

## INSTALLATION AND CONSUMPTION – EFFISUS ECOFACADE MEMBRANE

### 1. Summary

Effisus Ecofacade is an efficient and sustainable membrane, which guarantees to the facade water, vapour and airtightness, maximizing building energy efficiency. At the same time, it protects the most vulnerable points in a building which are exposed to weather elements, eliminating pathologies associated to condensations, corrosion and mold growth.

### 2. Usages Scope

In general: Effisus Ecofacade Membrane is used for facade weatherproofing, minimizing the building pathologies and improving the building energy efficiency

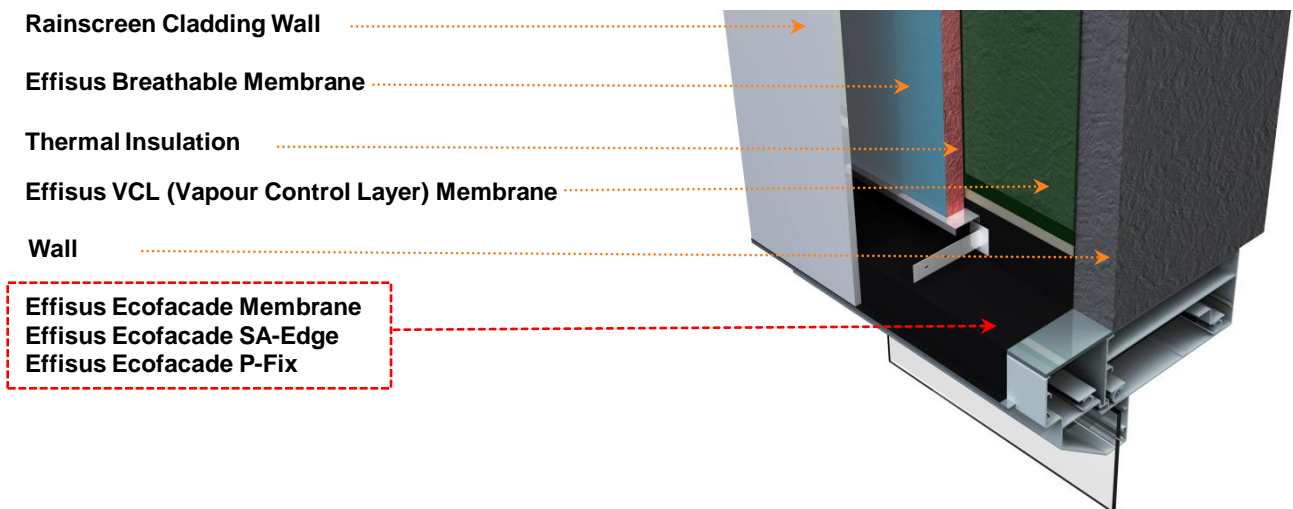


Fig. 1 – Effisus Envelope System

### 3. Presentation

#### 3.1 Effisus Ecofacade Membrane (Standard)

Waterproofing barrier membrane made of vulcanized EPDM rubber.

Thickness uses:

- Second barrier vertical sealing:  $\geq 0.60$  mm,
- First barrier vertical sealing:  $\geq 1.00$  mm,
- Protected horizontal sealing:  $\geq 1.00$  mm,
- Unprotected horizontal sealing:  $\geq 1.30$  mm

Identification: label with product name, thickness, width and length.

Available widths: 50 mm multiples between 100 mm and 1300 mm.

Thicknesses: 0.60 – 0.75 – 1.00 – 1.30 and 1.50 mm.

Roll length: 20 m.

Other widths and lengths are available if required.

Others: See Effisus Ecofacade Membrane Technical Data Sheet.

### 3.2 Effisus Ecofacade SA-Edge Membrane

Effisus Ecofacade Membrane with 1 or 2 self-adhesive butyl based edges.

Available widths: 50 mm multiples between 100 mm and 400 mm.

Thicknesses: 0.60 – 0.75 – 1.00 – 1.30 and 1.50 mm.

Roll length: 20 m.

The width of the self-adhesive strips is dependent of the width and thickness of the membranes:

- 150 mm with 20 mm self-adhesive edges,
- 200, 250 mm with 30 mm self-adhesive edges,
- 300, 400 mm with 40 mm self-adhesive edges.

Over smooth surfaces the self-adhesive edges do not need gluing or additional fixing.

Over wet surfaces, the use of a Primer Effisus Coat NP will be required before bonding.

Others: See Effisus Ecofacade SA-Edge Membrane Technical Data Sheet.

### 3.3 Effisus Ecofacade SA-Edge XTRA Membrane

Effisus Ecofacade Membrane with 1 or 2 self-adhesive Effisus 2Bond DS Tape strips. The membrane should be mechanically fixed on membrane edges.

Main Features: Self adhesive bands for porous surfaces (concrete, masonry, etc.) and non-porous surfaces (aluminium, galvanized sheet, etc.)

It should be used the Effisus Primer Coat NP for surface preparation.

Available widths: 50mm multiples between 100mm and 400mm.

### 3.4 Effisus Ecofacade P-Fix Membrane

Effisus Ecofacade Membrane with 1 or 2 fitting gasket profiles hot-vulcanized compatible with each groove of Aluminium or PVC profiles.

Available widths: 50 mm multiples between 100 mm and 600 mm.

Thicknesses: 0.75 – 1.00 – 1.30 and 1.50 mm.

Roll length: 20 m.

The fitting gasket profile adapted to the Aluminium or PVC groove does not require gluing or additional fixing.

Others: See Effisus Ecofacade P-Fix Membrane Technical Data Sheet.

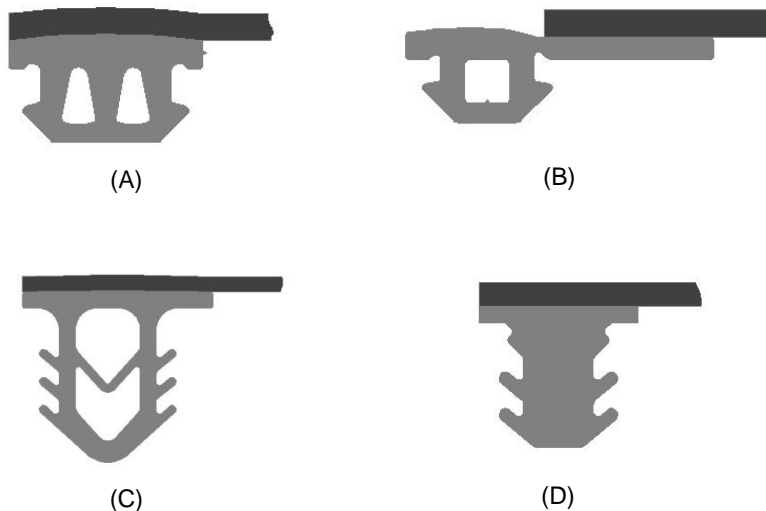


Fig. 2A, 2B, 2C, 2D - Fitting profile examples

### 3.5 Effisus Ecofacade Inside Membrane

The Effisus Ecofacade Inside Membrane has a lower water vapour permeability, being suitable to be used on the interior of the thermal insulation (warm side).

Its dimensions (thicknesses of 0.60 mm is not available) are the same as Effisus Ecofacade Membrane.

The water vapour diffusion resistance factor of Effisus Ecofacade Inside Membrane is approximately 3 times higher than the one of the Effisus Ecofacade Membrane.

Identification: label with product name, thickness, width and length.

The membrane surface is textured and it has an identifiable printing.

The bonding accessories are the same as of the Effisus Ecofacade Membrane.

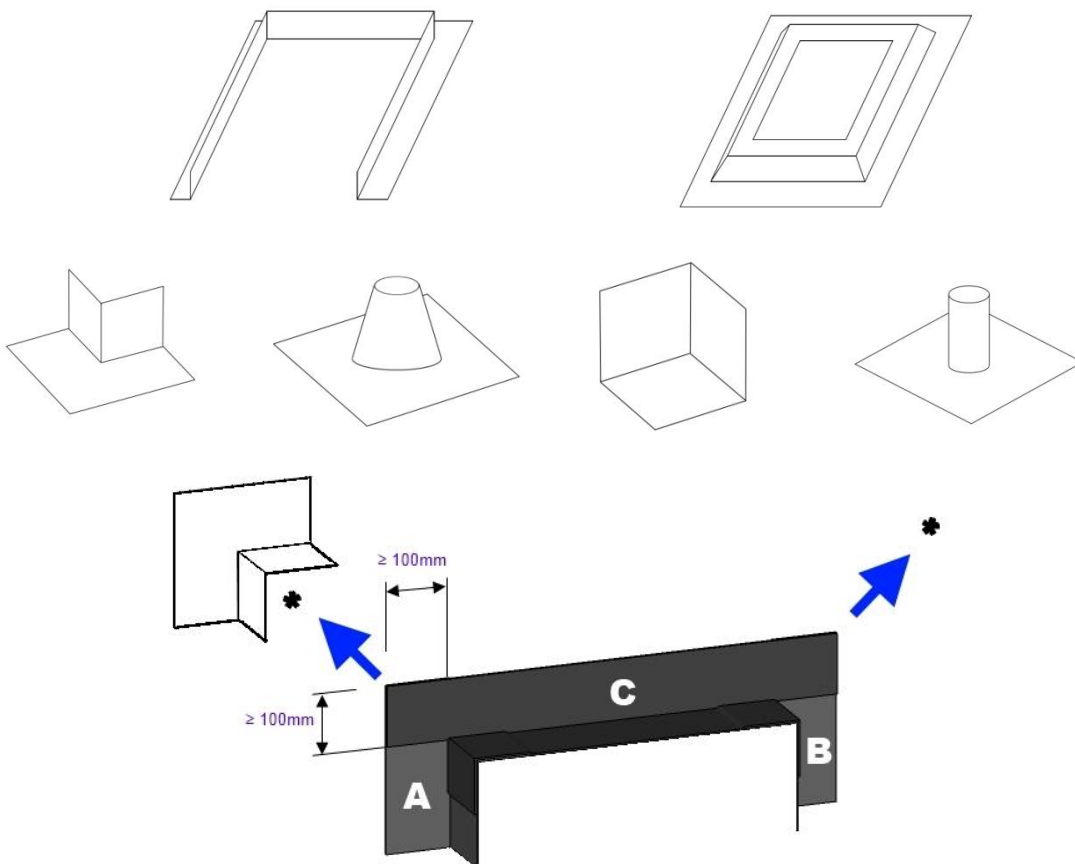
Others: See Effisus Ecofacade Inside Membrane Technical Data Sheet.

### 3.6 Effisus Ecofacade Pre-Fabricated Pieces

The prefabricated pieces based on Effisus Ecofacade Membrane allow a simple and easy weatherproofing of all the critical points, such as:

- Superior corners
- Overlength connections,
- Exterior and interior corners, water outlets, etc. – Fully customised elements.

These elements allow a preliminary installation independently of the weather conditions. The prefabricated pieces can be fixed mechanically, by fitting or bonded to the frame profiles.



**Fig. 3 – Effisus Ecofacade Pre-Fabricated Pieces.**

## 4. Accessories

### 4.1 Adhesives – Usages of the different paste adhesives

Overlapping Membranes / Mineral surfaces: concrete – porous or smooth / Metals: lacquered aluminium, galvanized, zinc / PVC: PVC profiles / Wood: crude or treated, composites / Old bituminous surfaces – preform test first.

In damp surfaces: first apply a layer of Effisus Coat NP Primer.

Should always be done a site peel out test – the bonding surface should be clean, dry and degreased.

#### 4.1.1 Effisus Bonding KF

Paste Adhesive with a solvent based. Can be used as a Sealant.

To safely use this adhesive, the level of unevenness should not exceed 15mm. If the adhesive is exposed to UV's a perimeter sealing should be made with Effisus Block JP Sealant.

#### 4.1.2 Effisus Bonding KF+P

Paste Adhesive made of PDMS polymer without solvents. Can be used as a Sealant.

To safely use this adhesive, the level of unevenness should not exceed 15mm.

#### 4.1.3 Effisus Bonding KFP

Paste Adhesive made of solvent base. Can be used as a Sealant.

To safely use this adhesive, the level of unevenness should not exceed 15mm.

### 4.2 Others: Primer, Cleaner and Sealant

#### 4.2.1 Effisus Coat NP Primer

Apply primer to prepare porous and rough surfaces before the bonding of the Effisus Ecofacade with the paste adhesives or tapes.

In porous, moisture or when applying with temperatures within 5 °C e -10 °C, use this primer for surface treatment before the use of the adhesives Effisus Bonding KF/KFP/KF+P.

Using Effisus Coat NP Primer			
	Effisus Bonding KF/KFP/KF+P Adhesive	Effisus Ecofacade SA-Edge Membrane	Effisus Ecofacade SA-Edge XTRA Membrane
Porous surfaces		x	
Highly porous surfaces		x	
Moisture surfaces	x	x	x
Temperature below 5°C	x	x	x

#### 4.2.2 Effisus Setup PR Cleaner

Before applying any of the adhesive (or tape) options mentioned earlier, use this product to clean smooth surfaces.

### 4.2.3 Effisus Block JP Sealant

Single component silicone rubber sealant highly resistance to UV ageing and all the weather conditions. Protection against most microorganisms potentially appearing in damp interiors.

Sealant to seal the Effisus membranes edges bonded with self-adhesive Effisus SA-Edge Strips on porous surfaces and Effisus membranes that was previously bonded with the adhesive Effisus Bonding KF when exposed to UV radiation.

## 5. Additional mechanical fixing

If properly used, no additional fixing is required when applying the above-mentioned adhesives, however it is advisable in the following cases:

- If the bonding width is smaller than the recommended minimum or if any thermal action is predictable to compromise the bonding of the Effisus Ecofacade Membrane.
- If the facade details are of difficult access, it should be anticipated the use of mechanical fixing on top of the membrane.
- If there are any tension on the self-adhesive bands.

The mechanical fixing should be performed with aluminium termination bars fixed to the support with a 250mm maximum spacing between fixing points.

## 6. Production, marketing and technical solution

Up-Way Systems is the Effisus Ecofacade Membrane and Accessories supplier.

The different components are dosed, blended and its calendring and vulcanization is performed.

Under industrial control, laboratory testing of the manufactured goods is performed and continuously recorded. This control is subject to external periodic inspection.

## 7. Installation instructions

### 7.1 General Guidelines

It is the end user's responsibility to ensure the quality of the installation, by following the installation instructions in this document and by periodically checking the installed materials.

Upon request, Up-Way Systems is available to train working staff.

### 7.2 Storage

The Effisus Ecofacade Membrane rolls and system accessories should be stored on hard, clean and dedicated stand, in a place that can protect them from extreme weather conditions, and be kept within temperatures of 5°C and 20°C.

### 7.3 Installation conditions

The Effisus Ecofacade Membrane should not ever be installed under stress, therefore its width should be calculated taking in consideration the predictable differential movements of the support.

The bonding should be made on dry, ungreased, clean and dust free supports.

Prevent any contact of the Effisus Ecofacade Membranes with greasy products or oils.

In case of rainfall (rain, snow, intense fog and if any risk of condensation is present), the adhesive setting must be stopped.

Over iced surfaces, or in case of temperatures below -10°C, bonding is not allowed. For temperatures between -10°C and 5°C, Effisus Coat NP Primer must be used.

Superior membranes should always overlap inferior membranes to allow the regular water flow.

**7.4 Procedure – Fixing to the substrate**

**7.4.1 Using Effisus Bonding KF/ KF+P/ KFP Adhesive**

The Effisus Bonding KF, KF+P and KFP Adhesive is a paste/gluing to be applied with a gun; the number of adhesive beads to lay down depends on the width and thickness of the Effisus Ecofacade Membrane.

The absolute minimum is of 1 line with 8 to 10 mm in diameter that, when crushed, forms a gluing band with approximately 4 cm wide.

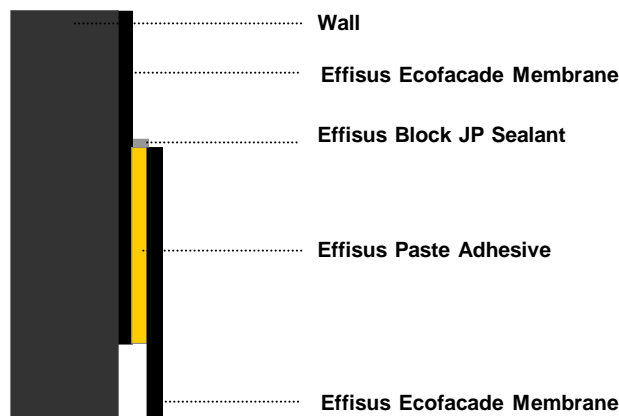
After applying the Effisus Bonding KF, KF+P and KFP Adhesive on the support, directly apply the Effisus Ecofacade Membrane over the surface and apply pressure over the whole bonding area with a steel roll – Figure 4.

It is possible and easy to correct the membrane's position.

The bonding strength will progressively increase until the moment when all the solvents in the adhesive fully evaporate, which can take from 10 to 14 days.

When exposed to UV's the Effisus Bonding KF, KF+P and KFP Adhesive may suffer discoloration.

In the connections between a facade membrane (p.ex, EPDM) with a roofing membrane (p.ex asphaltic fabric) and when there's a real chance of one of the above mentioned adhesives are in contact with stagnated water, Effisus Block JP sealant should be used to provide an advance and eficiente sealing solution.



**Fig. 4 – Bonding using Effisus Paste Adhesives**

**7.4.2 Using Self-Adhesive bands (Effisus Ecofacade SA-Edge)**

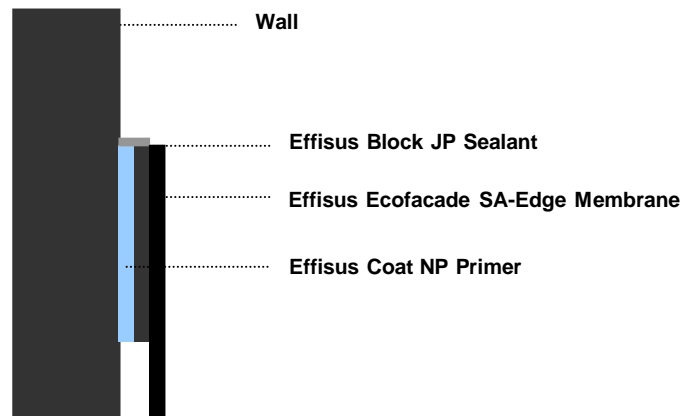
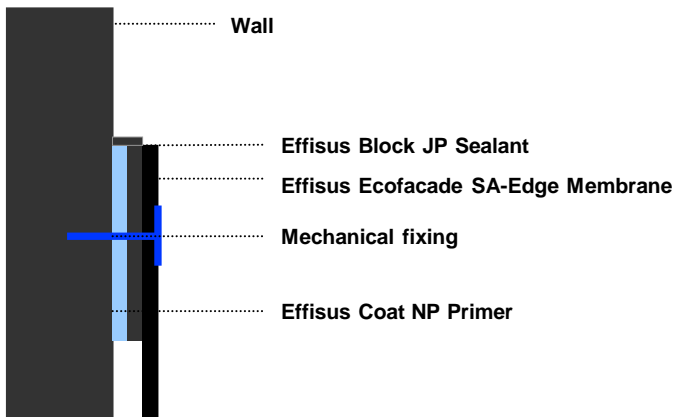
Smooth, clean, and non absorbent support surfaces do not require previous treatment. They should only be ungreased with Effisus Setup PR Cleaner.

Porous and absorbent supports should be previously treated with Effisus Coat NP Primer.

Cut the Effisus Ecofacade SA-Edge membrane with the suitable length. Remove the self adhesive band's protection, step by step, as one progresses with the bonding and presses the membrane against the support, in the right position. See Figure 5.

Bonding with self-adhesive Effisus SA-Edge Strips does not require any additional gluing.

Horizontally, on the windows header and top of the curtain wall it is recommendable using Effisus Block JP sealant and mechanical fixing as a good practice procedure.



**Fig. 5.1 – The facade top, in special situations where it is difficult to remove the exterior coating.**

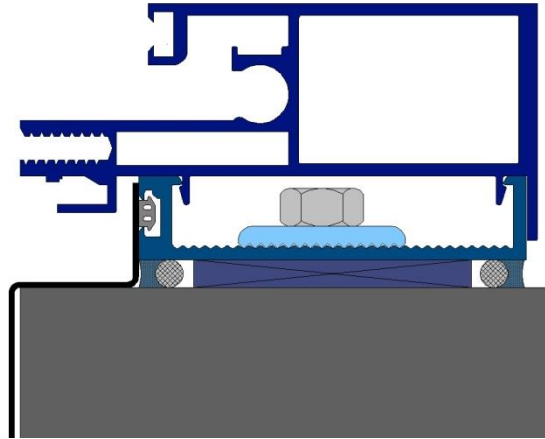
**Fig. 5.2 – The facade top, in special situations where bonding surface is easily reachable.**

Bonding widths over the support – Membrane thickness: 0.60 / 0.75 / 1.00 mm	
	Effisus Bonding KF/KFP/KF+P Adhesive
<b>Membrane Width</b>	<b>Number of beads*</b>
100 – 250 mm	1
250 – 500 mm	1 – 2
500 – 1300 mm	2 – 3
Bonding widths over the support – Membrane thickness: 1.30 / 1.50 mm	
	Effisus Bonding KF/KFP/KF+P Adhesive
<b>Membrane Width</b>	<b>Number of beads</b>
100 – 200 mm	1
200 – 400 mm	1 - 2
400 – 1300 mm	2 - 3

\* Beads with 8 to 10 mm diameter to provide a bonding surface, after crushing, of  $\pm 40$  mm.

### 7.4.3 Using clip-in gaskets (Effisus Ecofacade P-Fix Membrane)

The Effisus Ecofacade P-Fix Membranes should be used with compatible profiles that match the aluminium/PVC profiles. See Figure 6.



**Fig. 6 – Connection of the Effisus Ecofacade P-Fix Membrane with a profile.**

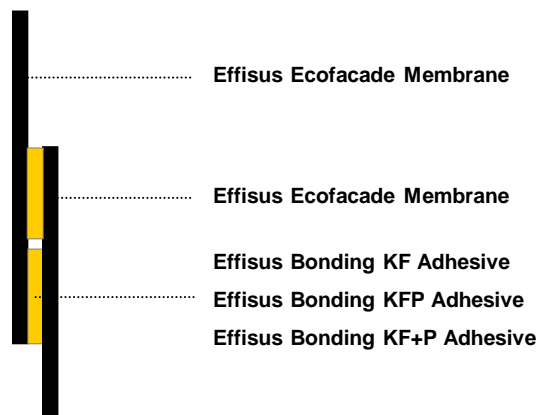
### 7.5 Procedure – Overlapping joints

The membranes must overlap, without any stress. The overlapping minimum is of 80mm. The membrane should have a relaxing period of at least 30 minutes.

#### 7.5.1 Using Effisus Bonding KF/KFP/KF+P Adhesive

To perform an overlapping bonding of two Effisus Ecofacade Membranes with the Effisus Bonding KF/KFP/KF+P Adhesive, the overlap should have at least a 8cm.

Apply 2 beads of Effisus Bonding KF/KFP/KF+P over the inferior Effisus Ecofacade Membrane. Overlap the superior Effisus Ecofacade Membrane and apply steady pressure.

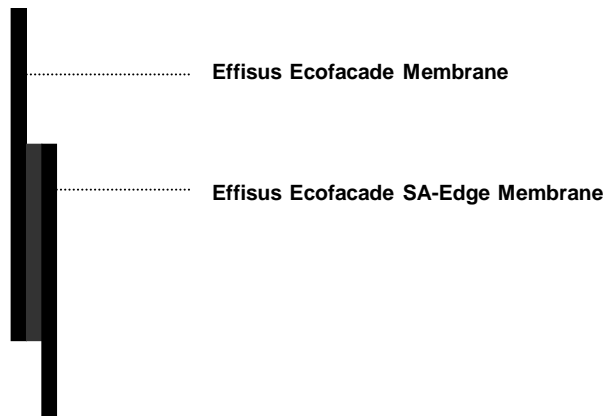


**Fig. 7 – Overlapping joint using Effisus Bonding KF/KFP/KF+P Adhesive**



### 7.5.2 Using self-adhesive bands (Effisus Ecofacade SA-Edge)

Detach the protective film from the self adhesive strip. Apply the superior membrane over the self adhesive strip and apply steady pressure.



**Fig. 8 – Overlapping joint with Effisus SA-Edge bands**

## 7.6 Bonds between different Effisus Membranes with Effisus Ecofacade Membrane

### 7.6.1 Bond Effisus VapX Membrane – Effisus Ecofacade Membrane

The bonding between an Effisus VapX Membrane and Effisus Ecofacade Membrane could be done using Effisus 2Bond GO Tape.

### 7.6.2 Bond Effisus Vapour FR Membrane – Effisus Ecofacade Membrane

The bonding between an Effisus Vapour FR Membrane and Effisus Ecofacade Membrane could be done using Effisus Bonding KF+P/KF/KFP Adhesive or Effisus 2Bond DS Tape.

### 7.6.3 Bond Effisus Breather FR Membrane – Effisus Ecofacade Membrane

The bonding between an Effisus Breather FR Membrane and an Effisus Ecofacade Membrane could be done using Effisus Bonding KF+P/KF/KFP Adhesive or Effisus 2Bond DS Tape.

### 7.6.4 Bond Effisus Breather FR-B Membrane – Effisus Ecofacade Membrane

The bonding between an Effisus Breather FR-B Membrane and Effisus Ecofacade Membrane could be done using Effisus Bonding KF/KFP/KF+P Adhesive.

## 8. Repairs

Any repairing should be made using Effisus Ecofacade Membranes and accessories, under Up-Way Systems approval.

## 9. Compatibility

The Effisus Ecofacade Membranes and accessories are compatible with the materials using in classical construction, however, if in doubt perform a compatibility test and consult with Up-Way Systems.

The possibility of installing these materials over a waterproof bituminous membrane must be controlled and Up-Way Systems must be consulted.

Every time that Effisus Ecofacade Membranes are to be used in aggressive atmospheres (ateliers, laboratories, ...), Up-Way Systems must be consulted.

## 10. Accessories Consumption

Accessories Consumption				
Product	Colour	Delivery	Consumption	Storage
<b>Effisus Coat NP Primer</b>	Black	4,5kg Can	At an application width of 5cm: 10-15g/m, depending on substrate	Cool, dry, frost-proof, protect from direct sunlight. Keep container tightly closed.
<b>Effisus Setup PR Cleaner</b>	Clear	1l Can 5l Can	35m <sup>2</sup> /litre	Cool, dry, frost-proof, protect from direct sunlight. Keep container tightly closed.
<b>Effisus Bonding KF Adhesive</b>	Black	600ml Billet	At a bonding width of 8cm approx. 100g/m, 600ml allow for a 7m bond with a width of 8cm	Cool, dry, frost-proof, protect from direct sunlight. Keep container tightly closed.
<b>Effisus Bonding KFP Adhesive</b>	Black	600 ml Sachets	At a bonding width of 8cm approx. 100g/m, 600ml allow for a 7m bond with a width of 8cm	Cool, dry, frost-proof, protect from direct sunlight. Keep container tightly closed.
<b>Effisus Bonding KF+P Adhesive</b>	Black	310 ml Cartridge 600 ml Sausage	At a bonding width of 8cm approx. 100g/m, 600ml allow for a 7m bond with a width of 8cm	Cool, dry, frost-proof, protect from direct sunlight. Keep container tightly closed.
<b>Effisus Block JP Sealant</b>	Black	310ml Tube	15ml/tube	Cool, dry, frost-proof, protect from direct sunlight. Keep container tightly closed.

## 11. Test Results and Certification

The technical details are presented in this document. Results from detaching tests will be made available upon request.

All the details presented were obtained from internal and external laboratories.

Details from the Effisus Ecofacade Membranes were obtained in accordance with the norms: EN 1849-2, EN 1928, EN 1931, EN 12311-2 B-Method, EN 12114, EN 12961:2006, EN 12730.

Effisus Ecofacade Membrane obtained CE marking based on EN 13859-2.

For further information contact Up-Way Systems.

### Version

V 1.2 – JM – 21/02/2022