



ISOVER FACADE SYSTEM INSTALLATION GUIDE

02/2025



TABLE OF CONTENTS

- 1. What is the ISOVER Facade System?** 3
- 2. ISOVER Facade System Products** 5
 - 2.1 ISOVER Facade windproof-coated thermal insulation boards 5
 - 2.2 ISOVER Facade Fastening Accessories and Spacers 6
 - 2.3 ISOVER Facade Sealing Accessories 7
- 3. Storage and transport instructions** 7
- 4. Installation instructions** 8
 - 4.1 Instructions for handling and processing the boards: Plastic packaging 8
 - 4.2 Installation of Facade boards 8
 - 4.3 Facade board fastening instructions 9
 - 4.3.1 Wood cladding on timber frame 9
 - 4.3.2 Wood cladding on lightweight concrete frame 11
 - 4.3.3 Brick cladding on concrete/timber frame 11
 - 4.3.4 Render board cladding on concrete/timber frame 12
 - 4.3.5 Fixing insulation boards to concrete and timber frames using adjustable fasteners 13
 - 4.4 Jointing instructions for Facade Boards 14
 - 4.4.1 ISOVER Facade SealStrip and SealStrip Pro 14
- 5. Related documents** 15

The structural types and details presented in this system guide are examples intended to support the selection of suitable structures and to promote good design and construction practices. However, decisions regarding structural types and details for each individual building project must be made with consideration of the specific characteristics and requirements of the project. Therefore, Isover does not take responsibility for the choices made regarding structural types and details in individual projects. The responsibility for selecting appropriate structures and ensuring their suitability for the specific application always lies with the designer. All rights to changes are reserved.

Please check the latest version at www.isover.fi website

ISOVER Facade System Guide, February 2025



1. WHAT IS THE ISOVER FACADE SYSTEM?

The ISOVER Facade system includes wind barrier-coated thermal insulation boards developed for demanding moisture conditions, as well as the necessary fixings, sealing accessories, and design and installation instructions. The purpose of the ISOVER Facade system is to support the planning and implementation of durable and reliable solutions for both new construction and renovation projects. The system is specifically designed to meet the current and future climate conditions of the Nordic countries.

ISOVER Facade wind barrier-coated insulation boards are highly permeable to water vapor while providing excellent resistance to wind and driving rain. They are classified as Euroclass A2-s1, d0 products. As mineral wool insulation, the boards offer outstanding thermal and acoustic performance, placing ISOVER Facade among the top-performing mineral wool products. Thanks to their properties, the Facade system is suitable as wind protection and thermal insulation for all types of external wall structures: timber or steel stud frames (with open- or closed-cell insulation), massive wood structures (CLT, LVL), concrete, brick or block walls. Facade products can also be used in ventilated roof and floor structures as wind barriers and insulation retention boards. A wide range of product thicknesses is available, from 16 mm up to 205 mm.

A sealed facade cladding, separated by a ventilation gap, must always be installed on the exterior side of the ISOVER Facade system. It is recommended to install the facade cladding as soon as possible after the wind barrier boards have been installed, as the exterior cladding forms part of the building's final weather protection—similar to how the roof covering protects the underlay. When joints are properly sealed, ISOVER Facade boards create a surface that resist driving rain and repels

moisture, functioning like a smart technical textile. In accordance with the ISOVER Facade system, wind protection installed on external walls may remain exposed for a maximum of 6 months in Finnish conditions without facade cladding. This requires that the ISOVER Facade boards are fixed according to the system guide and that all board joints, external and internal corners, and board edges—such as around window and door openings—are carefully sealed during installation using the system’s specified products.

Thermal insulation, including wind barrier insulation boards, must be installed tightly against each other using tongue-and-groove or butt joints. The insulation must also be fitted closely against the background structure. With mineral wool products, this is typically easy to achieve, as the wool can conform to slightly uneven surfaces, ensuring a tight fit. No air gaps or cavities should be left between insulation layers, as they significantly reduce the thermal performance of the structure by allowing cold to bypass the insulation and reach the inner surface. Air gaps within the insulation layer may also increase the risk of condensation on the interior surface of the structure. Similarly, window and door connections, the junction between the external wall and the foundation, and the joints between external envelope elements must be insulated using materials that allow for installation tolerances.



ISOVER KH and ISOVER SK-C are silicone-treated, water-repellent mineral wool sealing products designed for insulating the mentioned connection surfaces. ISOVER KH mineral wool mat also functions as a leveling layer, for example, between a concrete element and a timber element installed on its exterior surface, or between old and new structures to compensate for uneven surfaces.

Each structural solution must always be designed according to the specific application, and the building designer is responsible for ensuring the moisture performance of the structure. This includes determining the thermal insulation performance and considering, for example, the ratio of water vapor resistance between the interior and exterior surfaces, to ensure the structure functions correctly under all current and future conditions. In addition, the designer must ensure airtight implementation of structural joints, connections and penetrations.



2. ISOVER FACADE SYSTEM PRODUCTS

2.1 ISOVER FACADE WINDPROOF-COATED THERMAL INSULATION BOARDS

Board types	Dimensions	Thicknesses
Facade (long edges tongue-and grooved)	1200x1800/3000	30, 50, 75 ja 100 mm
Facade EJ (long edges tongue-and grooved)	1200x3000	25 mm
Facade EJ-32 (straight-edged)	1200x3000	16 mm
OL-33 Facade (straight-edged)	600x1500	100, 120, 150, 180 ja 205 mm

Table 1.



2.2 ISOVER FACADE FASTENING ACCESSORIES AND SPACERS

Fastener type	Application	Dimensions	Consumption
1. Fastening plate	Preliminary fixing of insulation board	Ø 60 mm	approx. 4-6 pcs/m ² (depending on board size)
2. Spacer for nailing	Support for exterior cladding framework	25, 30, 50 mm	approx. 3-6 pcs/m ² (according to design specifications)
3. ISOVER Termofix+	Support for exterior cladding framework	50, 75, 100, 120, 150, 180 mm	approx. 3-6 pcs/m ² (according to design specifications)
4. ISOVER Adjustable fastener	Preliminary fixing of insulation board	140-180 mm 180-220 mm 260-350 mm	approx. 4-6 pcs/m ² (depending on board size)
5. RKL Starter profile	Starter/protection profile for the bottom edge of the wind barrier board, when the board extends outside the plinth	l = 2,4 m b = 30, 50, 75, 100 mm	1 m per wall meter
6. Mouse barrier	Protecting the ventilation gap from small animals.	l = 1,2 m b = max 45 mm	1 m per wall meter

Table 2.

1.



2.



3.



4.



5.



6.



2.3 ISOVER FACADE SEALING ACCESSORIES

Seal type	Application	Dimensions	Consumption
1. Facade Tape	Sealing of Facade joints and edges	60 and 90 mm. 50 m per roll.	Levysaumoihin 2-3 jm/seinä-m ²
2. Facade SealStrip Pro*	Sealing of OL-33 Facade corners and edges	Width 300 mm. 40 m per roll.	1 m per connection meter
3. Facade SealStrip**	Sealing of OL-33 Facade corners and edges	Width 300 mm. 40 m per roll.	1 m per connection meter

*) The Facade SealStrip Pro features adhesive edges that make installation easier.

***) Facade SealStrip is attached using Facade Tape

Tabel 3.

1.



2/3.



3. STORAGE AND TRANSPORT INSTRUCTION

ISOVER Facade boards are delivered from the factory in plastic packaging, which allows for short-term outdoor storage without additional covers, provided the packages are unopened and intact. Opened or damaged packages must not be exposed to rain or wind and should be stored in a weather-protected area. Insulation boards that may have become wet should never be installed into the structure before they have been thoroughly dried. For long-term storage, Facade packages must be kept in a weather-protected area or carefully covered with separate tarpaulins in such a way that water cannot accumulate on top of the cover. Additionally, the packages must not be in contact with the ground or exposed to splashing water. The storage base must slope away from the storage area and be well ventilated.



Factory-made elements clad with ISOVER Facade wind barrier insulation are recommended to be transported to the construction site in a covered trailer or at least under a weather protection hood. Additionally, a temporary cover taped from the Facade surface to the inner side of the element is advisable on the top surface to protect the upper edge from potential rain exposure during site operations. The joints of the Facade boards and the edges of openings must be taped before transport. All element joint seams must be taped or sealed on-site during installation. On-site storage of the elements must ensure that the Facade insulation is not exposed to harsher weather conditions than in its final installed state according to this system guideline. It is essential to protect the open edges of the Facade boards throughout all stages of the delivery chain. If the Facade coating has been damaged or detached, the affected area must be repaired on-site as soon as possible using, for example, ISOVER SealStrip PRO tape and/or Facade tape.

4. INSTALLATION INSTRUCTIONS

4.1 INSTRUCTIONS FOR HANDLING AND PROCESSING THE BOARDS: PLASTIC PACKAGING



Plastic packages and pallet wraps can be opened using, for example, a utility knife. The plastic materials are suitable for recycling. Wooden pallets can be recycled or disposed of as wood material. The thinner and denser ISOVER Facade EJ and EJ-32 boards can be easily cut with a utility or insulation knife against a guide or with a handsaw. Thicker Facade boards are best cut using a handsaw, circular saw, band saw or panel saw. The Facade surface is marked with a dashed line indicating the centerline of the board. When cutting boards, it is recommended to use cut-resistant gloves, as with any sharp tools. Manual cutting (with a knife or handsaw) produces very little dust. However, when using power tools such as circular saws, respiratory and eye protection should be used due to the dust generated by the blade.

Direct contact with fibers may cause temporary itching.



Vacuum the work area



Ensure adequate ventilation



Wear safety goggles when installing products above your head



Rinse with cold water before washing



Wear protective clothing. Use a respirator when working in an unventilated area



Dispose of waste according to local regulations

4.2 INSTALLATION OF FACADE BOARDS

ISOVER Facade boards can be installed on a stud frame with a spacing of $c/c \leq 600$ mm, either horizontally or vertically. All board joints must be carefully taped/sealed using Facade Tape, in accordance with section 4.4 of this guideline. Boards should be installed in a staggered pattern, avoiding cross (+) joints formed by four boards. Always aim to use full-size boards; unprofiled longitudinal joints must be supported. Profiled joints and unprofiled end joints do not require support when the substrate is a stud frame with $c/c \leq 600$ mm spacing and the boards are installed with overlapping joints. Boards must always be supported by at least two studs, and the distance from the board joint to the nearest stud must be ≤ 300 mm. All board cut edges must be straight and smooth to ensure that butt joints, when taped with ISOVER Facade Tape, are wind-tight and thermally insulating.

If there is a backing board behind the Facade insulation boards—such as wind protection gypsum board, wood fiber board, or other construction sheeting—the joints of the



Facade boards must be positioned differently from the joints of the backing board. Facade boards should be installed in a staggered pattern, avoiding cross (+) joints formed by four boards. In other respects, the joints of the Facade boards can be freely positioned over the backing sheeting or other continuous and solid support structures (such as concrete, CLT/LVL, brick wall, etc.). Always aim to use full-size boards. All board joints must be carefully taped/sealed using Facade Tape in accordance with section 4.4 of this guideline.



On construction sites, it is recommended to install Facade boards—especially on taller façades—from top to bottom, starting from the eaves. This prevents potential rain exposure from affecting the open top edges of unfinished Facade cladding. It is particularly important to tape the joints and edges of the Facade boards at external corners and around window and door openings as the installation progresses. The façade cladding should be installed as soon as possible, but no later than 6 months after the installation of the ISOVER Facade wind barrier boards. If the façade or its supporting battens are not installed shortly after the ISOVER Facade insulation boards, the fastening of the Facade boards must correspond to the final fastening density. Fasteners should be distributed as evenly as possible across the board surface.

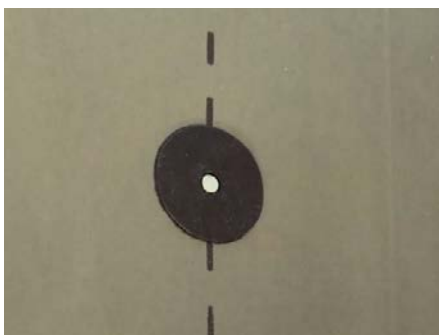


4.3 FACADE BOARD FASTENING INSTRUCTIONS

4.3.1 WOOD CLADDING - ON TIMBER FRAME



ISOVER spacers are used with Facade boards of 25, 30, and 50 mm thickness. These spacers are fastened using nails or screws. Their purpose is to prevent the cladding support battens from compressing the Facade wind protection insulation. Additionally, the spacers serve as temporary support for the Facade boards during installation, especially when the boards are mounted vertically on-site before the cladding battens are installed. Spacers are installed vertically at approx. 600 mm intervals or according to the design specifications, aligned with the wall studs. In areas subject to higher loads, e.g. emergency exits or ladders, the spacers must be installed more densely. The cladding support battens, which are mounted on the surface of the Facade boards, must always be installed vertically on top of the spacers and fastened tightly against them using screws or nails.



When using the Facade EJ-32 wind protection board (16 mm thick), spacers are not required under vertical cladding battens that are ≥ 95 mm wide, as the board is compression-resistant. The boards are pre-fastened using, e.g. sufficiently long nails with wide heads or ISOVER nailing plates and nails. The head of the fastener must be wide enough to avoid piercing the Facade surface coating. Final fastening of the boards occurs when the cladding battens are installed. If the exterior cladding or its support battens are not installed immediately after the wind protection boards, the boards must be pre-fastened using ISOVER nailing plates.



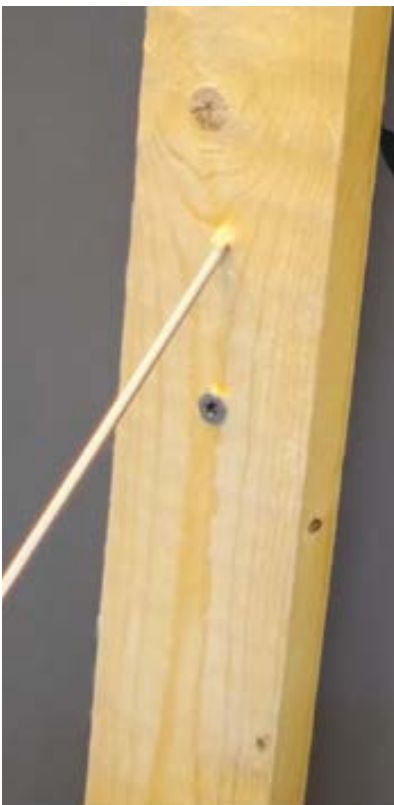
When using the Facade EJ wind protection board (25 mm thick) in horizontal element installation at the factory, spacers are not necessary under vertical cladding battens that are ≥ 95 mm wide, as EJ is more compression-resistant than thicker Facade boards. On-site, however, it is recommended to use spacers with EJ boards, since the boards must be pre-fastened to the wall in any case before installing the cladding battens.



For Facade boards in thicknesses of 50, 75, and 100 mm, as well as OL-33 Facade boards in 120, 150, and 180 mm, ISOVER Termofix spacers (made of polypropylene) are used. These are installed using the screws and installation tool included in the Termofix package. See installation video (section 5 of this guide). The tool is inserted into the screw head located inside the spacer, and the spacer with its screw is drilled through the Facade board. The fastening screw inside the spacer embeds into the wooden substrate and simultaneously presses the spacer firmly against the surface. The screw should not be overtightened, it's sufficient that the spacer is securely fixed against the substrate. The fastening screw holds both the spacer and the Facade board in place. The spacer should be supported and guided by hand during drilling into the insulation.



Termofix spacers should generally not be installed at unprofiled board joints or directly at the edge of the board—especially when working with thicker and softer OL-33 Facade boards. The spacer penetrates the Facade surface coating and insulation most effectively when positioned at least one spacer diameter away from the board edge. At the top and bottom edges of the wall, a support batten or strip matching the insulation thickness or a metal profile can be used. In this case, the first spacer is placed approximately 600 mm from the bottom and top edges of the board, where the cladding battens are supported and fastened to the support strips.



Cladding support battens are placed vertically on top of Termofix spacers and fastened with screws from above and/or below the spacer into the underlying wooden structure. The spacing of the spacers and the fastening method must follow the structural design plans. See also Section 5: Termofix Spacer Screw Table. In small residential buildings, lightweight timber cladding battens can typically be fastened with horizontal screws next to the spacer when the Facade wind protection insulation is no thicker than 50 mm (the structural designer defines the screw spacing and dimensions). Otherwise, angled horizontal screwing is used according to the Termofix screw table and structural plans. Screws must be tightened firmly so that the vertical batten compresses the spacer and the spacer presses tightly against the frame.

If needed, Facade boards can be pre-fastened using ISOVER nailing plates and nails or screws, depending on the thickness of the Facade board. For pre-fastening ISOVER OL-33 Facade boards (insulation thicknesses 140–205 mm), ISOVER Adjustable Fasteners are well suited. If ISOVER Facade boards ≥ 75 mm or OL-33 Facade boards ≥ 120 mm are used as a fire protect covering for a substrate (K2 10), the installation of Facade boards must follow the specific fire protect covering fixing instruction. Refer to project-specific plans and Section 5: Gyproc-Isover Fire Design Guide.

4.3.2 WOOD CLADDING - ON LIGHTWEIGHT CONCRETE FRAME

As with fastening to a timber frame, the fasteners used for cladding support battens must be suitable for the underlying material, e.g., lightweight concrete screws.

4.3.3 BRICK CLADDING - ON CONCRETE/TIMBER FRAME

With brick cladding, brick ties and locking plates are used both to fasten the insulation and to anchor the brickwork to the building frame. Brick ties are available for timber, concrete, and lightweight aggregate concrete structures. The quality, type, and quantity of brick ties must be selected according to the project-specific structural plans.

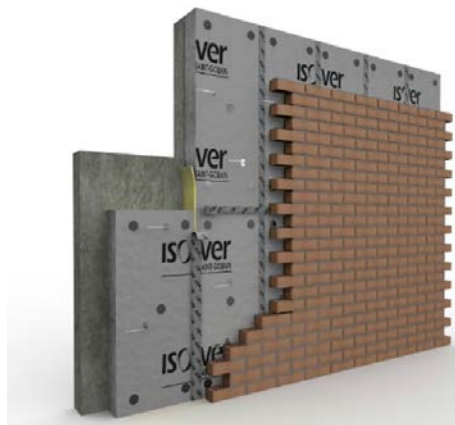


Table 4 presents the recommended total number of fasteners for ISOVER Facade wind protection boards when the insulation is fastened solely with insulation fasteners and/or brick ties (i.e., no cladding battens are installed over the insulation).

Product	Board dimensions (mm)	Number of fasteners (pcs/m ²)	Number of fasteners (pcs/board)
ISOVER OL-33 Facade	600 x 1500	5-6	5
ISOVER Facade	1200 x 1800	4-5	9
ISOVER Facade ISOVER Facade EJ ISOVER Facade EJ-32	1200 x 3000	3-4	12

Table 4.

The fastener quantities listed in Table 4 consist of brick ties (with locking plates) required for brickwork and/or possible insulation fasteners. The recommended minimum size for locking plates is $\geq 32 \times 60$ mm². The following ISOVER products can be used as insulation fasteners:

- ISOVER Adjustable Fasteners (for wood and concrete substrates), insulation thicknesses 140-350 mm
 - Weber STR H Fasteners (for wood and metal frames), fastener lengths 80-140 mm
 - Weber Therm H1 Fasteners (concrete and brick substrates), fastener lengths 95-295 mm

If ISOVER Facade boards ≥ 75 mm or OL-33 Facade boards ≥ 120 mm are used as a fire protect covering for a substrate (K_2 10), the installation of Facade boards must follow the specific covering fixing instructions. Refer to project-specific plans and Section 5: Gyproc-Isover-Fire Design Guide.

In single-layer insulation solutions, rigid ISOVER Facade boards with wind protection coating or thicker semi-rigid OL-33 Facade boards are used. In double-layer insulation solutions, an uncoated Isover mineral wool board (e.g., STANDARD 36 or PREMIUM 33) can be installed against the building frame as the thicker insulation layer, with a thin (e.g., 30 mm thick) ISOVER Facade wind protection board installed on top.

ISOVER insulation boards are installed tightly against the frame by pressing the insulation through the brick ties and locking them in place using locking plates.

Note! When pressing the Facade wind protection board through a brick tie, the surface of the Facade should be supported near the penetration point, and the locking plates must be tightened and locked flush with the Facade surface (see Figure 1, point A). If the locking plate is pressed into the Facade wind protection board (see Figure 1, point B), there is a risk that the surface coating may be damaged and/or detach from the mineral wool base, especially near the edges of the product, making it more difficult to tape the board joints. Extra care must be taken when installing ISOVER OL-33 Facade (100 mm – 205 mm) products, as OL-33 has a lower density than thinner Facade products. The same instructions also apply to ISOVER Adjustable Fasteners—the head of the fastener must not be embedded into the insulation.

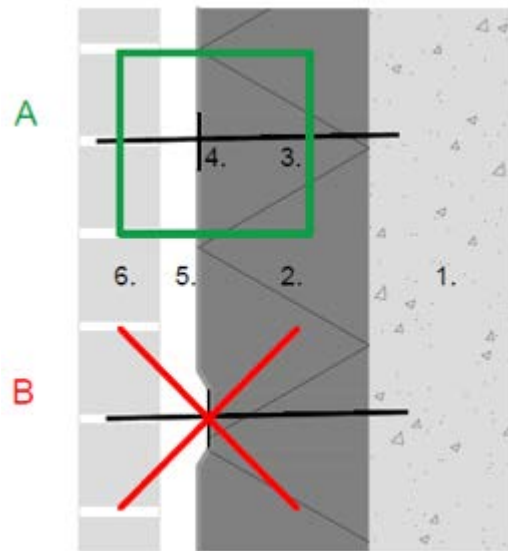


Figure 1.

1. Frame
2. ISOVER OL-33 Facade
3. Brick tie
4. Locking plate ($\geq 32 \times 60 \text{ mm}^2$)
5. Ventilation gap
6. Masonry facade

4.3.4 RENDER BOARD CLADDING - ON CONCRETE TIMBER FRAME

The installation of ISOVER insulation behind ventilated render systems and KAHI façades must follow project-specific structural plans. System descriptions, details, model specifications, and brochures for Weber Serpovent and KAHI solutions can be found at the following address: www.fi.weber and Ventilated Façades.



4.3.5 FIXING INSULATION BOARDS TO CONCRETE AND TIMBER FRAMES USING ISOVER ADJUSTABLE FASTENERS

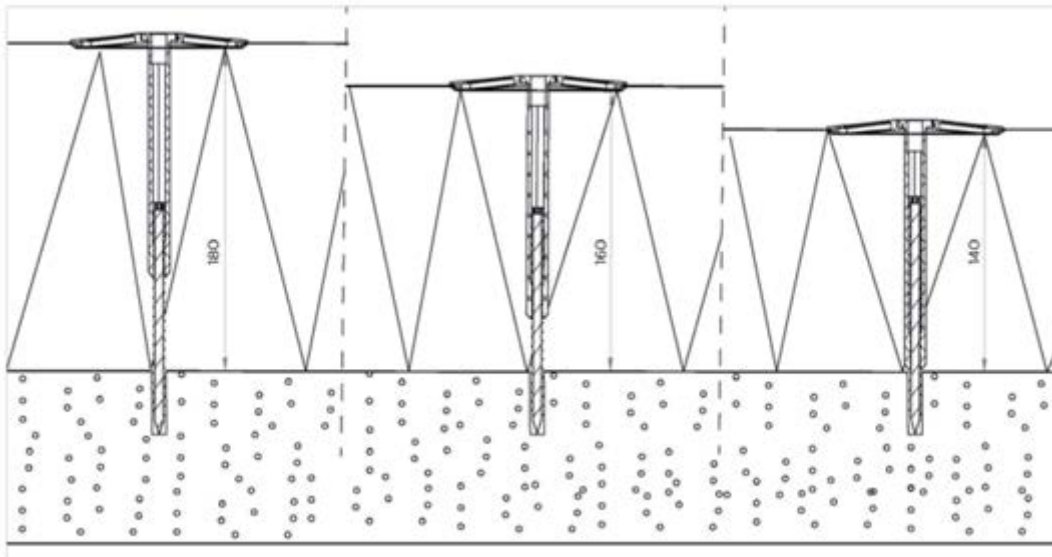
ISOVER Adjustable Fasteners can be used for fastening ISOVER OL-33 Facade and other insulation products with thicknesses between 140 mm and 350 mm. Note! Adjustable fasteners are not suitable as the sole insulation fastener in solutions where the insulation also functions as protective cladding and/or fire protection for the underlying structure. The fastener sleeve and washer are made of plastic, grey in color. For detailed installation instructions, refer to the link above or the QR code provided.



Materials:

- 1a. Adjustable fastener for insulation thicknesses 140–180 mm, or
- 1b. Adjustable fastener for insulation thicknesses 180–220 mm, or
- 1c. Adjustable fastener for insulation thicknesses 260–350 mm, and
2. SK Washer Ø 100 mm (compatible with 1a/1b/1c), and
3. SK Tool 300 (for installing adjustable fasteners)

A flexible mineral wool fastener makes installation easier. Only a 330 mm deep hole made with a 5 mm concrete drill bit is required for installation.



Example of Fastener Adjustability

In the example figure, the 140–180 mm fastener is adjusted to fit insulation thicknesses of 180 mm, 160 mm, and 140 mm.

NOTE!

The fastener's washer must be tightened flush with the surface of the Facade product. The fastener must not be driven deeper to avoid damaging or detaching the surface!

4.4 JOINTING INSTRUCTIONS FOR FACADE BOARDS



The joints between Facade boards must be taped immediately during the board installation process. Similarly, the joints between elements with Facade surfaces must be sealed immediately during element installation, and no later than the end of the installation day. Open edges of Facade boards at corners and around window and door connections must be sealed

with tape and/or a 300 mm wide ISOVER Facade SealStrip made from Facade coating material. The SealStrip is attached at both edges to the substrate using Facade system tape. The SealStrip PRO variant includes adhesive strips on both edges to facilitate installation.

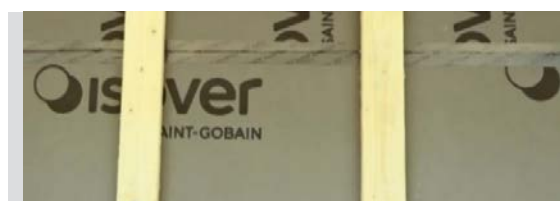
Surfaces to be taped must be clean and dry. Taping is possible even in sub-zero temperatures ($T \geq -5\text{ °C}$), but in such cases, the tape must be kept warm until installation, and the surface must be free of frost. The protective paper is removed from the tape, and the tape is carefully pressed onto the surface to be sealed. The final adhesion strength of the tape develops over time.

According to the ISOVER Facade system, wind protection installed on external walls may remain exposed to Finnish weather conditions for a maximum of 6 months without the final facade cladding. The 6-month performance warranty of the Facade system for UV and weather resistance requires that all board joints are sealed and all open board edges are properly closed using Facade system products..

In factory-made element structures, the joints between ISOVER Facade wind protection boards may remain untaped if the following conditions are met:

- A ventilated, sealed exterior cladding is installed on the elements at the factory (the cladding protects the wind protection boards from weather exposure).
- The board joint is tightly compressed between the cladding batten (width $\geq 95\text{ mm}$) and the frame stud.

Any other board joints and open board edges must be sealed in accordance with this installation guide. In element connections, the joints between wind protection boards must be sealed to meet the airtightness requirements based on the construction method and installation site.



4.4.1 ISOVER FACADE SEALSTRIP JA SEALSTRIP PRO

ISOVER Facade SealStrip is a 300 mm wide strip made from Facade wind protection coating. The product is primarily used to seal the edges of OL-33 Facade boards, for example at external corners and around window and door openings. The Facade SealStrip is temporarily fixed to the OL-33 Facade wind protection surface if needed, e.g. with a stapler, and the final attachment to the joint surface is done using Facade joint sealing tape (see Figure 2, Structure A). The SealStrip Pro strip can also be used, if necessary, to repair Facade coating damage on-site.

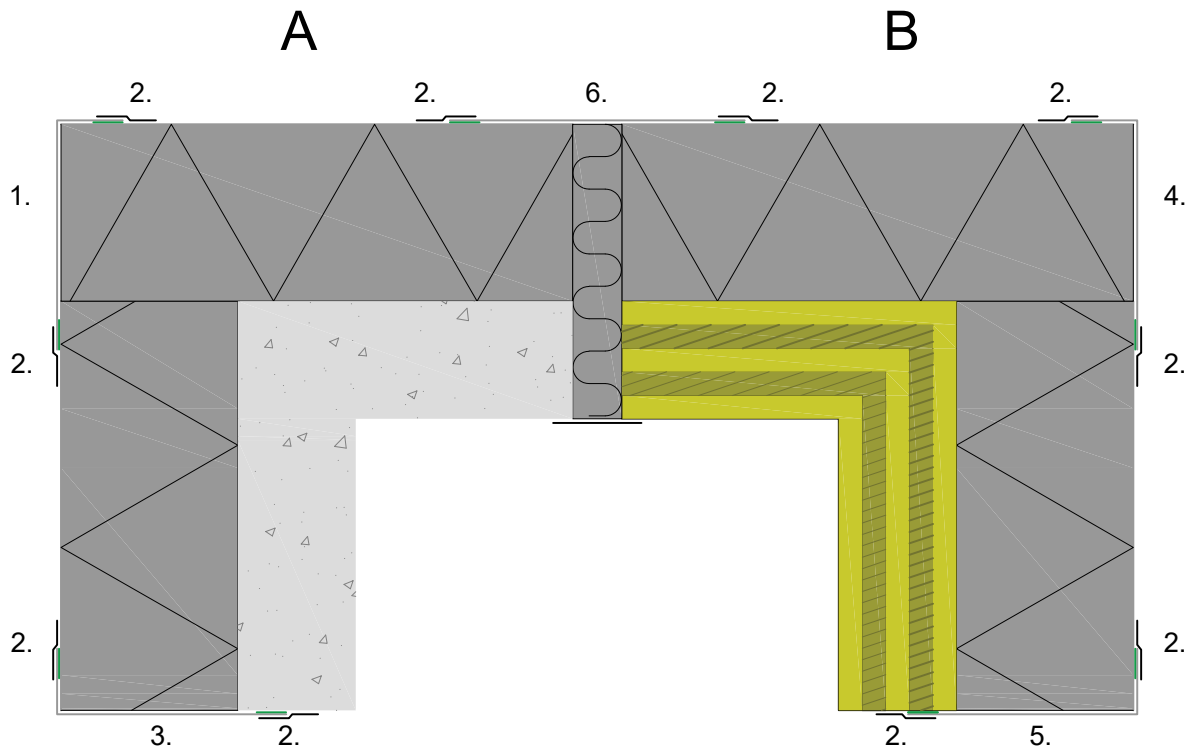


Figure 2.

1. ISOVER Facade SealStrip attached to OL-33 Facade coating at an external corner.
2. Facade Tape
3. ISOVER Facade SealStrip attached to OL-33 Facade coating and concrete at the edge of an opening.
4. ISOVER Facade SealStrip Pro carefully folded and attached to OL-33 Facade coating at an external corner.
5. ISOVER Facade SealStrip Pro attached to OL-33 Facade coating and solid wood panel at the edge of an opening.
6. ISOVER Facade SealStrip Pro straight joint.

5. RELATED DOCUMENTS

1. ISOVER Facade System - Design Guide
2. Gyproc-Isover Fire Certificate
3. Gyproc-Isover Fire Safety Design Guide
4. Termofix Spacer Screw Table
5. ISOVER Facade - Installation Videos
6. ISOVER Insulation Pocket Guide



ISOVER FACADE -WIND PROTECTION BOARD

The ISOVER Facade system consists of wind protection-coated insulation boards developed for demanding moisture conditions, along with board fastening and sealing accessories, as well as design and installation guides. The purpose of the ISOVER Facade system is to support the design and implementation of durable and reliable solutions for both new construction and renovation projects. The ISOVER Facade system is specifically designed to meet the current and anticipated future climate conditions of the Nordic countries.

Read more on our website:

www.isover.fi



SAINT-GOBAIN

Saint-Gobain Finland Oy

PL 70, Strömberginkuja 2
00381 Helsinki

www.isover.fi

