

ALUCOBOND®

Renovation kit for ETICS

Innovative solutions
for efficient façades



 **SCHÖCK**


3A
COMPOSITES



Renovate ETICS façades efficiently with ALUCOBOND® easy fiX and SCHÖCK Isolink®

What is the renovation kit?

A system designed to upgrade ETICS (External Thermal Insulation Composite System) façades requiring renovation in terms of energy efficiency and fire protection without requiring costly removal of the old insulation.

Many buildings that were fitted with external thermal insulation composite systems (ETICS) at the end of the 1970s and in the 1980s – usually containing expanded polystyrene (EPS) insulation materials – are now in need of renovation. To give these façades a new lease of life, we have combined innovation and aesthetics and, in conjunction with SCHÖCK, offer an optimal solution for contemporary façade renovation.

This renovation solution transforms the old ETICS into a completely new type of façade with all its design possibilities in the form of a curtain-type rear-ventilated façade. Rather than having to completely remove the old ETICS, it is incorporated into the new façade. Most of the ETICS remains and is enclosed with ROCKWOOL. The SCHÖCK Isolink® type F façade anchor provides a thermally and structurally superior anchorage that is virtually free of thermal bridges. The ALUCOBOND® façade panel (fire protection class A2) gives the façade a modern look and can be fitted quickly and efficiently on-site using the easy fiX fixing system. In this way, the old façade is transformed using simple means into an energy-efficient, fire-resistant and aesthetically attractive rear-ventilated façade.

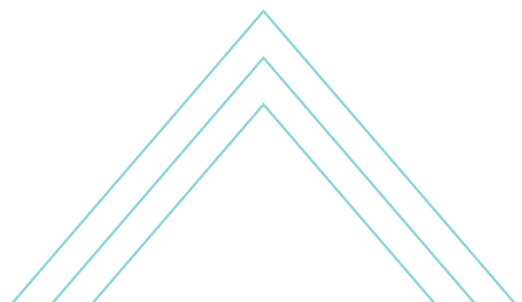


What are the advantages of the renovation kit?

- The old EPS surface insulation (≤ 80 mm) is not removed from the façade and is supplemented with enough ROCKWOOL Fixrock to achieve the desired U-value. There is no need to dispose of the entire ETICS – this is not only economical but also conserves resources.
- The Isolink® can be directly anchored in the wall using the ETICS. There is no need to open the ETICS – one drill hole is all that is needed.
- No thermal bridges: The Isolink® (certified passive house component), which is mathematically speaking free of thermal bridges, does not worsen the U-value of the wall. Therefore it is an energy-efficient renovation system.
- Due to the low weight of the ALUCOBOND® cladding, only a few anchoring points are required.
- Low wall installation depth owing to the ALUCOBOND® easy fiX fixing system. It is also possible to use other ALUCOBOND® systems.
- Outstanding façade appearance thanks to concealed fixing.
- The new, low-maintenance façade with greater scope for design offers a service life of 50+ years (according to the BBSR list).

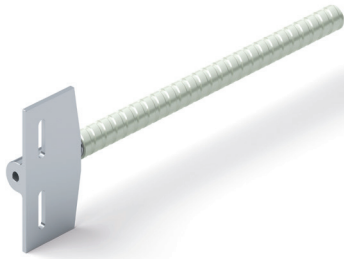
Advantages

energy-efficient
aesthetically pleasing
cost-effective





Components of the ETICS renovation kit

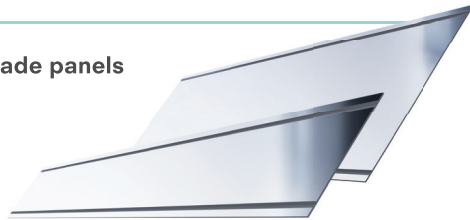


Sash adapter for the Isolink® type F

- Sliding point 70x40 M6 (slotted hole)
- Fixing point 70x40 M8 (round hole)

Aluminium substructure meeting static requirements for use as support profiles for the ALUCOBOND® easy fiX fixing system or other ALUCOBOND® systems.

ALUCOBOND® A2 façade panels

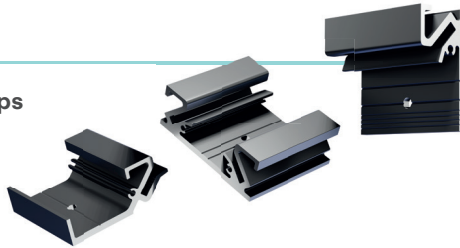


easy fiX screws



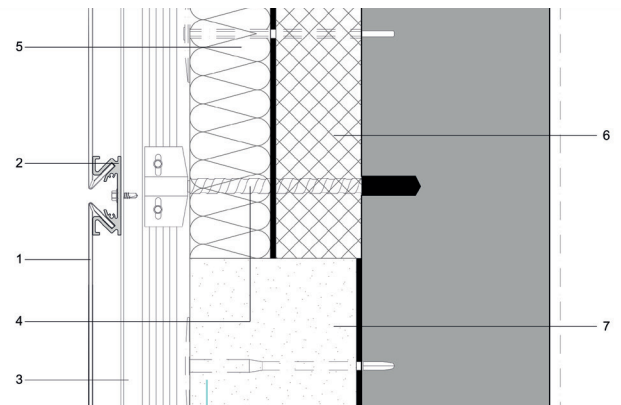
easy fiX fixing clips

- Starter clip
- Middle clip
- End clip



Structure of the renovated façade

1. ALUCOBOND® A2 façade cladding (non-combustible)
2. easy fiX fixing clip (135°/135°)
3. Aluminium substructure
4. SCHÖCK Isolink® type F
5. ≥ 100 mm ROCKWOOL Fixrock (> 1000 °C melting point)
6. ≤ 80 mm ETICS (fire retardant)
7. Fixrock Protect



Construction according to Z-10.3-909

Other systems, such as ALUCOBOND® riveted/screwed to an aluminium substructure (Z-10.3-774), are possible too.

Approvals & standard details

As a basis for your façade renovation



Technical documentation for façade renovation

- SCHÖCK Isolink® type F for anchoring in concrete and masonry. The general building authority approval Z-21.8-2082 regulates planning, dimensioning and execution.
- Isolink® – Renovation façade Z-10.3-909 (system structure)
- ALUCOBOND® easy fiX Z-10.3-850 (fixing system)
- Standard details (easy fiX 135°/135°), other systems are also possible.



Fire protection

The Isolink® anchor, which forms no thermal bridges, is used to fix the rear-ventilated façade through the existing external thermal insulation composite system (ETICS). The superstructure is upgraded in terms of fire protection by means of insulation overlay. The old surface insulation made of expanded polystyrene (EPS) remains in place on the façade and is supplemented with ROCKWOOL to achieve the desired U-value. This achieves an energy-efficient renovation of the 'fire retardant' classification.

ALUCOBOND® A2 class A2-s1,d0 is to be used as cladding.

Fire barriers must be installed for fire protection (see Figure 1).

1. Fixrock Protect (5)

- Around the building openings on 3 sides
- Above the perimeter insulation
- At ceiling height above ground floor
- Roof transition

2. Fixrock BWM fire barrier (13)

Fire protection of the EPS ETICS by means of Fixrock Protect. The old ETICS is removed to a width of 200 mm in the plinth area, above the ground floor and around all openings and replaced with Fixrock Protect. This must be glued to the wall and anchored with steel insulation fasteners. This prevents fire from spreading behind the insulation (see Figure 2).

A Fixrock BWM fire barrier must also be installed every two full storeys pursuant to Section 28 (4) of the German Model Building Code (MBO).

The requirements of the approvals and relevant regulations must be observed.

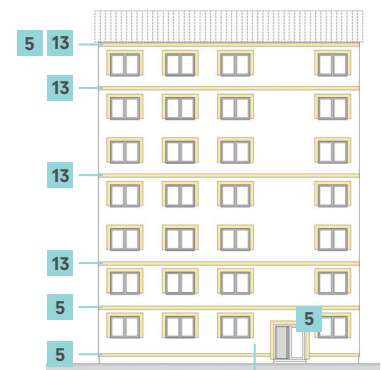


Figure 1



Figure 2

Required number of wall fasteners

Max. building height	of 0-10m	of 10-20m				
Storeys	Up to max. 2 storeys	Up to max. 8 storeys				
Building type						
Terrain category						
Rural (II)	wd = +/- 0.70kN/m²					
	Element height [mm]	Max. distance a [mm]		Min. wall fasteners (10m ²)		
	625	890		7.1		
	750	815		8.2		
Suburbs (III)	wd = +/- 0.50kN/m²		wd = +/- 0.70kN/m²			
	Element height [mm]	Max. distance a [mm]	Min. wall fasteners (10m ²)	Element height [mm]	Max. distance a [mm]	Min. wall fasteners (10m ²)
	625	1030	5.4	625	890	7.1
	750	980	6.9	750	815	8.2
	1000	850	8.5	1000	630	12.3
	Urban areas (IV)	wd = +/- 0.35kN/m²		wd = +/- 0.50kN/m²		
Element height [mm]		Max. distance a [mm]	Min. wall fasteners (10m ²)	Element height [mm]	Max. distance a [mm]	Min. wall fasteners (10m ²)
625		1200	4.4	625	1030	5.4
750		1160	5.1	750	980	6.9
1000		1095	5.8	1000	850	8.5
Maximum spans/distances a of the vertical substructure profiles			Minimum number of wall fasteners per 10m ²			
						
L-profile 2 x 40 x 50 mm						

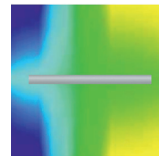
- The following wind loads are used as a basis: Wind load zones I and II cover approx. 90% of the wind loads in Germany. Zones III and IV (near the coast and open sea) are not considered here.
- The ALUCOBOND® easy fiX system with short profile sections has a sufficiently large opening ratio to allow for the rear ventilation approach (wind load reduction) in accordance with DIN EN with cpe = +/- 0.5.
- The wind load values for the normal (pressure) and corner (suction) areas of the building are the same.
- Subject to a property-specific, static calculation.



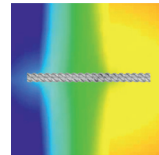
Thermal conductivity of the materials

Localised thermal bridges can have an immense influence on the U-value of the wall, depending on the choice of materials. It is a well-known fact that metals are very good heat conductors, whereas glass and plastics are more likely to be insulating materials.

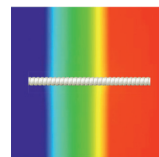
Isolink® is well below the permissible 3% limit and therefore is not required to be included in the certification as per DIN EN ISO 6946. This means that mathematically speaking, Isolink® produces no thermal bridges. Certified as a passive house component, Isolink® meets the most stringent requirements for thermal insulation and load-bearing capacity.



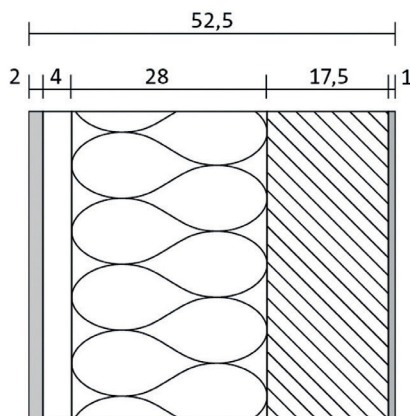
Isotherms with aluminium
160 W/(m K) - 200 W/(m K)



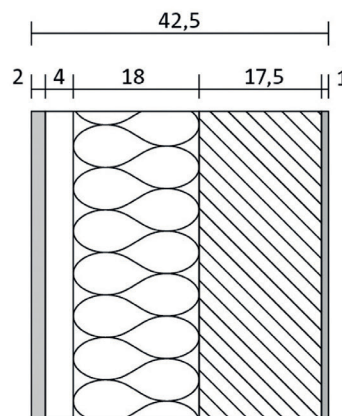
Isotherms with stainless steel
13 W/(m K) - 15 W/(m K)



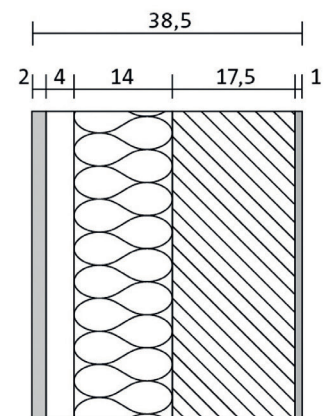
Isotherms with Isolink®
0.7 W/(m K)



Wall installation with
3 aluminium wall fasteners
and **28 cm mineral wool**
WLG 035



Wall installation with
3 stainless steel wall fasteners
and **18 cm mineral wool**
WLG 035



Wall installation with
3 Isolink® wall fasteners
and **14 cm mineral wool**
WLG 035

Wall installation with a U-value of 0.24 W/(m²K). Determination of the required thermal insulation thickness depending on which wall fasteners are used (aluminium, stainless steel or Isolink®), each with 3 wall brackets per m². Mineral wool $\lambda = 0.035$ W/(m K)

When using the Isolink®, 140 mm of thermal insulation is sufficient, because you do not need to add additional insulation against thermal bridges.