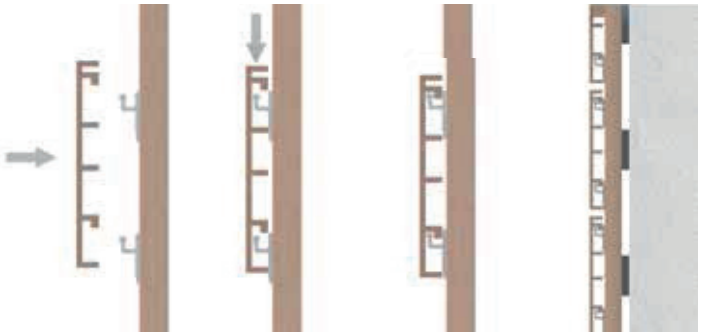
- The maximum overhang (to hook) should not exceed 15 cm.

6. Fixing

a) Fixing the first clip & guide rail

- Fasten the lowermost clips according to the required distance from the floor.

Detail - WCWA mounting



b) Fixing further clips & guide rails

- Fasten further clips according to WCWA mounting and the required distances in a horizontal direction.
  Note: To obtain consistent spacing, a timber batten can be used as a template.

c) Fixing the bottom corner

- First fasten the lowermost profile. Start from a corner. Allow for thermal expansion (see table on page 4).

d) Fixing further corner & wall profiles

- Fasten further corner and wall profiles.

e) Fixing the final corner & wall profiles

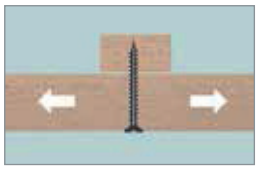
- Cut the topmost corner or wall element to the correct width and fasten it.
- In case the top mounting panel is cut off, fasten the profile with screws into the support batten.

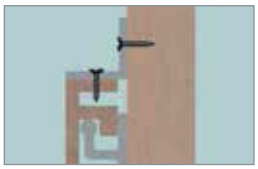
Installation guide

Facade System 2

f) Expansion control

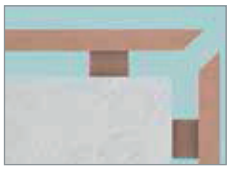
To control the expansion of the panel, a fixing or an L-angle piece should be secured into the supporting battens.





7. Corner detailing

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



Open mitre joint

Wall cladding element

Open straight corner

Open joints can be concealed, e.g. with a 40 mm Resysta angle.

8. Lateral end piece

- Recessed end piece.

- Overlaying end piece.

- Please consider joint distances for lateral end pieces.

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.

- Connections can also be carried out with various profiles made of Resysta, for instance apron walls with FP 200/5.
- When designing the connections, thermal expansion of profiles made of Resysta must be taken into account.

10. Edges

Moisture ingress at 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.

11. Frontal protection

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 profiles made of Resysta the material is not affected by water. Increased soiling can be expected and can result in staining. We recommend treating these areas with sealant (RFS).

Installation guide

Facade System 3

1. Substructure

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

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

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

2. Rear ventilation

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

3. Centre distance

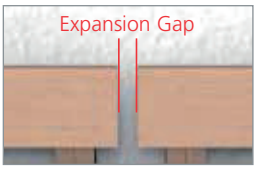
PROFILE		MAXIMUM CENTRE DISTANCE at upright installation
FPHR 6520		625 mm
FPHR 10520		625 mm
FPH 7020		625 mm

4. Joint pattern

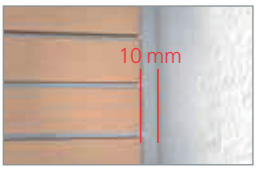
- We recommend the formation of staggered joints (ship's deck pattern). In this case the lining-up of the joints can be accomplished more neatly and the mounting tolerances are less visible.

- 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.

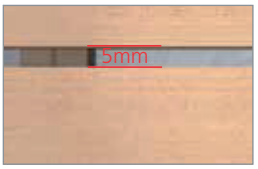
5. Spacing



- For the correct expansion gap, please see the table on page 7.



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



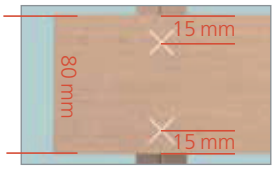
- A horizontal gap of at least 5 mm must be maintained between the profiles.

Installation guide

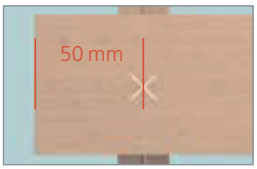
Facade System 3

6. Fixing profiles

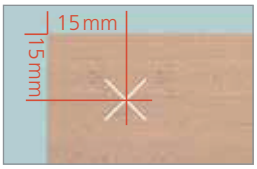
For visible screw fixing to the profile face, due to the potential change in length, the drill holes must be at least 1 mm larger than the screw diameter. When screw fixing into the Resysta, the screw depth should be approximately 3 times the diameter of the screw (3 x Ø). Profiles made of Resysta should be pre-drilled with 0.7 – 0.8 times the screw diameter (0.7 – 0.8 x Ø).



- For profiles more than 80 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.

NOTICE

The Resysta product range includes terrace construction screws 5.5 x 40 mm (A2). These screws are reinforced at the shaft enabling it to absorb higher shear stress.
We recommend the use of these screws.

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.

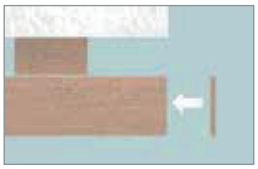
- Corner end with a 40 x 40 mm Resysta angle.

Installation guide

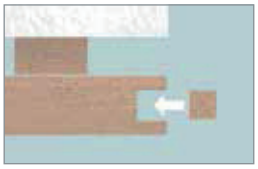
Facade System 3

8. End finishing

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



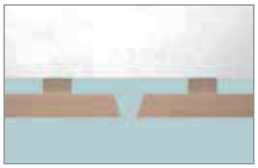
- Close the ends with 2.5 mm Resysta veneer (bonding).



- 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 (3D image).



- 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 Resysta profiles can also be utilized for connections, e.g. window reveals with FP 200/5.

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

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 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) m/mC
Water Absorption and Air Humidity Behaviour	ASTM D1037:2006a	None or very low water absorption (only surface wetting)
Weathering and UV Resistance	QUV Test	Resysta surfaces treated with glaze show extremely high resistance
Skid Resistance	DIN 51097	C Rating (highest rating)
Fire Behaviour (British Standard)	EN ISO 11925-2	B2, normal flammability (by adding flame retardants, a higher rating of B1 can be reached)
Fire Behaviour (US Standard)	NFPA	A Rating (flame propagation 25, smoke emission 450)
Fire Behaviour (British Standard)	BS 476 Part 6&7	Rating 1
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 (λ)	EN 12664	0.199 W/(mK)
Water vapour permeability	DIN EN ISO 12572	μ=1300 -> sd 7.22m diffusion inhibiting
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
Resistance to Mould Fungal Decay	CEN/TS 15083-2	The material features almost no mass loss, highest durability classification 1 (very durable)
Resistance to termites	ASTM D3345-08	Resistant to termite infestation (coptotermes curvignathus), very little loss of mass - very high durability

Resysta®
THE BETTER WOOD

Contact us for more information

FALCON
PANEL PRODUCTS LTD

Tilbury Depot	T 01375 487 300	E tilbury@falconpp.co.uk
Nottingham Depot	T 0115 919 2000	E nottingham@falconpp.co.uk
West Bromwich Depot	T 0121 525 8844	E westbrom@falconpp.co.uk
Haydock Depot	T 01744 416 600	E haydock@falconpp.co.uk
Leeds Depot	T 0113 887 2222	E leeds@falconpp.co.uk
High Wycombe Depot	T 01494 291 777	E highwycombe@falconpp.co.uk
Gateshead Depot	T 0191 338 8208	E gateshead@falconpp.co.uk

Falcon Panel Products Ltd
Clock House
Station Approach
Shepperton, Middlesex
TW17 8AN

E sales@falconpp.co.uk

www.falconpp.co.uk

January 2019

CTH A Consolidated Timber Holdings Group Company