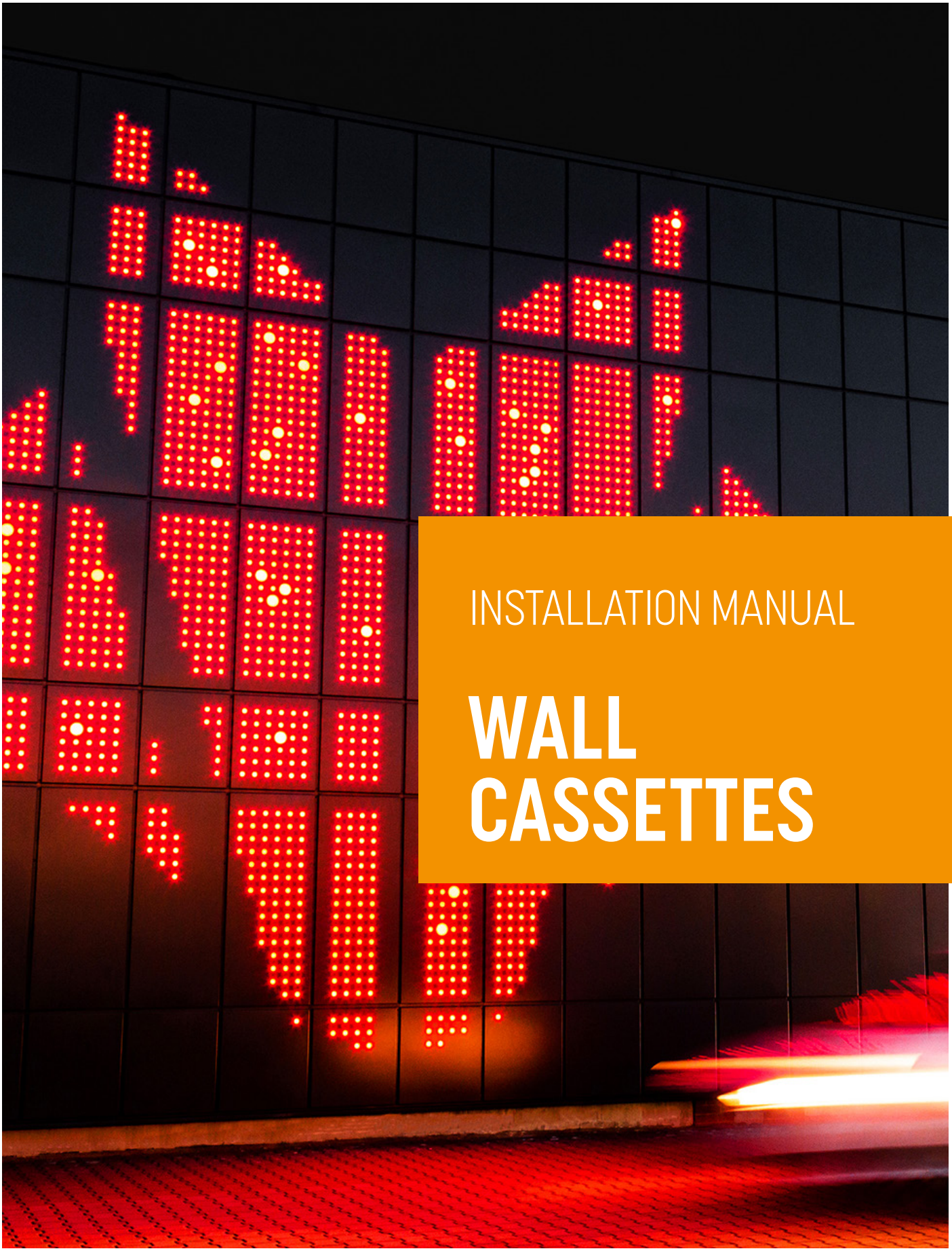


INSTALLATION MANUAL

WALL CASSETTES

SKRIN

THE POWER OF ROOFS

BP2.EU

Contents

THIS MANUAL IS A REFERENCE MATERIAL AND DOES NOT RELEASE CONTRACTORS FROM THE OBLIGATION TO COMPLY WITH THE RULES OF GOOD CONSTRUCTION PRACTICE.

Introduction

SKRIN wall cassettes are products that are widely used in the construction industry thanks to their versatility. They work well as a façade covering for both new and modernized buildings. They can be used to enclose the smallest buildings, such as garages, sheds or single-family houses, and as large-area façade of office, commercial, public utility buildings or multi-family houses.

SKRIN wall cassettes can be installed both horizontally and vertically. In accordance with the expectations of investors, various protective coatings are used, taking into account the corrosion class, available in a wide range of colours. The **BP2** offer also includes system solutions such as corners and fasteners that are required in the construction project. It is possible to make non-standard elements..

BP2 offers support for contractors from the design stage to the implementation stage, acceptance of the facility and during its operation.

For design purposes, tables are prepared to help you to select the appropriate spacing for consoles and mounting profiles. Calculations were made in accordance with Polish Construction Standards.

Load table for P01 and P02 profiles with K01 and K02 consoles, max. spacing of 1.0 m;

Profile	t [mm]	Type of load	Characteristic load per 1m² of surface					Characteristic load per profile
				kN/m²	kN/m²	kN/m²	kN/m²	kN/m
			Spacing [m]	0,70	0,60	0,50	0,40	1 mb
P01	1,25	to the support (pressure)		0,77	0,77	0,77	1,35	0,60
		from the support (suction)		0,98	0,98	0,98	1,71	0,76
P02	1,25	to the support (pressure)		0,60	0,60	0,60	1,04	0,46
		from the support (suction)		0,87	0,87	0,87	1,53	0,68
P03	1,50	to the support (pressure)		0,66	0,66	0,66	1,15	0,51
		from the support (suction)		1,18	1,18	1,18	2,07	0,92

1. General information

The assembly manual is devoted to issues related to the assembly of the façade system available in the **BP2** offer. It is dedicated primarily to installers of such systems, but it also contains information for architects, constructors, general contractors, supervisory inspectors, and investors.

Such façade systems have been used in construction for many years. The last decades have seen the rapid development of technology, which is the result of a very high demand in the construction industry. The key factor has become time which determines the profitability of each investment. Therefore, products that can be produced and delivered to the construction site in a short time, as well as quickly and cheaply installed, in almost all weather conditions, are popular. These products must be of high quality so that they meet the criteria of aesthetics and durability and comply with the applicable construction law and rigorous standards that apply in a given country. The assembly instructions show step by step how to install such a system safely and correctly in a safe and correct manner. It contains many practical notes that will help to avoid possible problems caused by not taking into account the characteristics of material used, poorly prepared partition for the housing or the use of inappropriate tools. The façade system manufactured and supplied by **BP2** consists of:

1. **SKRIN** wall cassettes installed horizontally or vertically, made of galvanized sheet (powder painted) and galvanized coated sheet with a sheet whose thickness is 1.00; 1.25; 1.50mm.

2. Consoles made of galvanized sheet metal, thickness 2.00; 2.50; 3.00 mm.

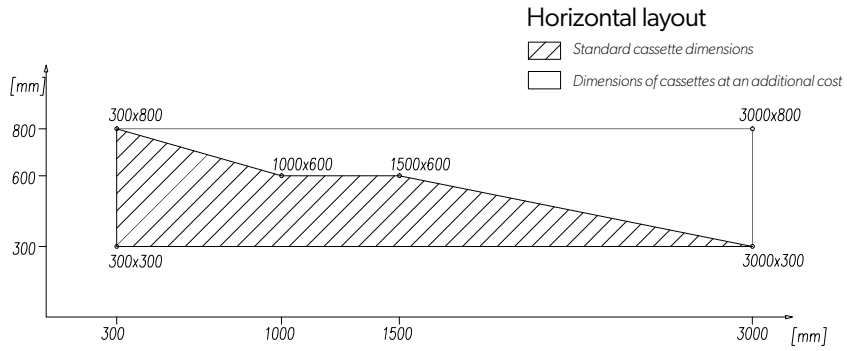
3. System grate made of galvanized sheet and galvanized coated sheet with a thickness of 1.25; 1.5mm in the following profile shapes: omega, C-section, angle section.

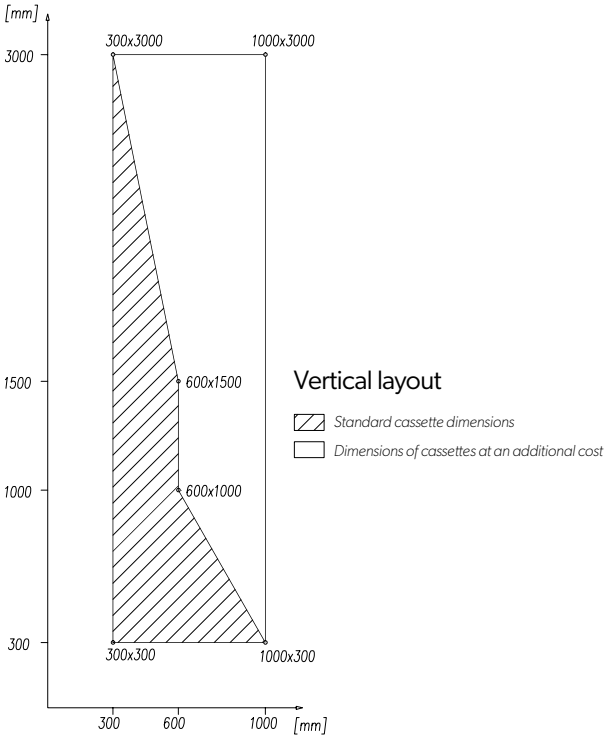
4. Flashings made of galvanized sheet with a thickness of 0.7; 1.00; 1.25 mm and galvanized coated sheet with a thickness of 0.7; 1.00; 1.25 mm.

SKRIN wall cassettes: technical specification

Technical parameters	
Width A1 min/max - horizontal assembly	300/3000 mm
Height B1 min/max - horizontal assembly	300/800 mm
Width A1 min/max - vertical assembly	300/3000 mm
Height B1 min/max - vertical assembly	300/1000 mm
Thickness C1	30 mm
Joint width - FH horizontal/FV vertical	25/25 mm
Mounting holes	Oval 6x15 mm, Round Ø 9mm
Vents	Oval 6x15mm
Sheet thickness	1,00 mm / 1,25 mm / 1,50 mm
Coatings and colours	according to individual customer needs
Connector	Hidden/visible
Mounting method	Horizontal/vertical

SKRIN façade cassette: maximum and minimum dimensions

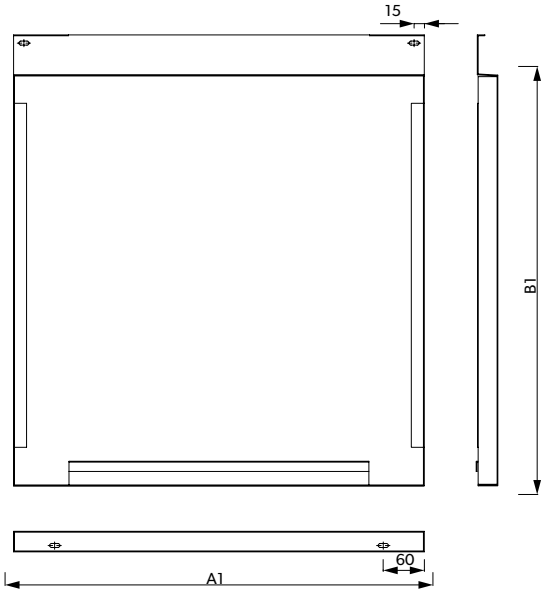




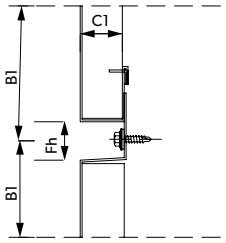
The **BP2** façade system can be mounted to a traditional brick or monolithic wall forming a partition with the features of a classic ventilated façade, or to wall cassettes and sandwich panels. The use of this system is very universal and applies to various types of buildings: - non--residential: commercial, office and public utility buildings as well as industrial halls - residential: multi-family and single-family houses.

SKRIN wall cassettes can be combined on façades with façade coverings offered by **BP2**, such as: **LINEA** façade panels, **SINUS** corrugated sheets and trapezoidal sheets in various combinations, as well as combined with other elements.

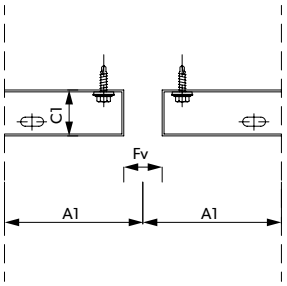
Basic wall cassette for horizontal assembly



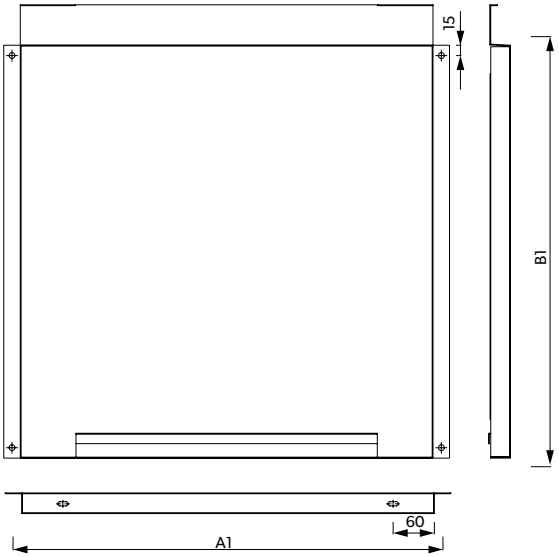
Horizontal connection



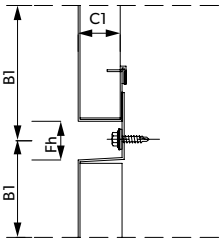
Vertical connection



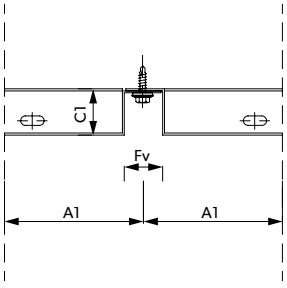
Basic cassette for vertical assembly



Horizontal connection

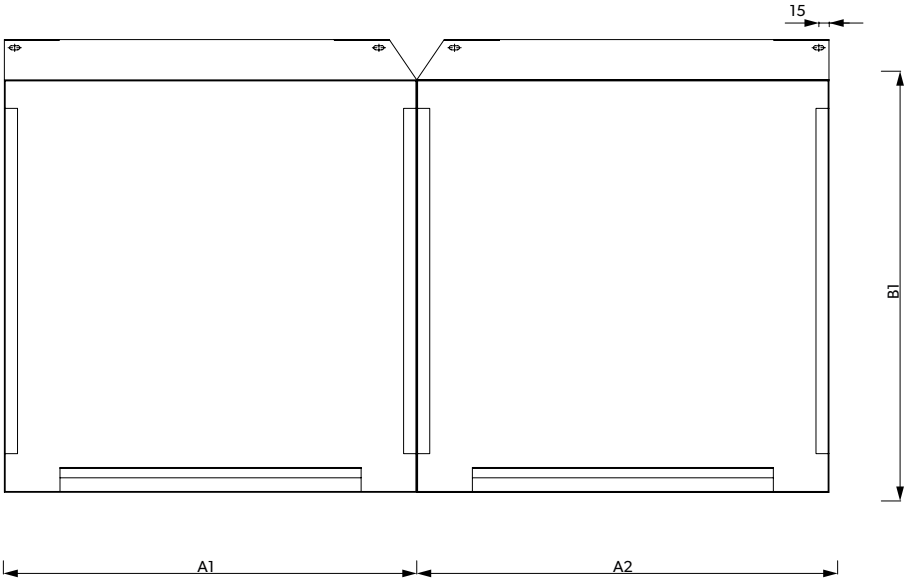


Vertical connection



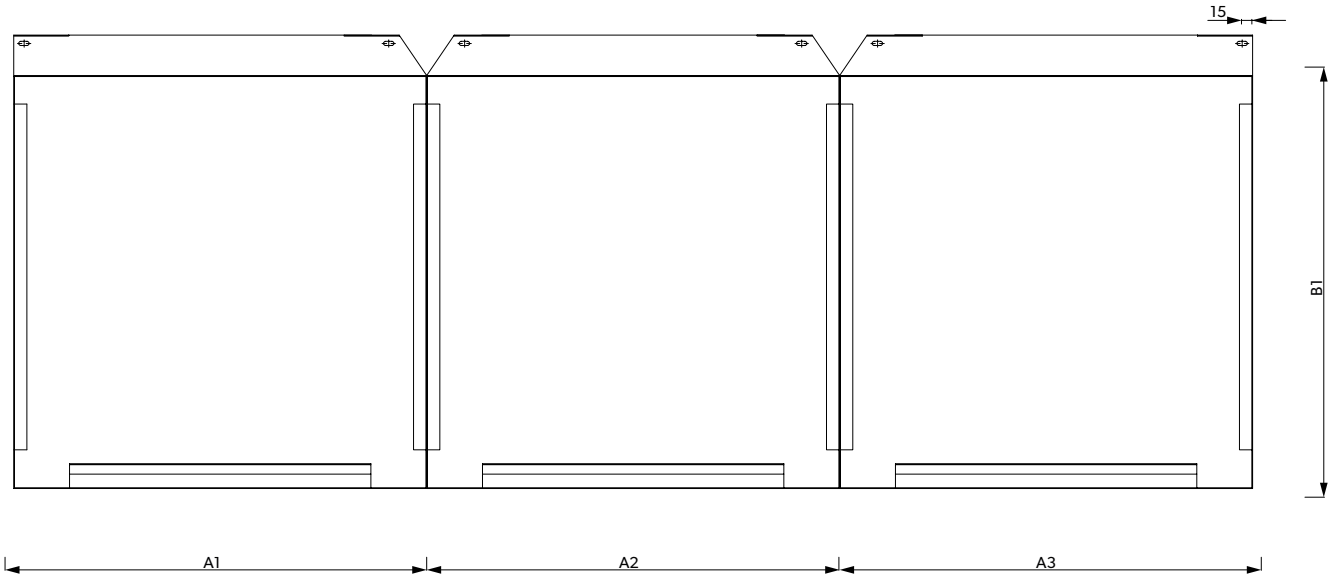
L corner wall cassette for horizontal assembly

A1max + A2max = 3000 mm, A1min = 300 mm, A2min = 300 mm
B1min = 300 mm, B1max = 800 mm



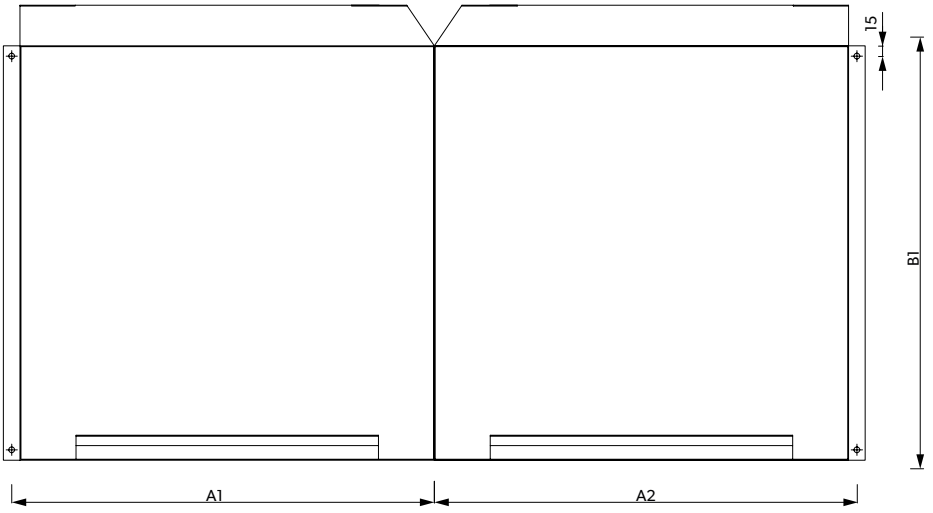
U corner wall cassette for horizontal assembly

A1max + A2max + A3max = 3000 mm, A1min = 300 mm, A2min = 300 mm
B1min = 300 mm, B1max = 800 mm



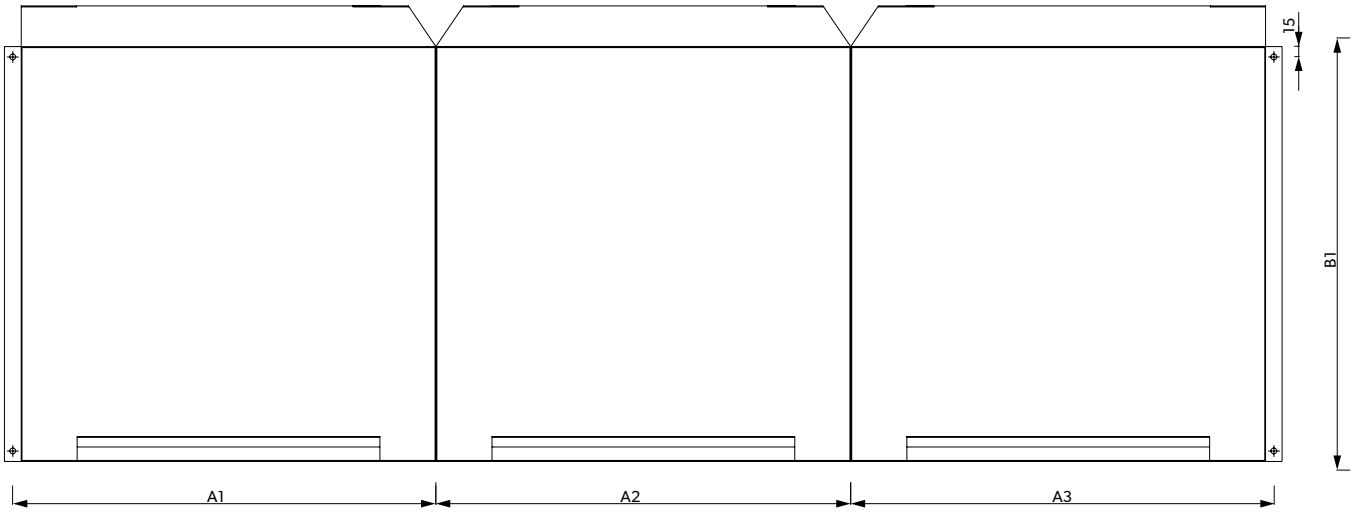
L corner wall cassette for vertical assembly

A1max + A2max = 1000 mm, A1min = 300 mm, A2min = 300 mm
B1min = 300 mm, B1max = 3000 mm



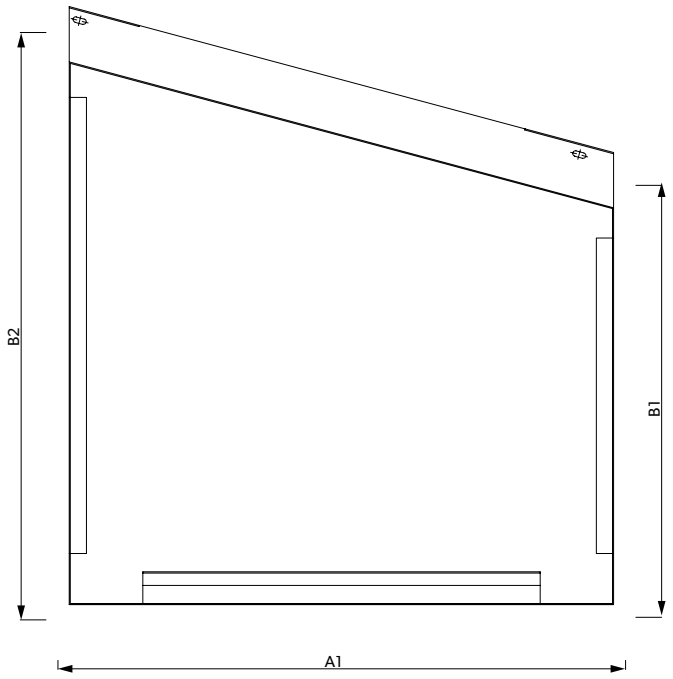
U corner wall cassette for vertical assembly

A1max + A2max +A3max = 1000 mm, A1min = 300 mm, A2min = 300 mm, A3min = 300 mm,
B1min = 300 mm, B1max = 3000 mm



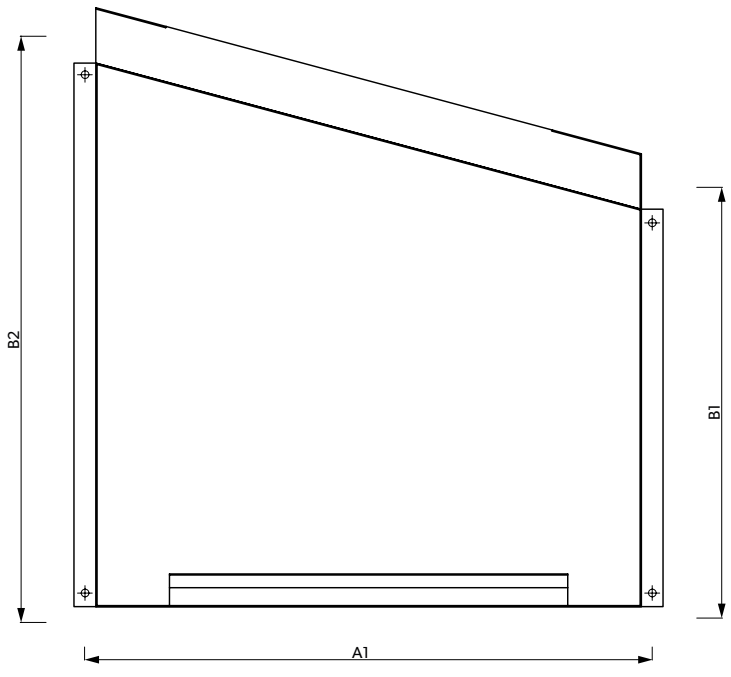
Trapezoidal wall cassette for horizontal assembly

A1max = 3000 mm, A1min = 300 mm,
B1min, B2min = 300 mm, B1max, B2max = 800 mm



Trapezoidal cassette for vertical assembly

A1min = 300 mm, A1max = 1000 mm, B1min, B2min = 300 mm,
B1max, B2max = 3000 mm



2. Preparatory activities for the assembly of the façade system

The BP2 company offers technical advice at every stage of the investment process and the implementation of a full or simplified final design of our façade system. We have relevant information in the field of statics (based on research and calculations). Such information is crucial especially for constructors, facilitating the design of such a façade and the BIM library, which is designed to support the design process for architects*. We have appropriate approvals and certificates confirming the possibility of using our system in accordance with the applicable construction law and required standards. Before commencing work, you should familiarize yourself with the detailed design and check the conditions in which the assembly will be carried out. This applies to both the installation site and the individual elements of the façade system delivered to the construction site. In the case of the installation site, we check:

- compliance of the load-bearing structure with the design (whether the maximum and minimum deviations have not been exceeded and we compare them with the deviations of the manufacturer's façade system to see if they fall within the acceptable norms).

- linearity and level of the plane and whether all works have been completed at the place where the elevation will be installed. -

at the façade, we verify if there is enough space to set up scaffoldings or lifts, cranes, etc. We complete the equipment and tools used during assembly and secure the workplace in accordance with the site manager's recommendations and occupational safety and health regulations.

*You can find this product in our BP2 BIM library for architects and designers **www.bim.bp2.eu**

3. Preparing the structure

SKRIN wall cassettes can be used on any wall, because they are hung on a substructure, which is a steel grate.

The first step is to assemble the consoles in accordance with the workshop documentation provided by the manufacturer. After checking whether it is possible to start work in terms of the prevailing weather conditions (for elements, such as cassettes, we must remember that the wind speed should not exceed 10 m/s), start assembling the consoles in accordance with the workshop documentation provided by the manufacturer. With the use of measuring instruments (manual or mechanical), place and assemble the consoles in the appropriate place on the wall so that the grating can then be freely attached to them. For the assembly of consoles, use mechanical or chemical anchors in accordance with the design and manufacturer's guidelines on fastening techniques and selected for the appropriate substrate and at specified distances between each other and from the edge of the wall finish. Then, check their linearity and level. Figure 1 illustrates the maximum spacing of consoles. Figure 2 illustrates the adjustment range of the consoles. After mounting the consoles, check their linearity and level.

Figure 1 shows the maximum spacing of consoles. **Figure 2** shows the adjustment range of the consoles. After mounting the consoles, check their alignment and level.

An illustrative example - installation of panels in a horizontal arrangement.

FIG.1 MOUNTING THE CONSOLES TO THE WALL

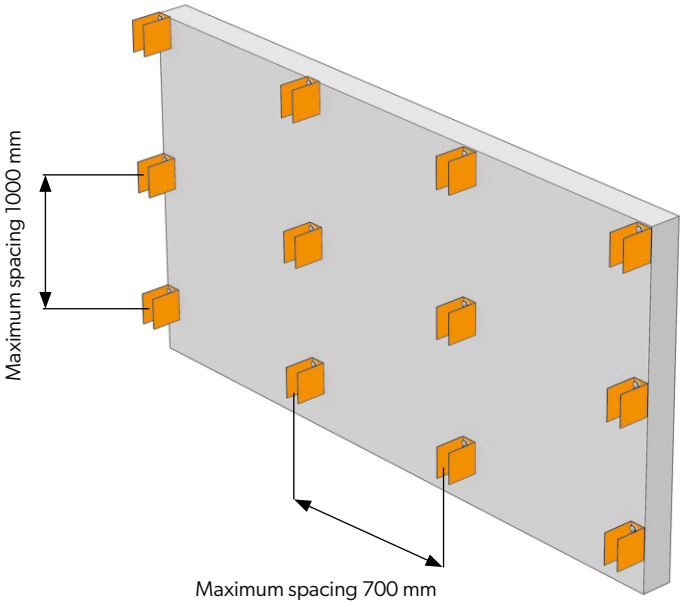
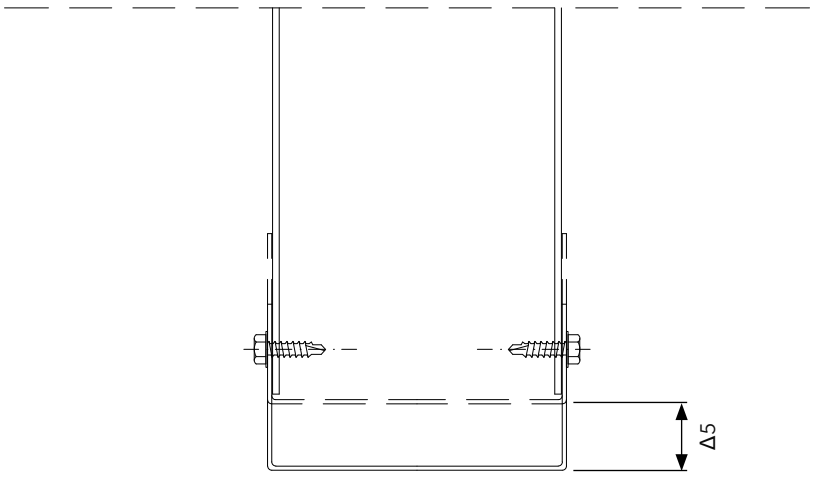


FIG.2 CONSOLE ADJUSTMENT RANGE



Console adjustment range up to 20 mm

In the next step, we proceed to the installation of grates, keeping in mind their different types and their purpose. After assembly, verify the linearity and level again, taking into account the maximum and minimum deviations provided by the manufacturer for this system.

FIG.3 ASSEMBLY OF THE GRATE TO THE CONSOLES

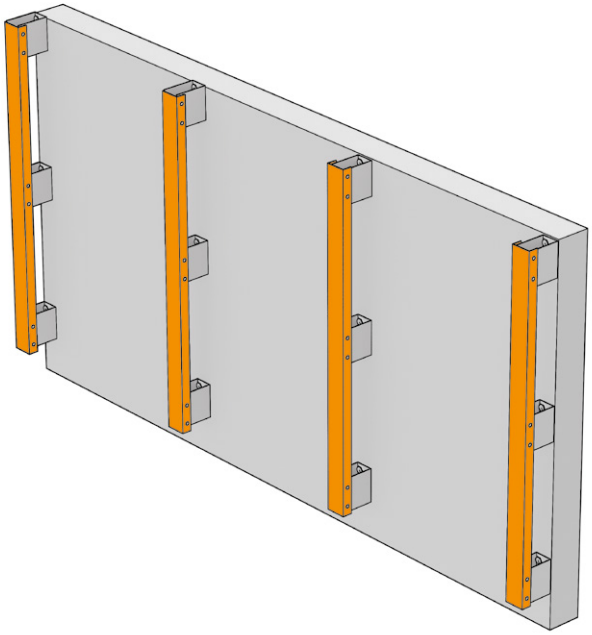
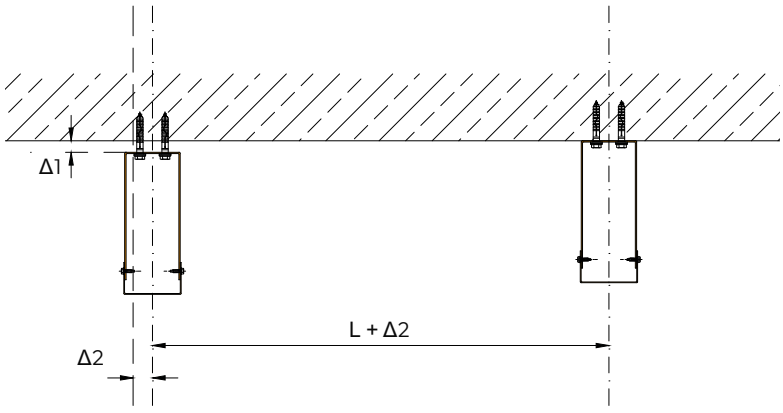


FIG.4 GRATE TOLERANCES

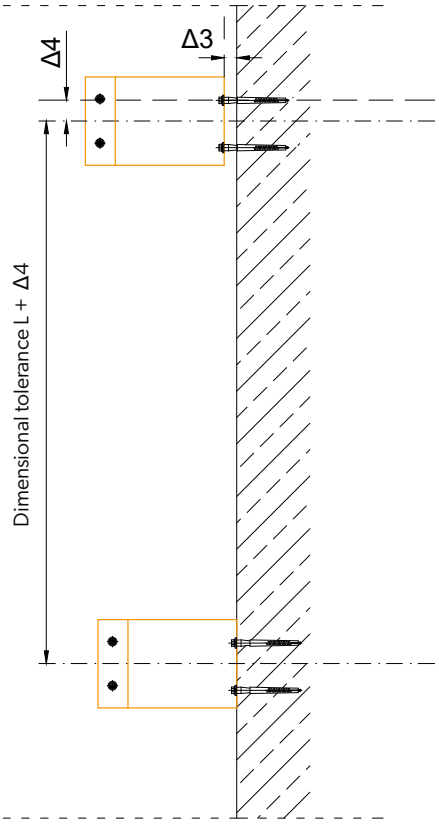


The tolerance for dimensions Δ1 and Δ2 is ± 1 mm

An illustrative example - installation of panels in a horizontal arrangement.

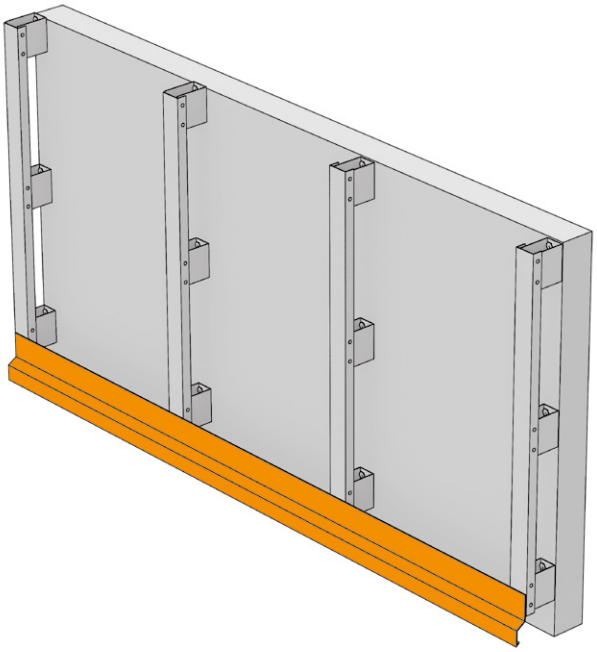
4. Installation of the starting strip

The next step is to install the starting strip. It is a flashing made of sheet metal with a thickness of 1.25 mm. Its assembly must be confirmed by verification with regard to the detailed design, and especially its location on the façade, determined by the ordinate of the beginning of the cassettes' assembly on the façade given there. Then, check the linearity and level of the installed starting strip. Thorough familiarization with the final design will allow us to determine the order in which the flashings and cassettes will be installed. Some of the flashings are installed before a cassette, and some after its installation.



The tolerance for dimensions Δ3 and Δ4 is ± 1 mm

FIG.5 INSTALLATION OF THE STARTING STRIP



An illustrative example - installation of panels in a horizontal arrangement.

5. Cassettes installation

Next, start the assembly of wall cassettes according to the established assembly sequence and cassette type. The first cassette is mounted to the grate and the starting strip on the right or left side of the surface to be covered with cassettes. It is allowed to mount both to the right and to the left.

FIG.6 INSTALLATION OF THE FIRST CASSETTE

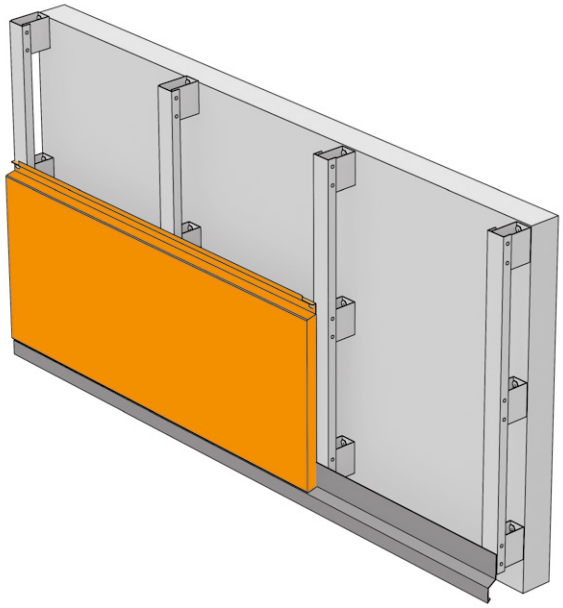


FIG.7 INSTALLATION OF THE FIRST VERTICAL ROW

First, the first vertical row of cassettes is installed.

An illustrative example - installation of panels in a horizontal arrangement.

Then, horizontal rows are installed from bottom to top.

FIG.8 INSTALLATION OF THE FIRST HORIZONTAL ROW

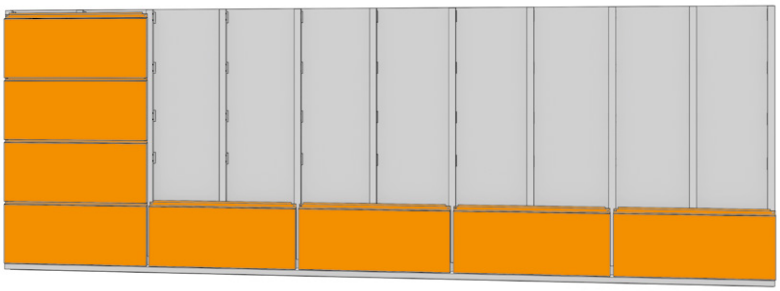
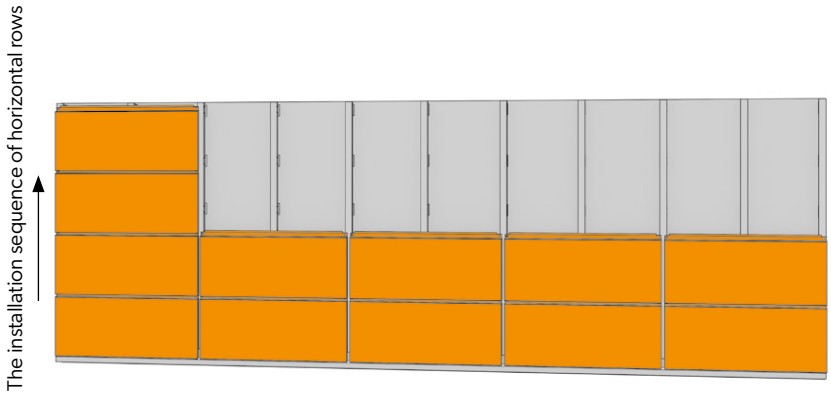


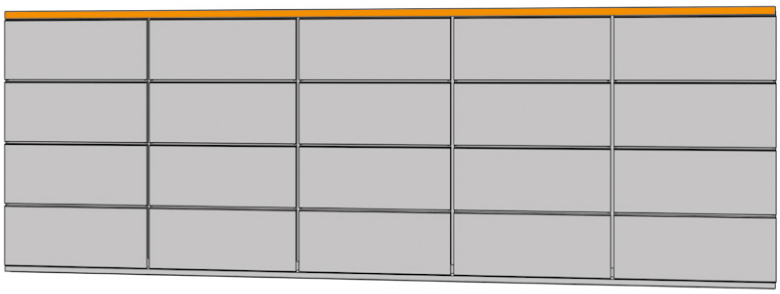
FIG.9 INSTALLATION OF THE SECOND HORIZONTAL ROW



An illustrative example - installation of panels in a horizontal arrangement.

FIG.10 INSTALLATION OF THE FINISHING FLASHING FOR THE UPPER PART OF THE STRUCTURE

After covering the surface along its upper edge, install the finishing flashing.



An illustrative example - installation of panels in a horizontal arrangement.

6. Details

FIG.11 DETAIL OF THE LONGITUDINAL SECTION

Longitudinal section of a classic horizontally ventilated façade

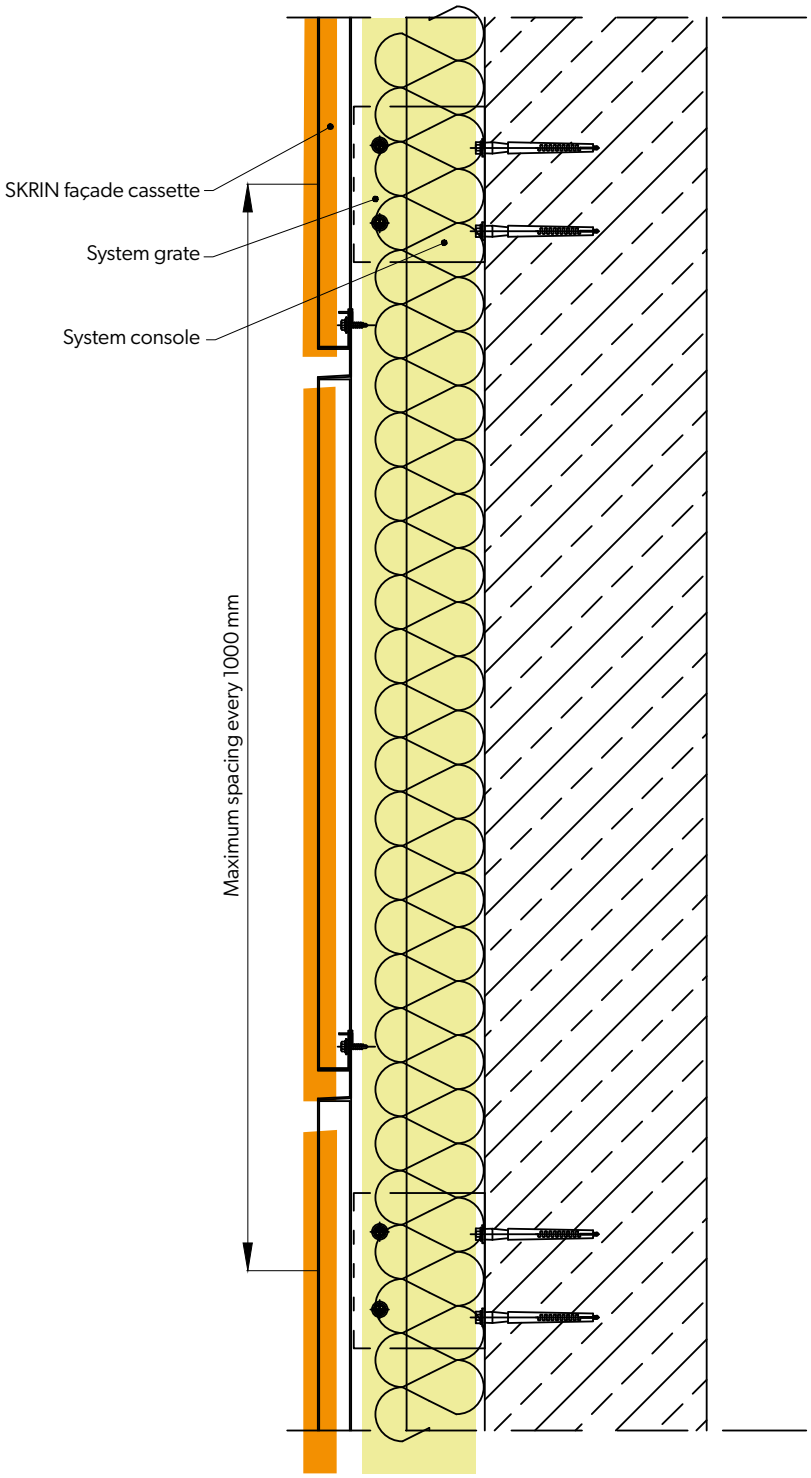


FIG.12 DETAIL OF CROSS SECTION

Cross-section of a horizontally-ventilated classic façade

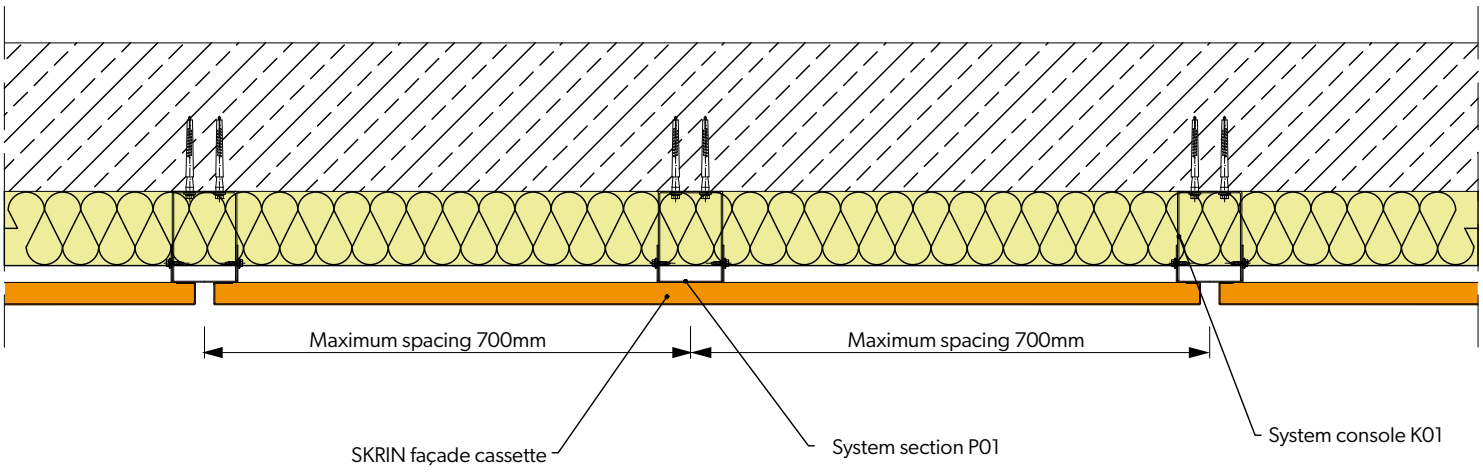
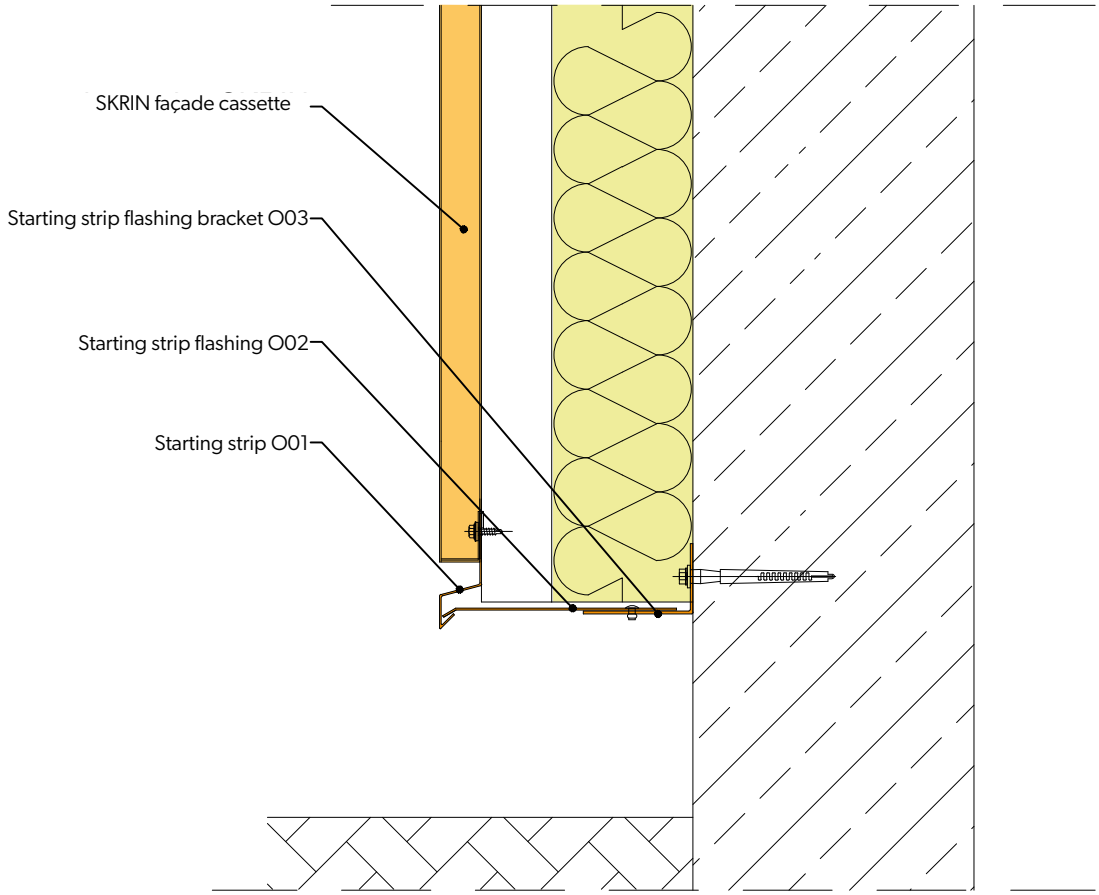
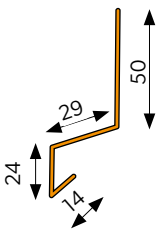


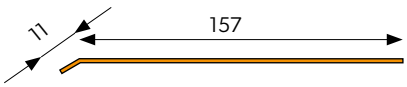
FIG.13 DETAIL OF THE STARTING STRIP



Starting strIP O01



Starting strip flashing O02



Starting strip flashing bracket O03

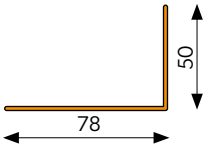
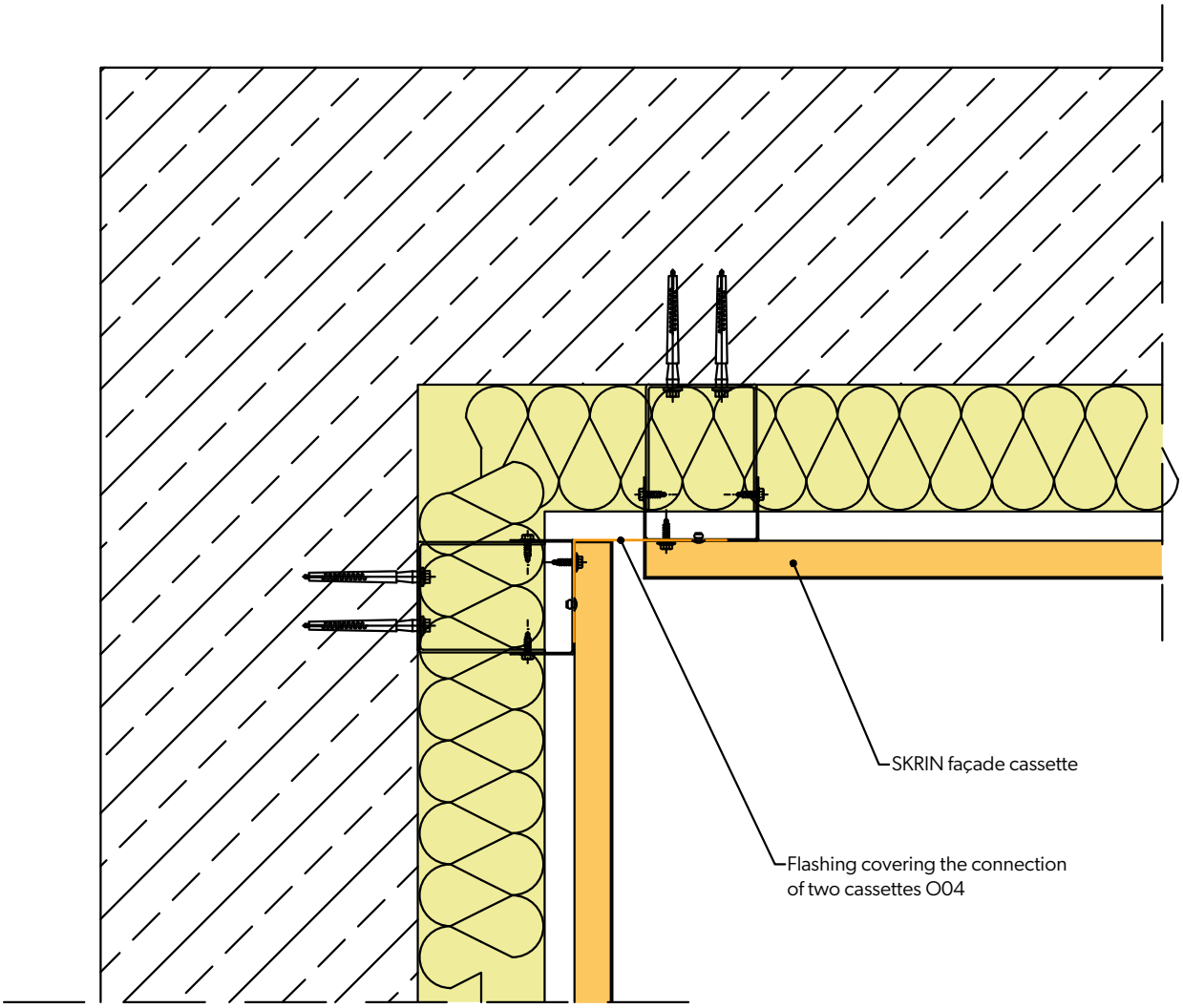


FIG.14 DETAIL OF THE INNER CORNER



Flashing covering the connection of two cassettes O04

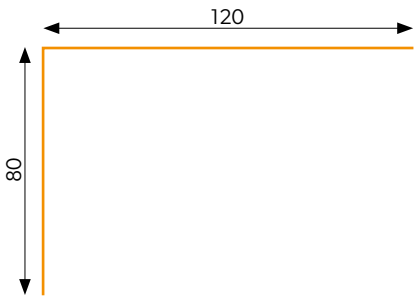


FIG.15 DETAIL OF THE EXTERNAL CORNER, VARIANT I

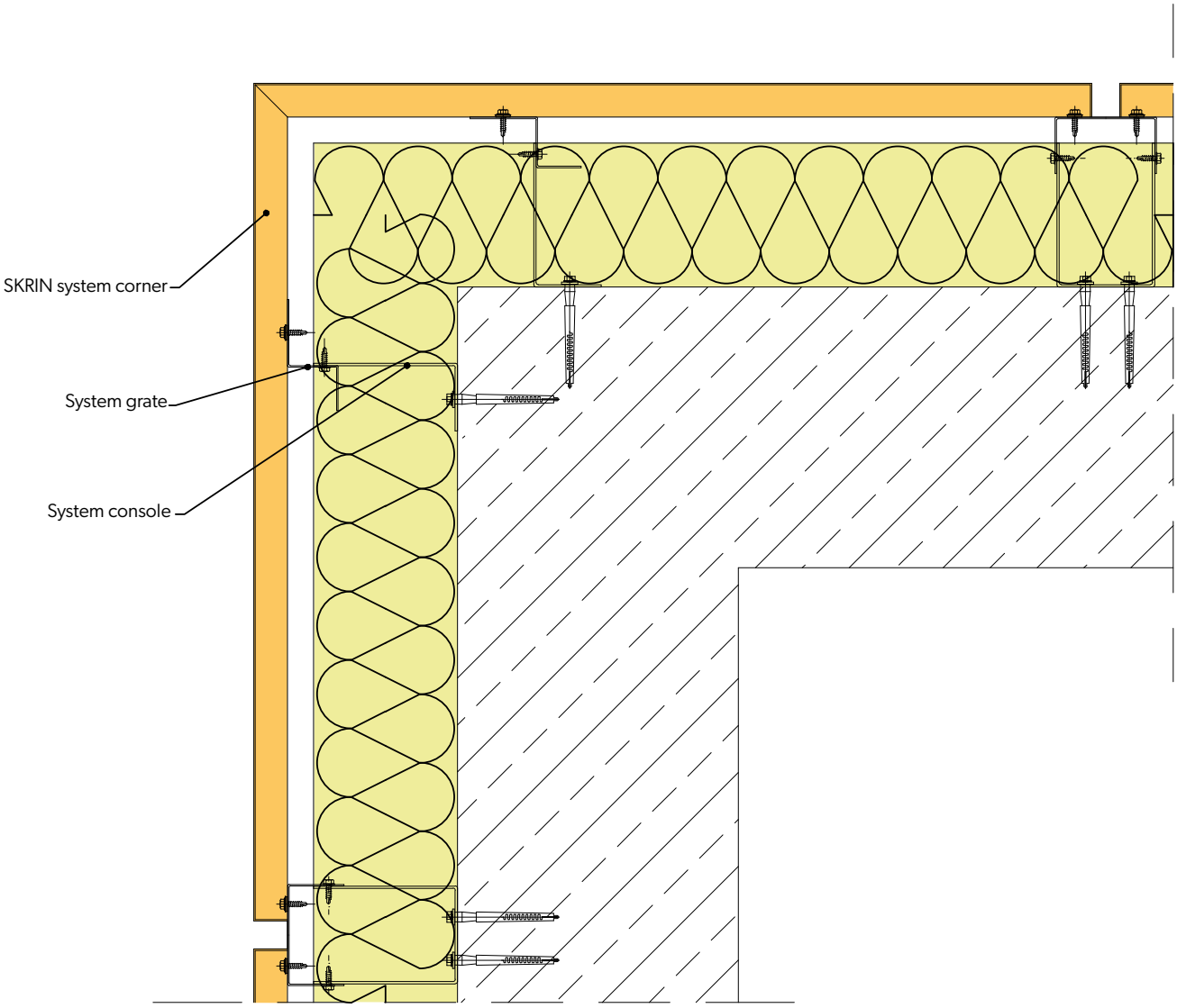
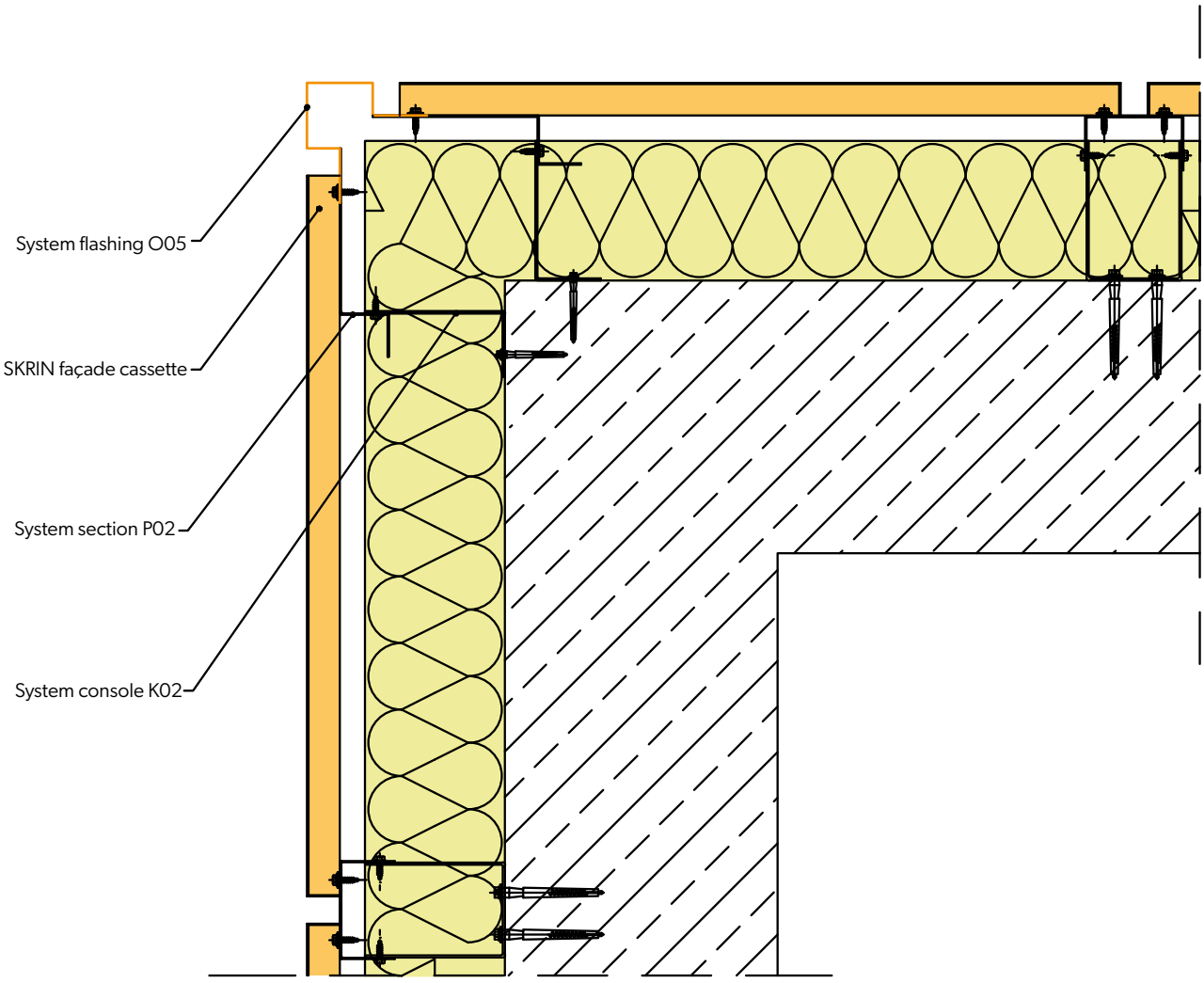


FIG.16 DETAIL OF THE EXTERNAL CORNER VARIANT II



System flashing O05

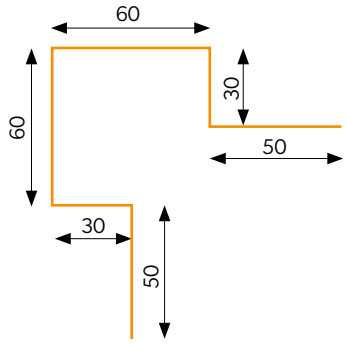
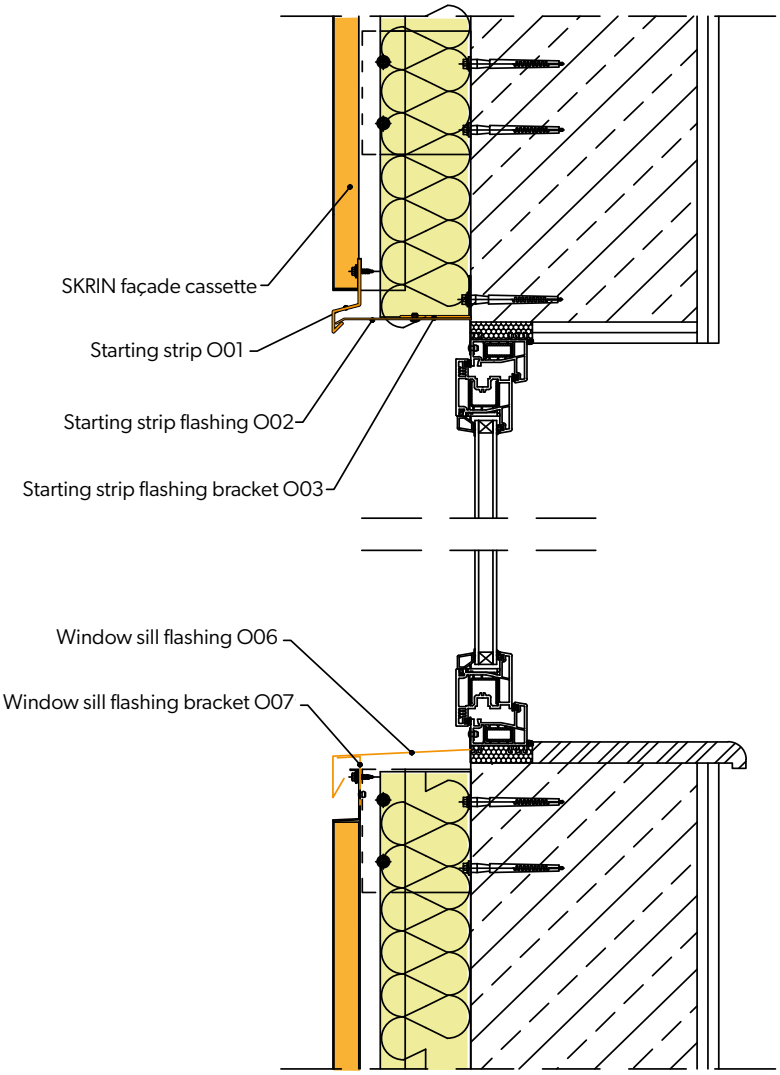
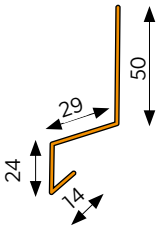


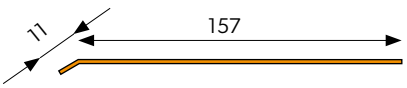
FIG.17 WINDOW DETAIL, SECTION A-A



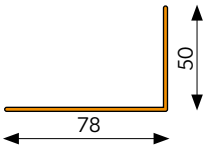
Starting strip O01



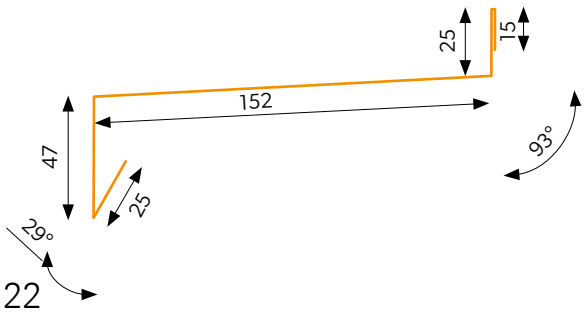
Starting strip flashing O02



Starting strip flashing bracket O03



Window sill flasHING O06



Window sill flashing bracKET O07

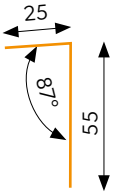
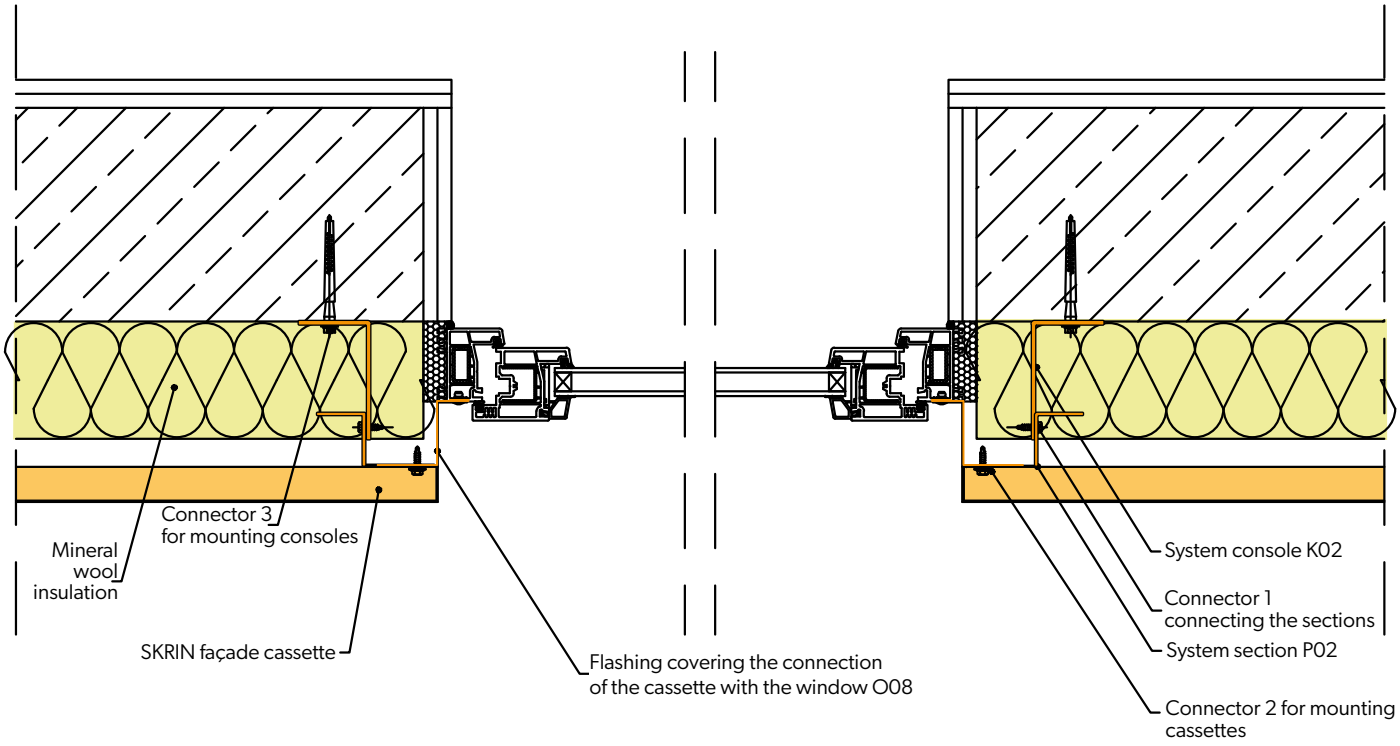
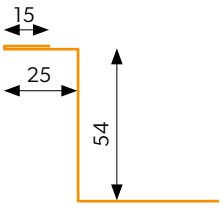


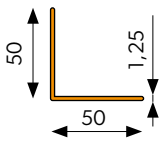
FIG.18 WINDOW DETAIL: SECTION B-B



Flashing covering the connection of the cassette with the window O08



System section P02



System console K02

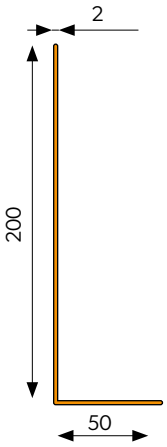
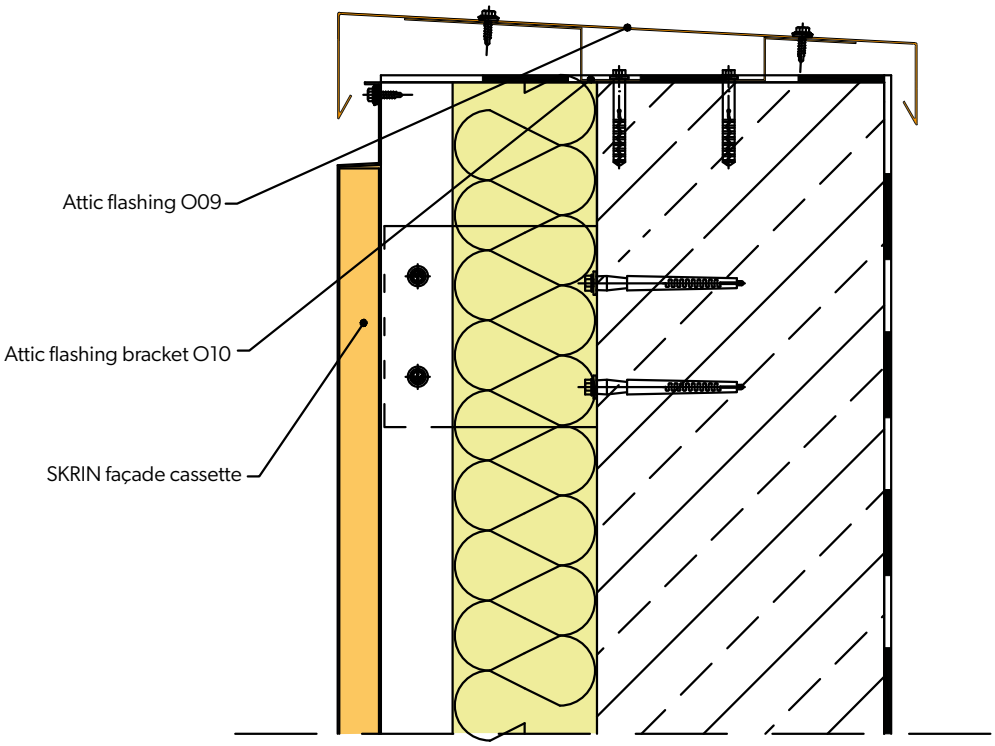
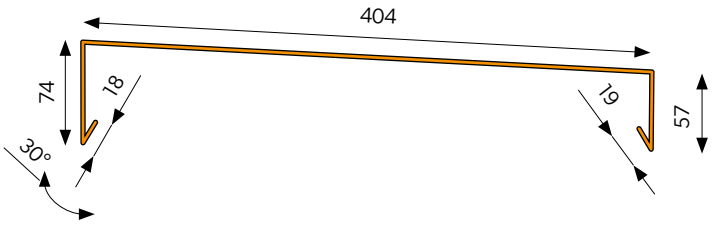


FIG.19 DETAIL OF ATTIC FINISH



Attic flashing O09



Attic flashing bracket O10

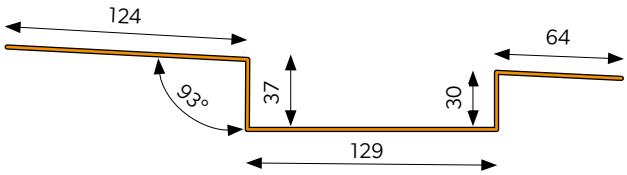
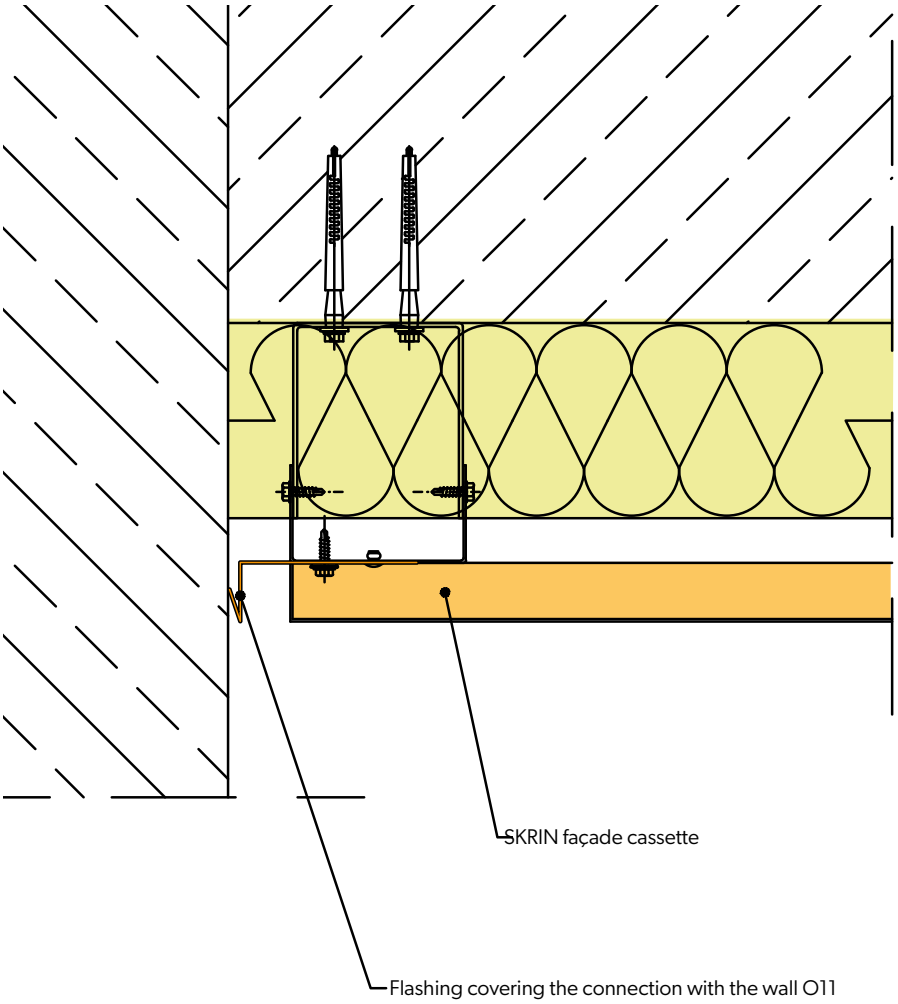
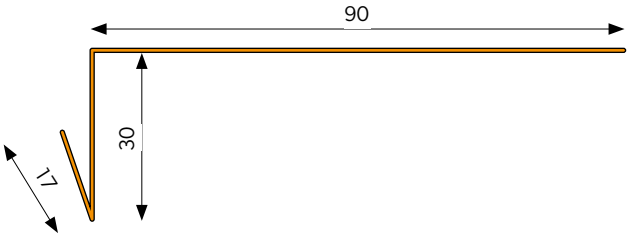


FIG.20 CONNECTION DETAIL WITH ANOTHER WALL

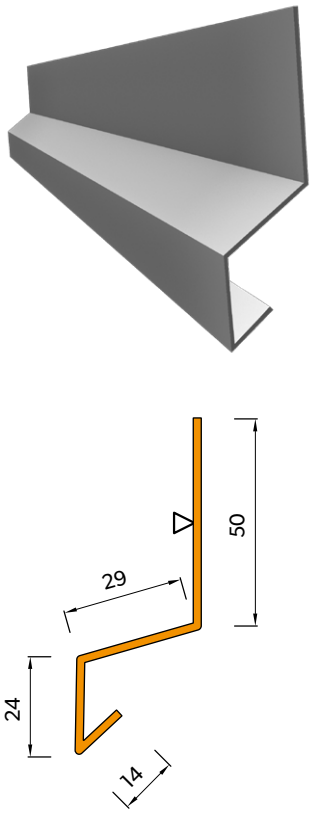


Flashing covering the connection with the wall O11

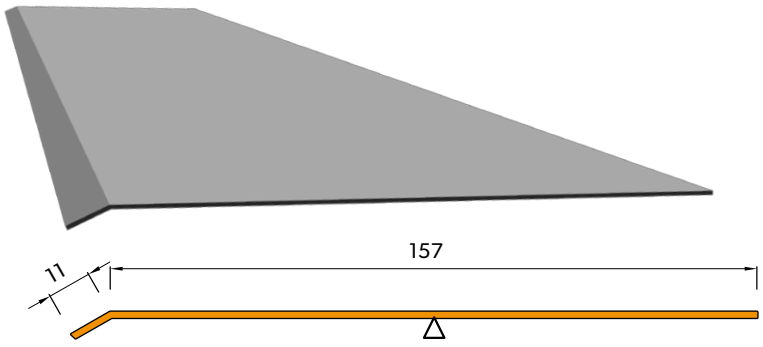


7. Flashing system

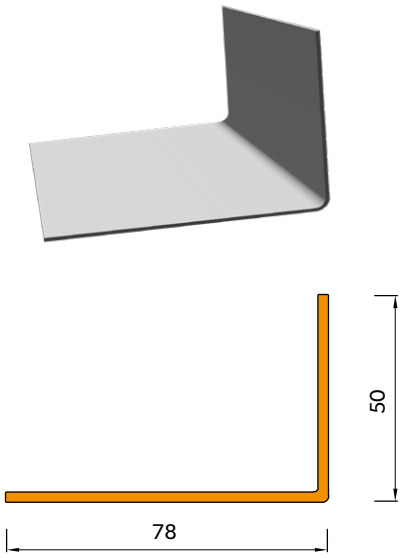
Starting strip O01



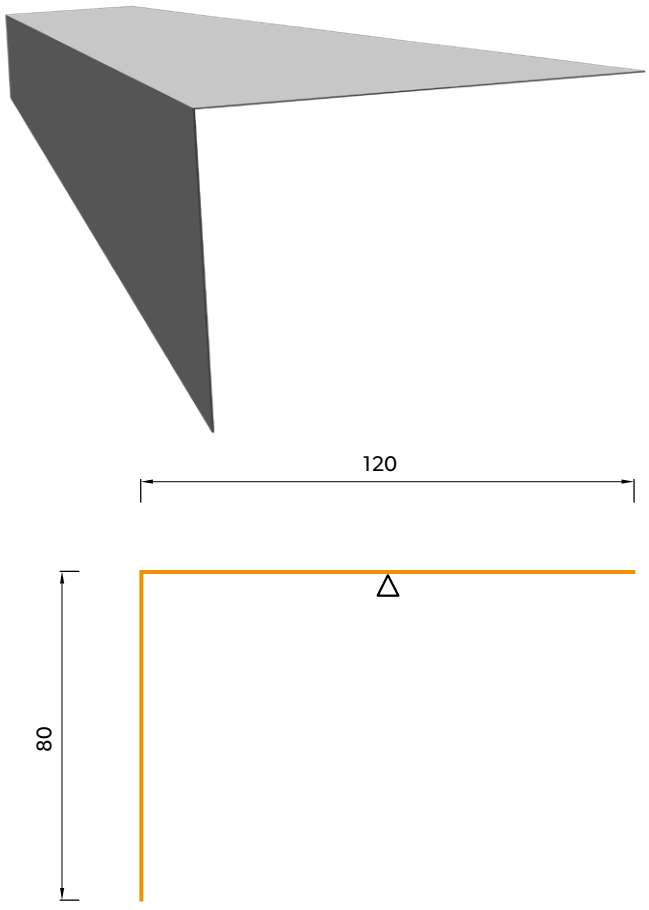
Starting strip flashing O02



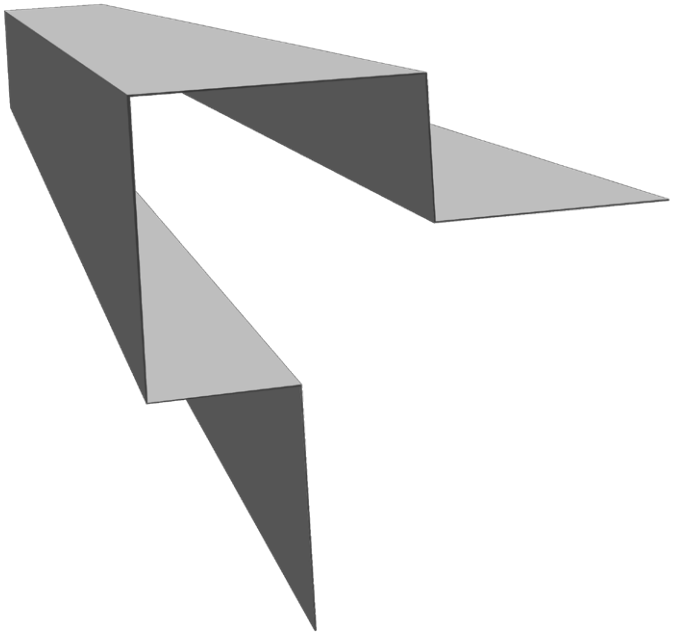
Starting strip flashing bracket O03

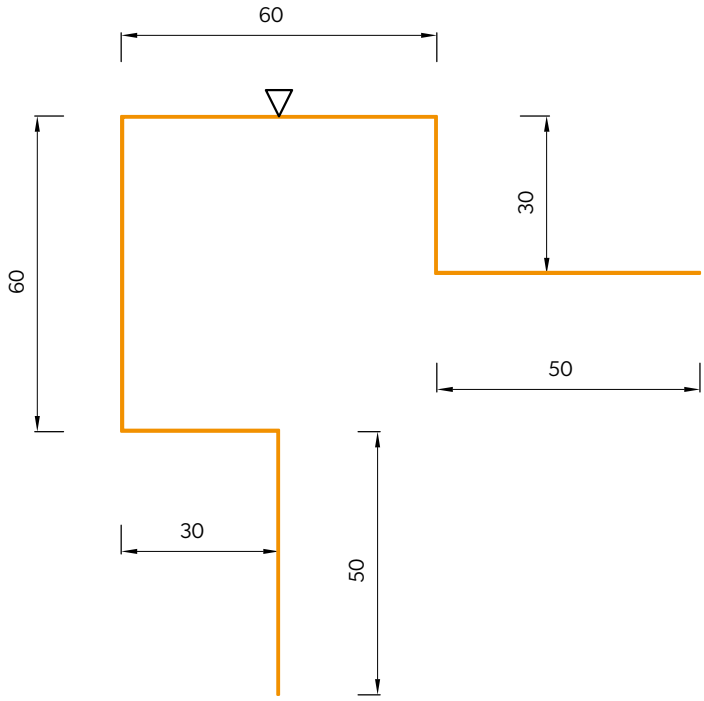


Flashing covering the connection of two cassettes O04

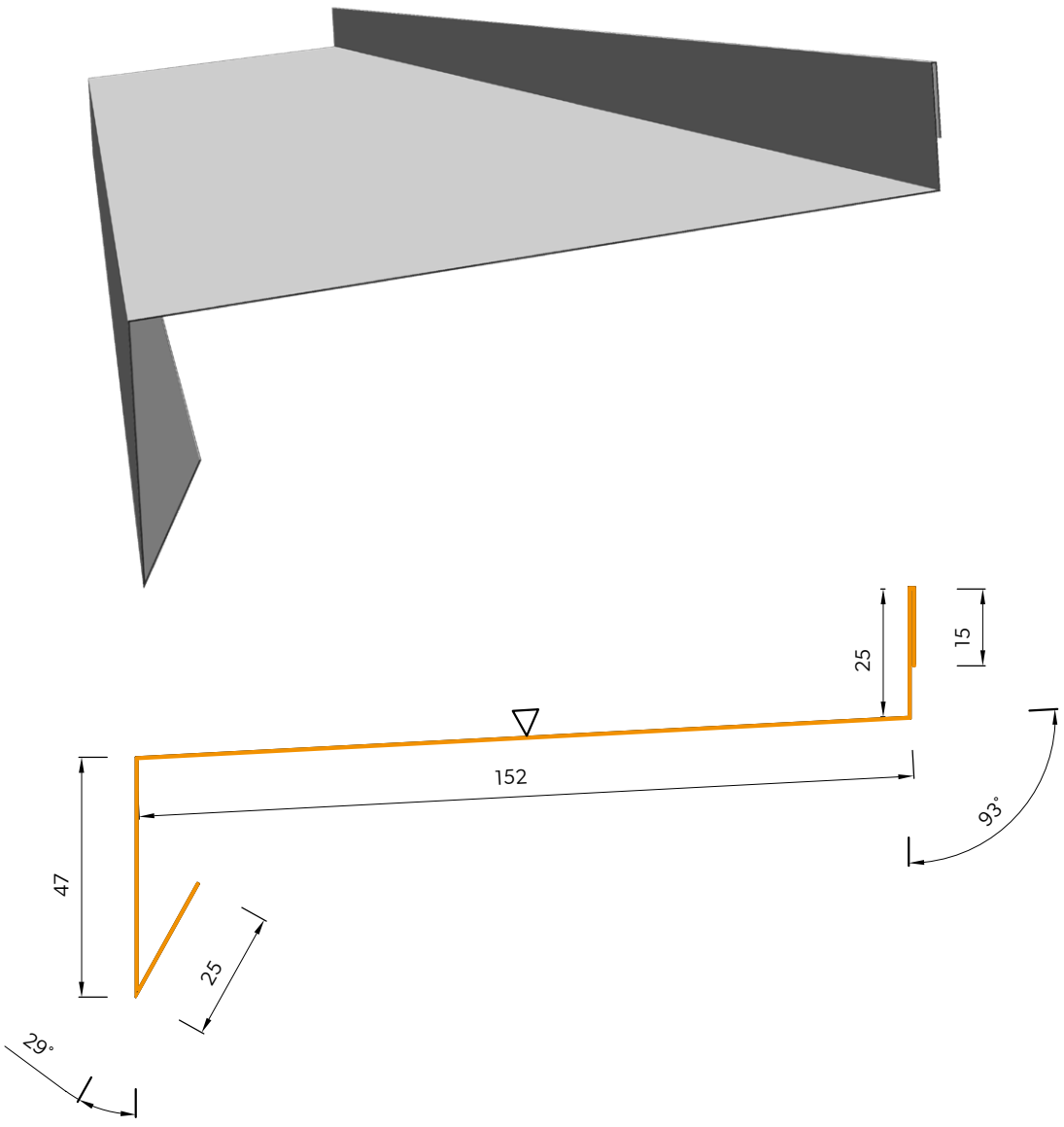


System flashing O05

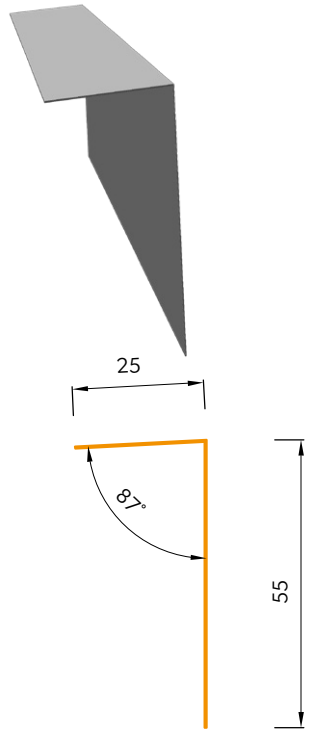




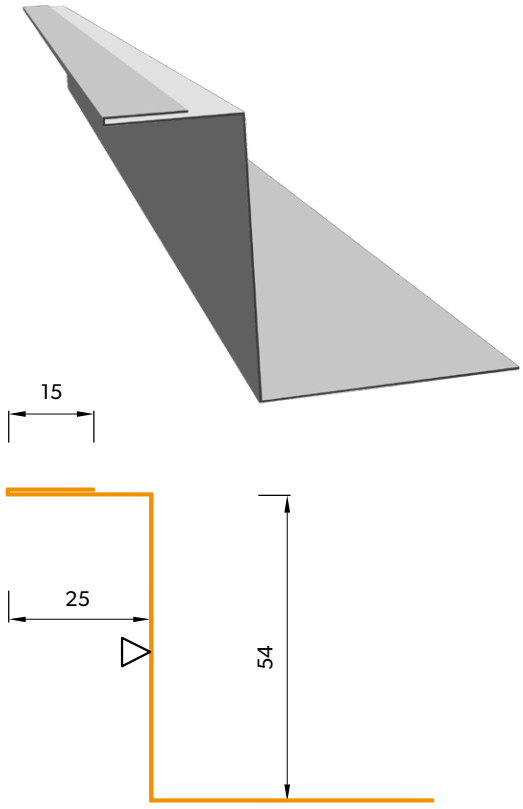
Window sill flashing O06



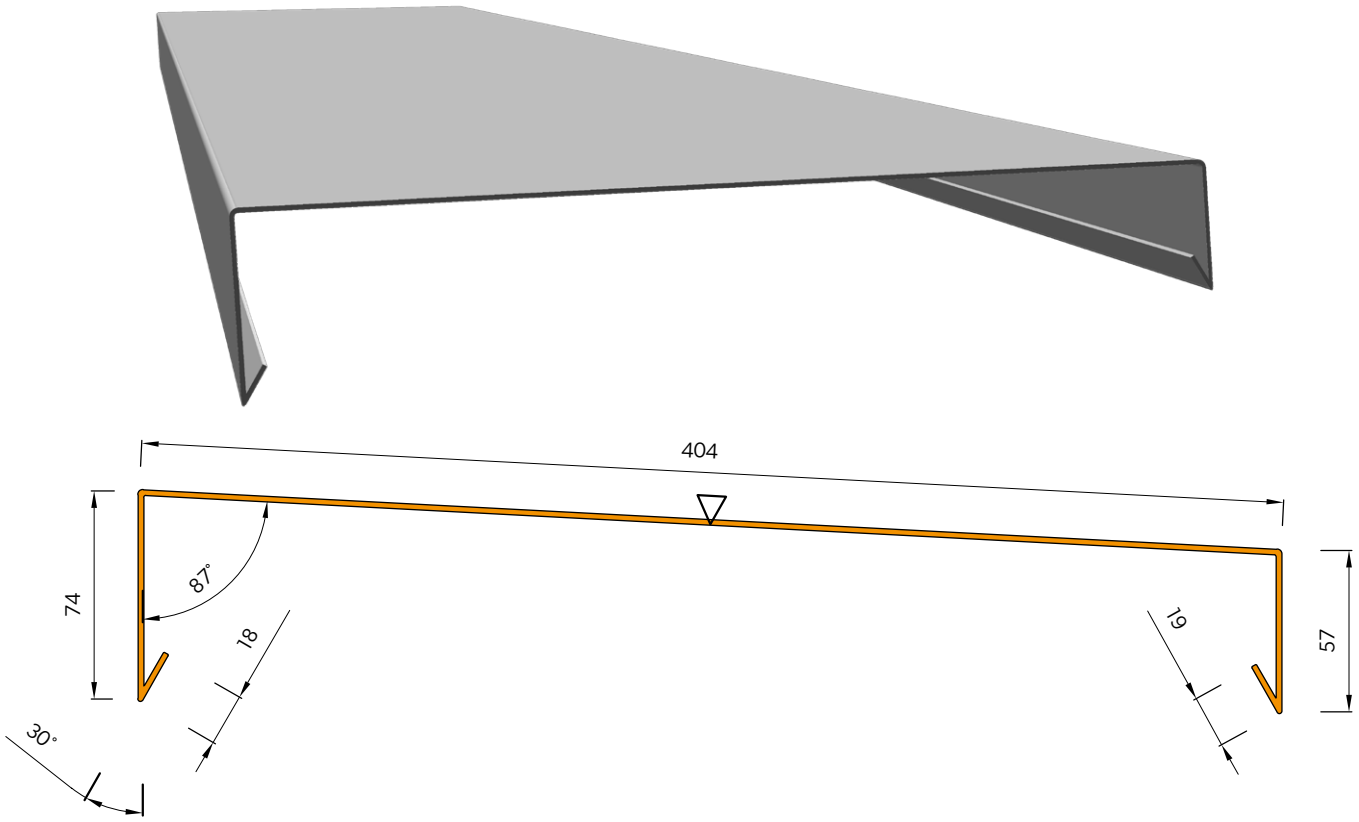
Window sill flashing bracket O07



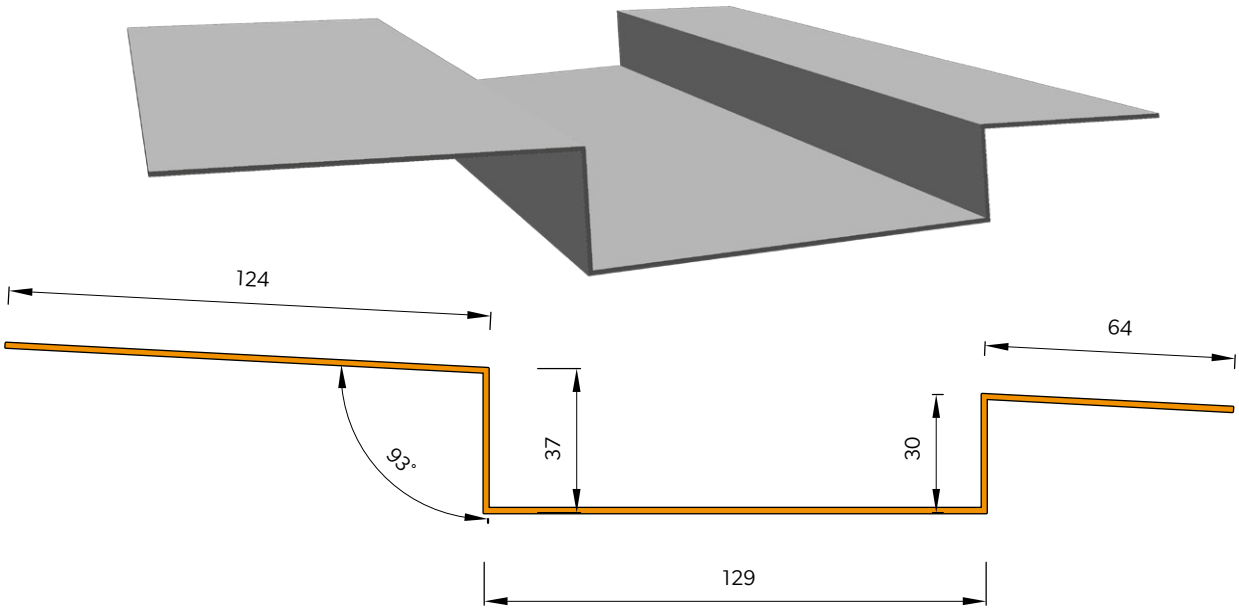
Flashing covering the connection of the cassette with the window O08



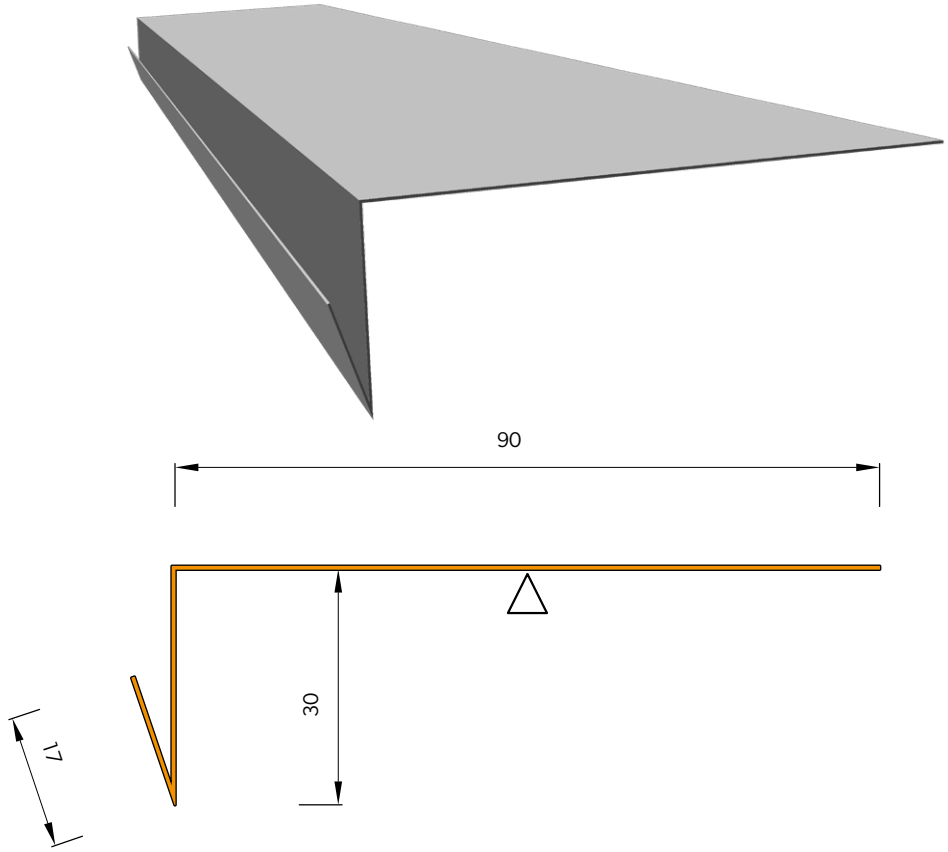
Attic flashing O09



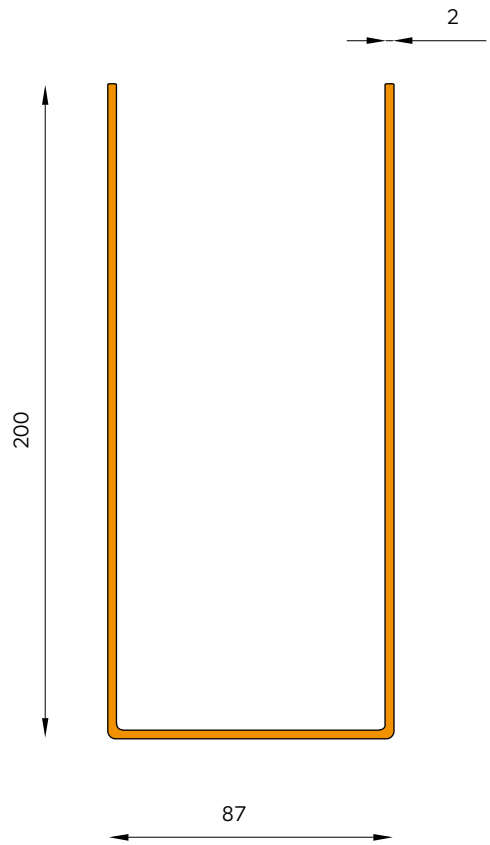
Attic flashing bracket O10



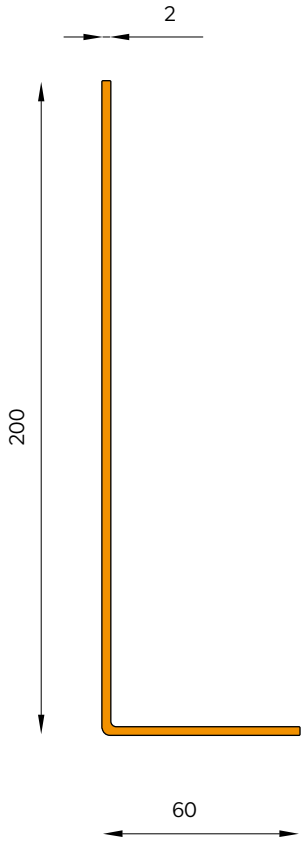
Flashing covering the connection with the wall O11



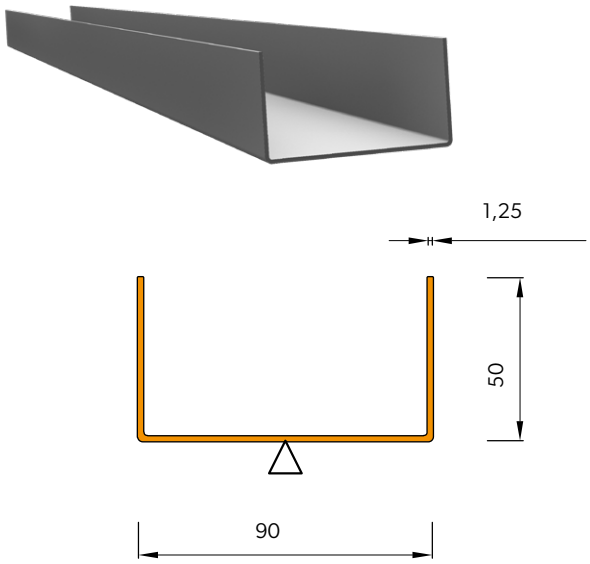
System console K01



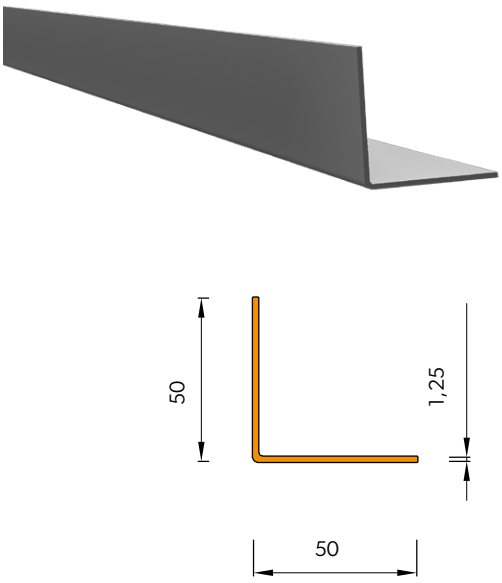
System console K02



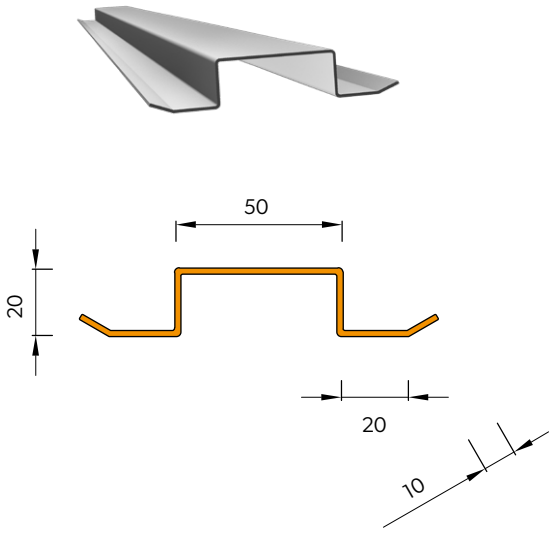
System section P01



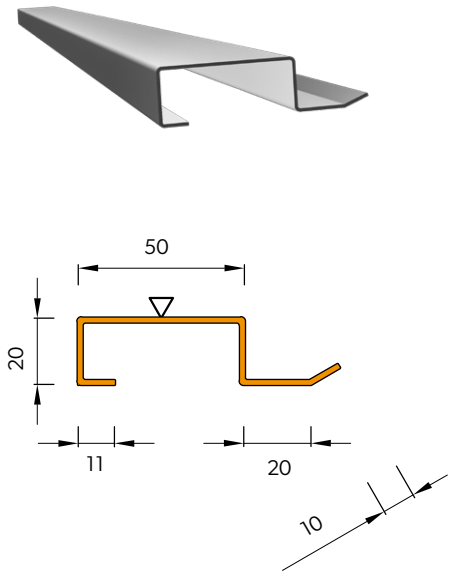
System section P02



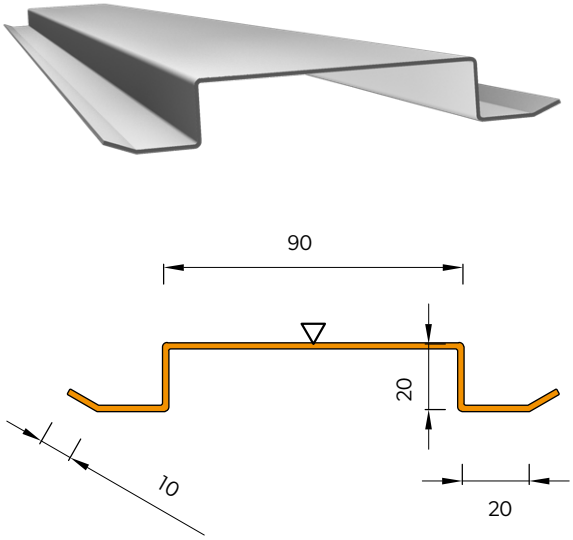
System section P03



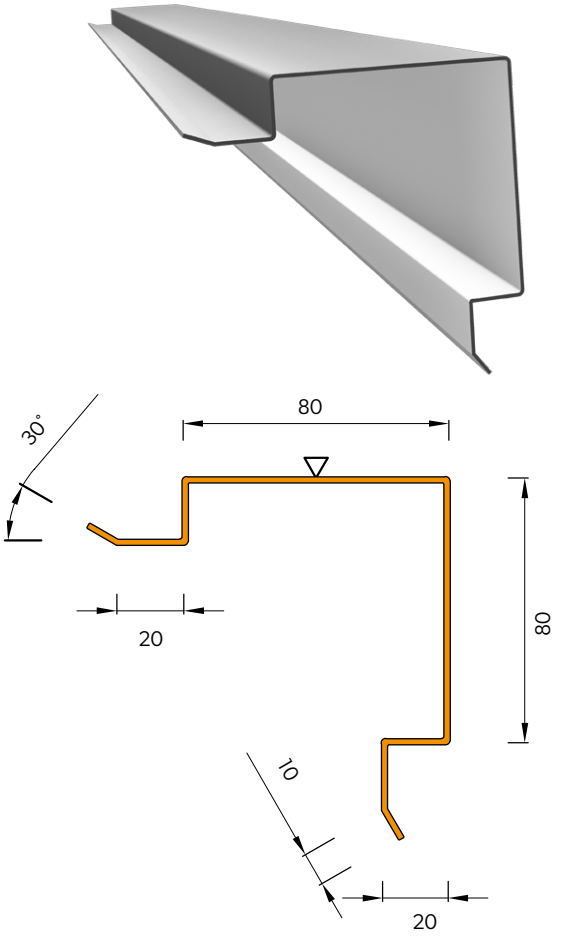
System section P04



System section P05



System section P06



8. Washing and maintenance of cassettes and façade panels

After completing the assembly works and removing the protective foil, any dirt on the cassettes and panels, whether in the form of grease, dust, or dirt, should be removed manually with water solution with added mild washing agent, soluble in water (pH ~ 7). Use a cotton cloth or sponge, and then rinse with water. It is recommended to perform this operation at a positive temperature.

1. Removal of dirt

It is unacceptable to leave on the surface of the cassettes and panels (e.g. after assembly) loose accessories, pieces of sheet metal, filings after drilling and other metal objects that pose a risk of corrosion, and also a danger to users - e.g. when they fall from a height.

2. Inspections

At least once a year, it is recommended to carefully inspect the surface of the cassettes, panels and flashings (especially in sheltered places, e.g. eaves, panel joints with flashings, edges). It should be kept in mind that the higher the corrosion aggressiveness of the environment is, the more frequent and thorough the inspection should be. The fastening of cassettes and panels as well as flashings should also be checked annually, because missing or damaged fasteners can cause leaks, moisture and, as a result, damage to the coatings and the risk of corrosion. During the inspection, all damaged fasteners should be replaced while loosened ones should be tightened.

3. Washing the cladding

Washing the surface of the panel cladding is to remove visible impurities that deteriorate the aesthetics of the façade and have a negative impact on the durability of anti-corrosion protection. In food industry facilities, where there is a requirement to ensure microbiological purity, it is necessary to use specialized cleaning agents and disinfectants at the same time. Several factors determine the applicability of a given cleaning agent for cassettes and panels: type of panel cladding and organic coating; cleaning frequency; cleaning accuracy. If it is difficult to remove dirt with water alone, you can use water with detergent to clean the surface of the panels. Mild washing agents are recommended, well-soluble in water with an acceptable pH of 4-9. After each washing, it is necessary to thoroughly rinse the detergent with clean water. In special cases, when due to hygienic requirements, it is necessary to use industrial detergents and disinfectants, the detergent manufacturer's instructions should be followed when washing the cladding. It is recommended to carry out a washing test (on a small area) to check whether the agent does not damage or soften the organic coating. Cleaning agents in concentrations indicated by the manufacturer, with appropriate potency and temperature not exceeding 30°C, should not remain in contact with the coating for more than 30 minutes. The pressure of clean water used for rinsing must not exceed 5 MPa (50 bar) at the outlet of the nozzle, and at the point of impact of the water jet, it should not exceed 0.04 MPa (this pressure produces a stream of 5 MPa when the nozzle is set at an angle of 15° at a distance 20 to 30 cm from the wall). Rinsing should be done very thoroughly, starting from the upper part of the room, facility, so that all the cleaning agent is rinsed off. Remember to rinse the drainage systems (sewage system, gutters, etc.) thoroughly at the end. Generally, water temperature should not be higher than 30°C. An exception is when rinsing with water to remove grease, when the temperature of the water can be temporarily increased to 50°C. Grease can be removed with a soft cloth and white spirit. Surfaces cleaned in this way must be rinsed immediately with clean water. The use of organic solvents or abrasive cleaners must be strictly avoided. Do not use steam cleaning and do not rinse the surface of the cassettes and panels with water in rooms with a temperature lower than or equal to 0°C.

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11/2022/**EN**