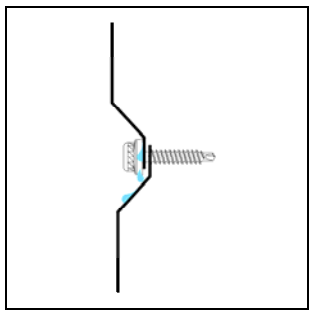
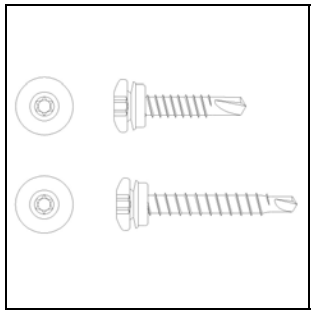
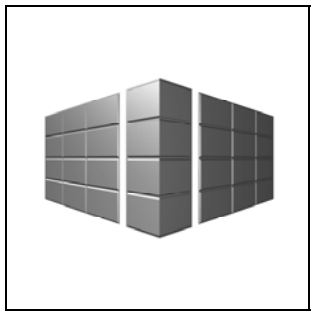
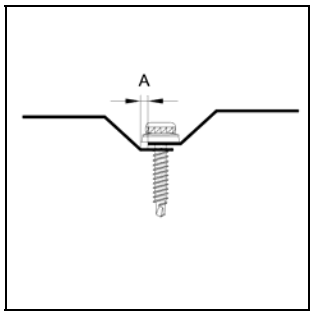
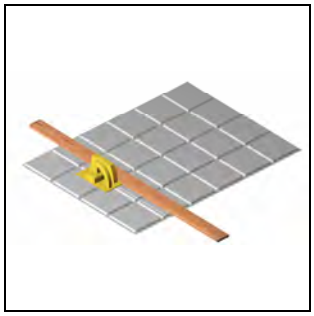
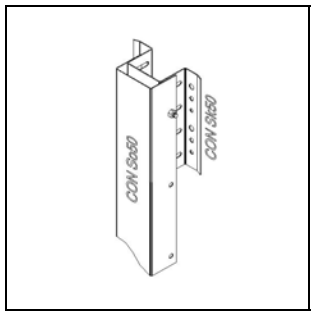
Patented steel facade system

mth concertto





DESIGN AND INSTALLATION INSTRUCTIONS

Innovative steel solutions

METEHE OY

www.metehe.com

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Manufacture, sales and information

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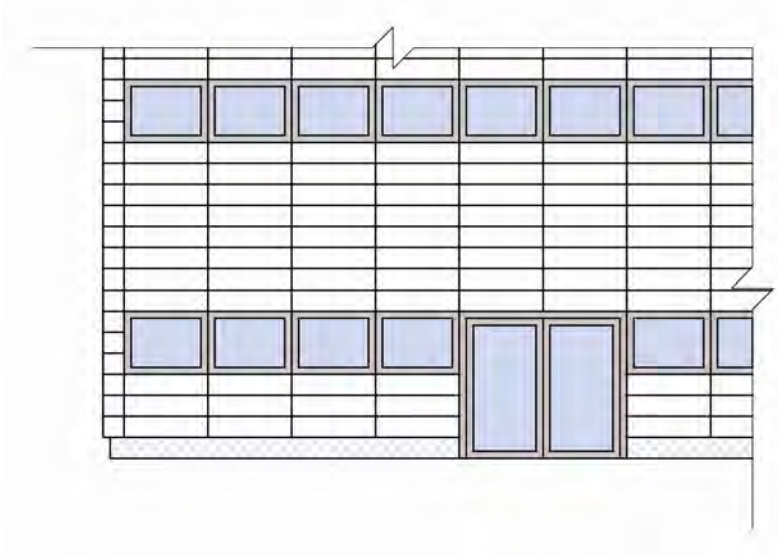
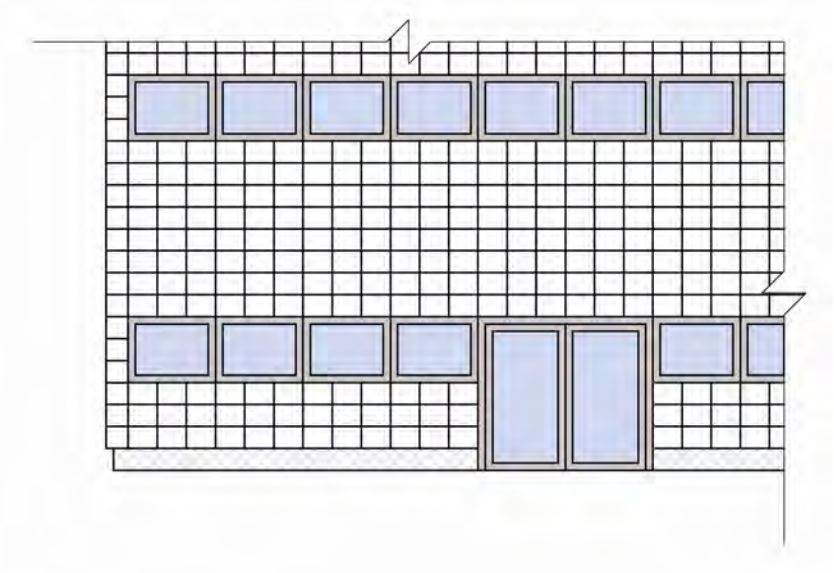
1 MTH CONCERTTO FACADE SYSTEM

Metehe Oy has developed and patented MTH Concertto steel facade system, which combines the best properties of cassettes and profiled sheets. The system offers high quality steel sheets as a coating material for inside and outside surfaces of buildings and also as a surface material for ceilings. The product is highly suitable for both new and restoration structures. The extensively patented production process enables a variable and vivid division of panels (Pictures 1 and 2). The product's unique appearance is protected by a design right, granted for the EU-area.



Picture 1. An example facade, designed with one MTH Concertto product type.



Picture 2. An example facade, designed with another MTH Concertto product type.

With the MTH Concertto facade system, significant benefits are attained in the construction design, installation speed and visual outcome. The amount of cut edges in the system is minimized and the product does not have any horizontal surfaces, which collect dirt. The compact and continuous structure also provides good soundproofing.

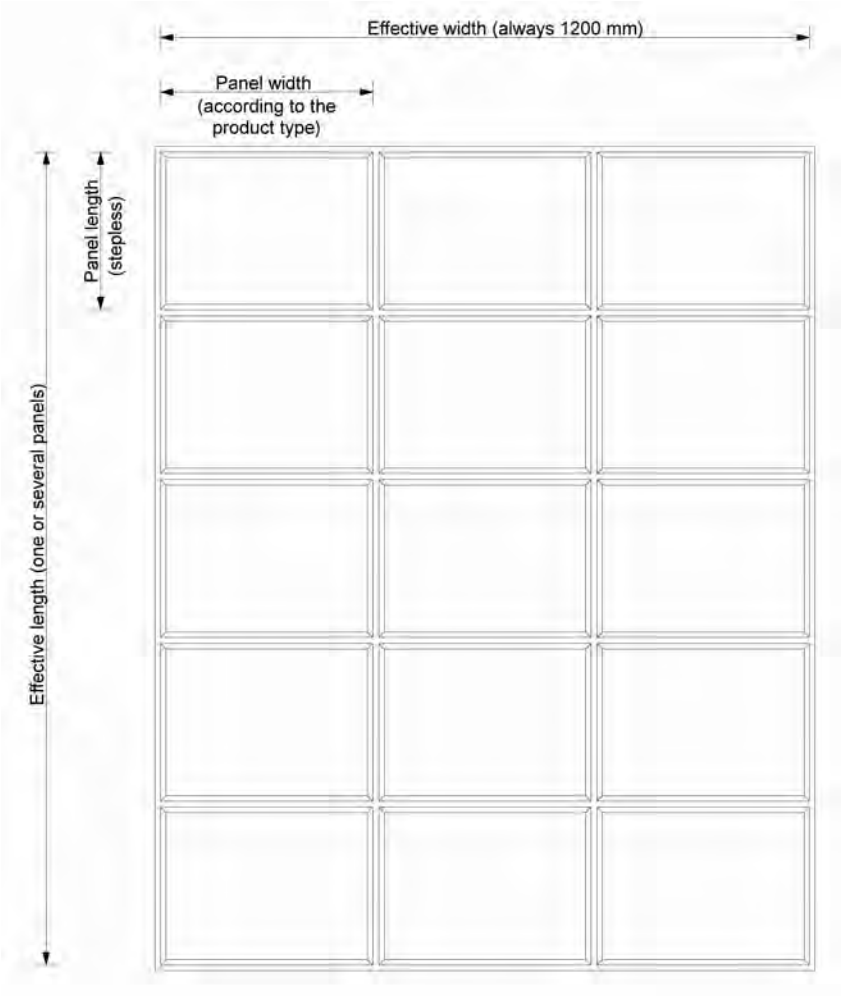
The MTH Concertto product sheets can be installed both from right to left and left to right and sheets are fastened from every edge and from the groove's junction points to the mounting frames. Due to the fastening method, additional noise between the facade sheets and the metal mounting frames caused by wind can be minimized. The mounting frames also remain unseen at every point under the product sheet. The product is suitable for fastening to steel frames and wood bases. The MTH Concertto is suitable for straight surfaces in addition to being highly suited for arched surfaces.

The MTH Concertto facade system consists of MTH Concertto product sheets, MTH Concertto corner pieces and an adjustable frame system. The MTH Concertto product sheet is a square or rectangle shaped facade sheet, in which there is one or several seamless embossed panels. The panels can be in either a square or rectangular form. The MTH Concertto corner piece is to a 90° angle folded element made from the product sheet, and it finishes off a continuous and compact MTH Concertto facade.

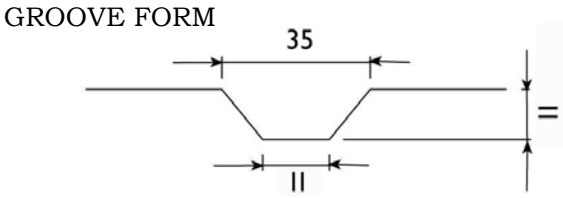
The MTH Concertto facade system's raw material is hot dip galvanized 1.00mm steel sheet, with a PVDF 35my coating with protective film or paint. The PVDF 35my is a coating for demanding interior and exterior use with a coating guarantee of 15 years. The PVDF 35my retains its colour very well and is easy to clean. It also has excellent resistance against UV-radiation. The MTH Concertto facade system includes a broad collection of standard colours, but can also be delivered with project specific colours. For large projects, the PVDF 35my coating can also be toned to match the desired colour, for example according to a RAL-colour. The standard colours and their availability can be checked at www.concertto.com and by email to myynti@metehe.fi.

1.1. MTH Concertto product sheet

The MTH Concertto product sheet is a square or rectangle shaped facade sheet, in which there is one or several seamless embossed panels. The panels can be in either a square or rectangular form. Dimensions of the sheet consists of three parameters, which are panel width, panel length and effective length (Picture 3). The facade sheet's effective width is always 1200mm and the effective length is freely chosen between 300mm and 3200mm. The height of the product sheet's groove form is 11mm (Picture 4).



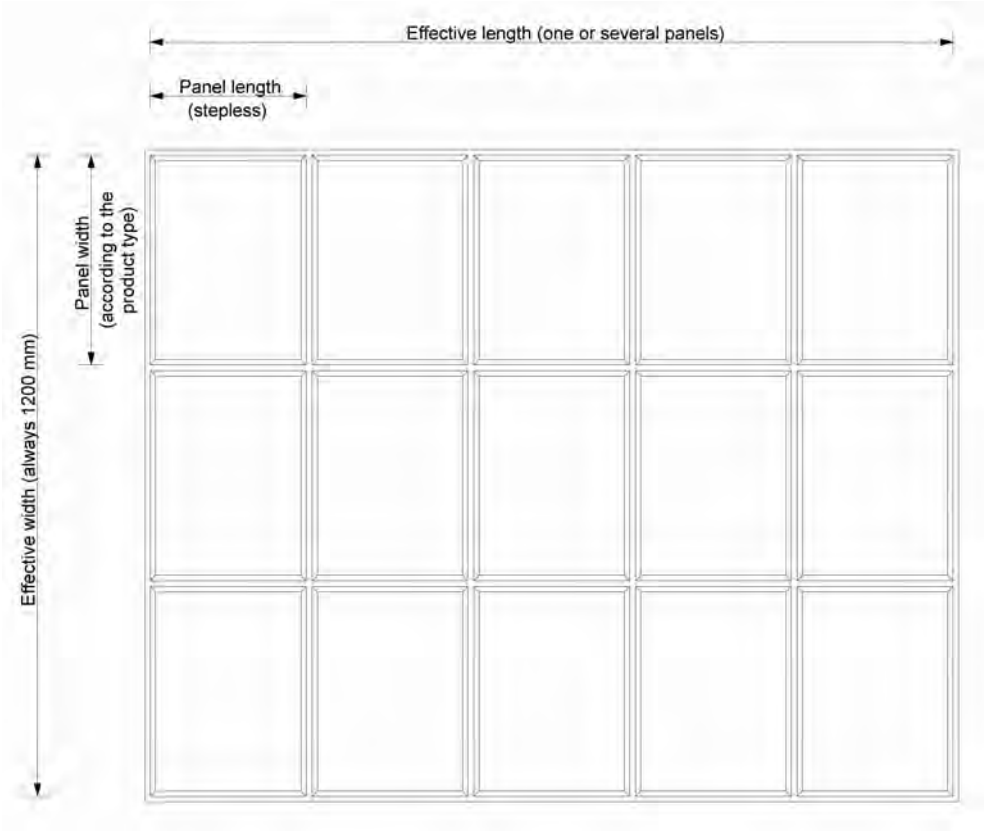
Picture 3. MTH Concertto facade sheet's vertical position and its terminology. The picture shows the 444 A product type.



Picture 4. The product sheet's groove form.

The panel width is respective to the product type. The selectable panel widths are 4 x 300mm (type 3333 A), 3 x 400mm (type 444 A), 2 x 600mm (type 66 A) or 1 x 1200mm (type 12 A). The panel lengths can be chosen steplessly between 300mm and 1200mm. The longest panel length of the MTH Concertto 12 A product type is however 600mm. In one product sheet, the panel lengths are always the same and lengthwise the number of panels in the sheet is freely chosen. In choosing the panel length, the wind load to the building is to be noted. Available product alternatives with their dimensions and limit-values are presented in appendix A.

The MTH Concertto product sheet can be planned to be installed either in vertical or horizontal position. The module lines of the building define whether the sheets will be installed in a vertical or horizontal position and it is determined by the designer. The instructions for both vertical and horizontal installations are presented in more detail in section 2 "Designing and dimensioning MTH Concertto facade". Regardless of the installation position, the terms and parameters of the product sheet do not change (compare pictures 3 and 5).

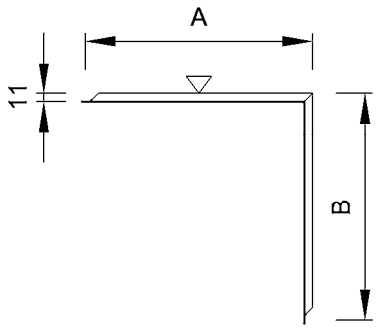


Picture 5. The MTH Concertto facade sheet's horizontal position and its terminology. The picture shows the 444A product type.

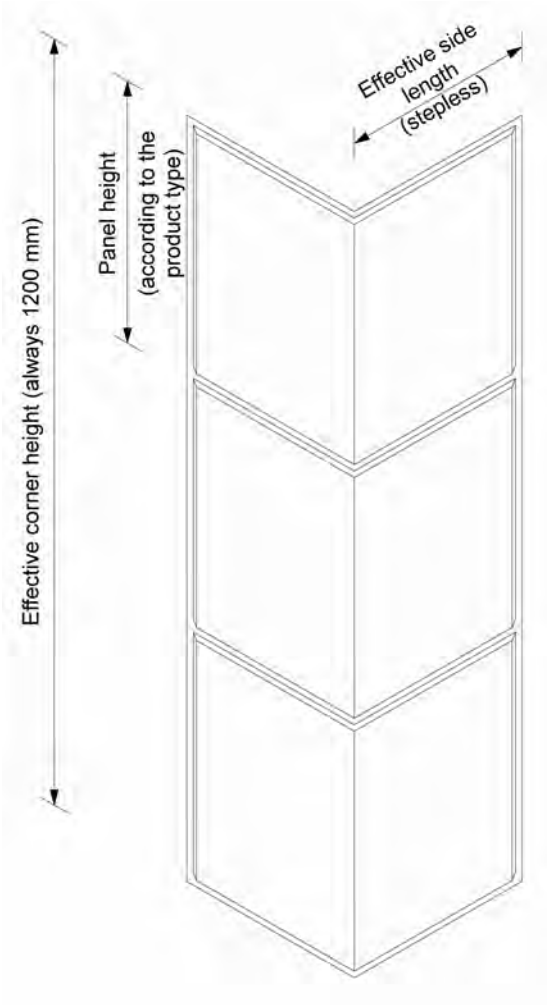
1.2. MTH Concertto corner piece

The MTH Concertto corner piece is to a 90° angle folded element made from the product sheet, and it finishes off a continuous and compact MTH Concertto facade. The corner piece is completely uniform from the panel surface and it conforms to the appearance of the MTH Concertto facade. The MTH Concertto corner pieces are designed particularly for use, when the MTH Concertto product sheets are fitted in a horizontal position. The height of the corner piece is always 1200mm and the steplessly adjustable effective length of the side is 150mm - 600mm. The corner piece's sides can be of different measurements, A ≠ B (Picture 6). The panel height of the different corner pieces is standard. Available panel heights are 4 x 300mm (Corner 3333 A), 3 x 400mm (Corner 444 A) 2 x 600mm (Corner 66 A) or

1 x 1200mm (corner 12 A). In one corner piece, the panel height is always the same. The measurements of the corner piece alternatives are presented in appendix B. Picture 7 presents the terms and parameters of the MTH Concertto corner piece.



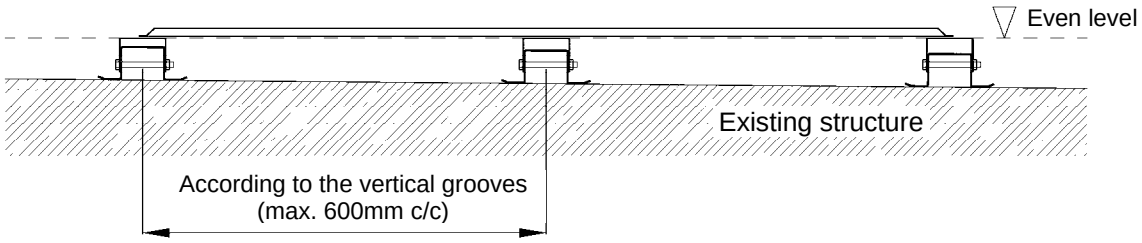
Picture 6. A cross-section of the MTH Concertto corner piece.



Picture 7. The MTH Concertto corner piece and its terminology. The picture shows the Corner 444 A.

1.3. Mounting frames

Mounting frames in the vertical position are always used on the outer wall, as a background structure for the MTH Concertto facade sheets. The mounting frames used, can be both steel and wooden frames and the even level of these must be ensured (Picture 8). The mounting frames are to be installed behind every upright groove of the product sheets. The distance between the mounting frames is to be at most 600mm measured centre to centre (c/c). In vertical installations, the frame distribution (c/c) is the same as the product type's panel width, which is 300mm, 400mm or 600mm. When the product type 12 A (panel width 1200mm) is installed, a mounting frame is also to be fitted between the facade's vertical grooves, and then the frame distribution is 600mm (c/c). In horizontal installations, the frame distribution (c/c) is the same as the panel length, when the panel length is 300 mm - 600mm. If the panel length is over 600mm, the frame is also fitted between the facade's vertical grooves, and therefore the frame distribution (c/c) is the panel length divided by two. The frame distributions (c/c) are collected in table 1.

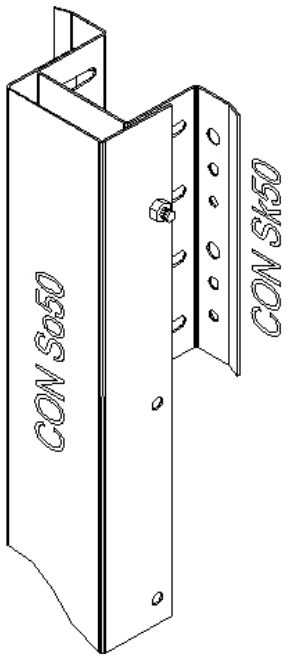


Picture 8. Leveling the mounting frames.

Table 1. The MTH Concertto facade's frame distributions.

Vertical installation				
	Type 3333 A	**Type 444 A**	**Type 66 A**	**Type 12 A**
Frame distribution,c/c	300 mm	400 mm	600 mm	600 mm
Horizontal installation				
	Type 3333 A	**Type 444 A**	**Type 66 A**	**Type 12 A**
Frame distribution,c/c Panel length 300 - 600 mm	Panel length	Panel length	Panel length	Panel length
Frame distribution,c/c Panel length 600 - 1200 mm	Panel length/2	Panel length/2	Panel length/2	Panel length/2

An adjustable frame system is a part of the MTH Concertto facade system. By using the steel CON So50 adjustment frame and the CON SK50 adjustment fasteners (Picture 9) the even level of frames can be ensured for the whole covered area, by the 30mm adjustment allowance. The adjustment frame and adjustment fastener are presented at a detailed level in the separate MTH Concertto detail library. The fastening way of the adjustable frame to the base structure and the number of screws and adjustment fasteners are defined by the designer, who has a whole conception of the project structure. Note must be taken with the exterior wall installation that there is an adequate ventilation gap between the facade sheets and the wall structure and that the required ventilation openings are not covered. The ventilation gap is to be at least 20mm and the space for air circulation between the vertical frames is to be free for the whole width of the facade.

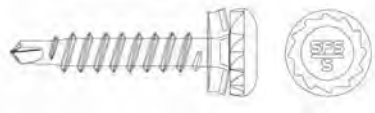


Picture 9. CON So50 adjustment frame and the CON Sk50 adjustment fastener.

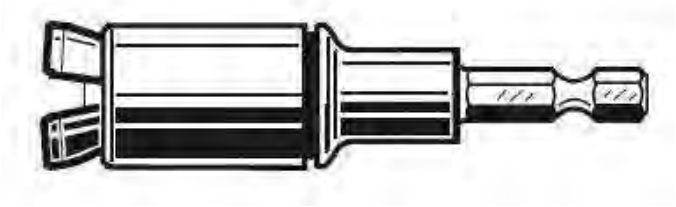
Basis for a functional facade and successful installation are the wall structure's ventilation and an even base. In every frame solution air is to be allowed to circulate freely between the facade sheet and the wall structure. This means that the facade's lower and upper parts have openings and there is space between the frames for air to circulate for the whole width of the facade. Adequate ventilation must also be ensured at all window and doorway joints and other facade junctions. The even level of the frames and base structure guarantees a quality final appearance. Due to this, special note should be taken with the adjustment of the frames and ensuring their evenness, in order to avoid troublesome repairs after the sheets are installed.

1.4. Fastening screws and overlapping edges

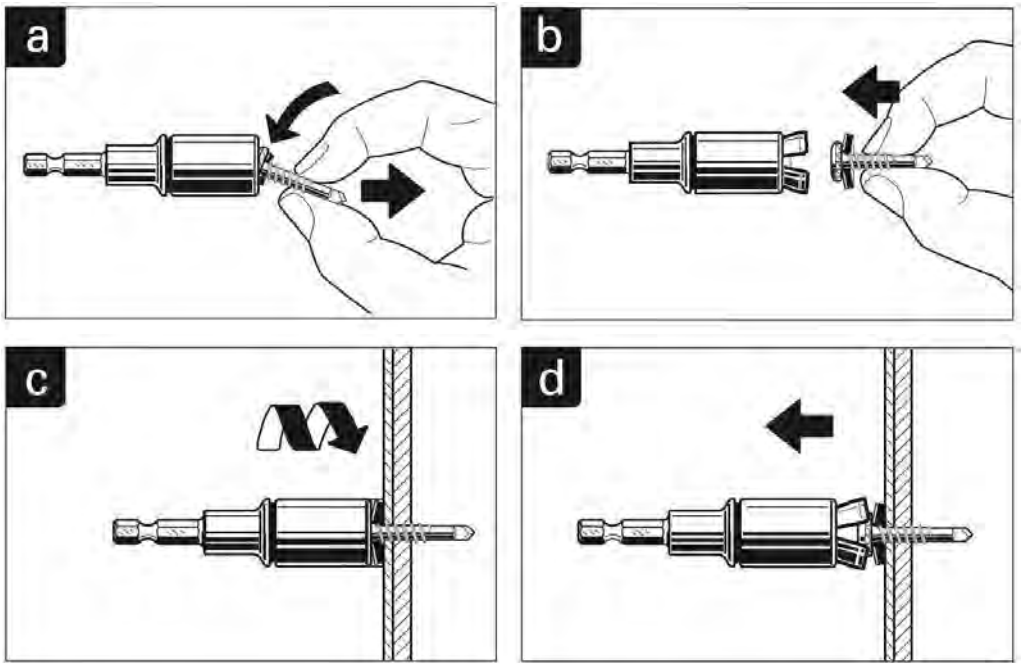
The MTH Concertto product sheets are fastened to the frame with colour coated screws, which have a flat sealing ring and SFS irius-head. The screws have a drilling head and are manufactured from stainless steel A12. The screws are suitable for both steel and wooden frame. The size of the screw is 5.5 x 28 mm (Picture 10). When fastening the screws, it is necessary to use the E420-socket (Picture 11). How to use the socket is shown in Picture 12.



Picture 10. Screw for MTH Concertto.

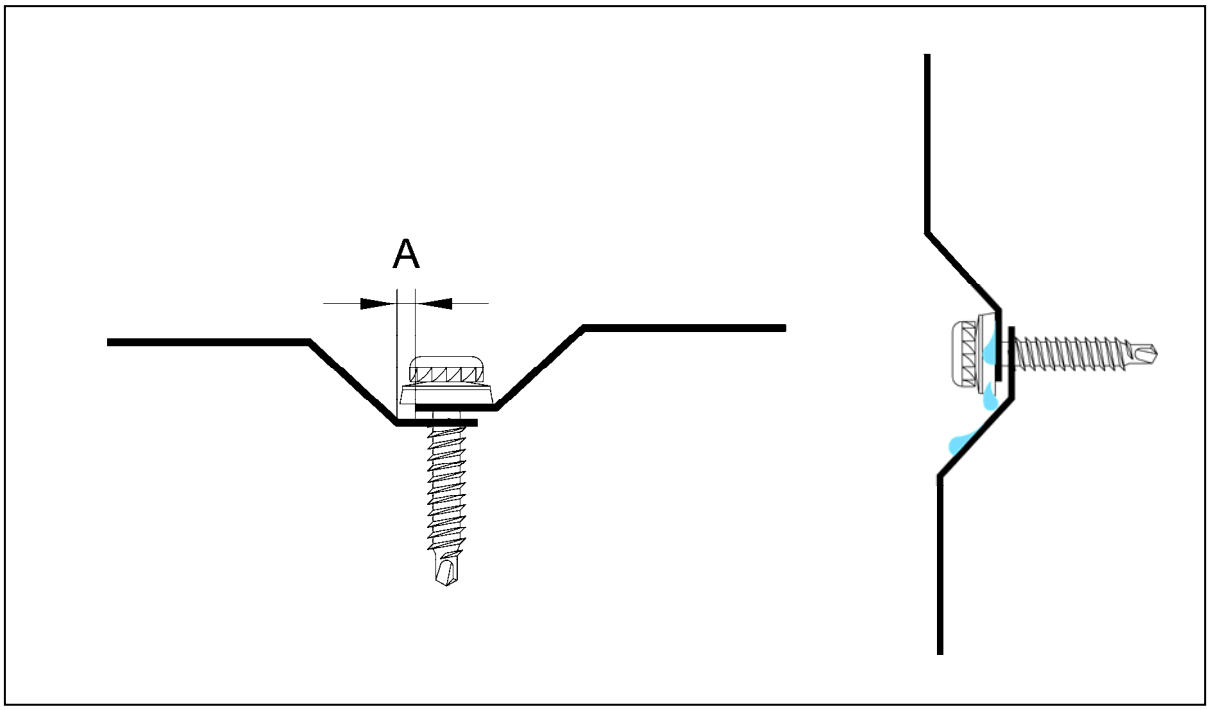


Picture 11. E420-socket.



Picture 12. How to use the E420-socket.

Screw fastening is to take place at every groove junction point and at the end of the groove at the sheet's edge. The connection between the sheets is done with overlapping edges. With an overlapping edge, the direction of the water flow and a heat expansion allowance A (Picture 13) must be accounted for. The heat expansion allowance in the sheet's width direction is one millimetre (A=1.00mm). In the length direction, the heat expansion allowance for a sheet under 1600mm is one millimetre (A=1.00mm) and for a sheet over 1600mm, two millimetres (A=2.00mm). The heat expansion allowance on the edge (mm) can be checked by multiplying the MTH Concertto product's sheet length or width (mm) by 0.0006.



Picture 13. Overlapping edges and the heat expansion allowance (A).

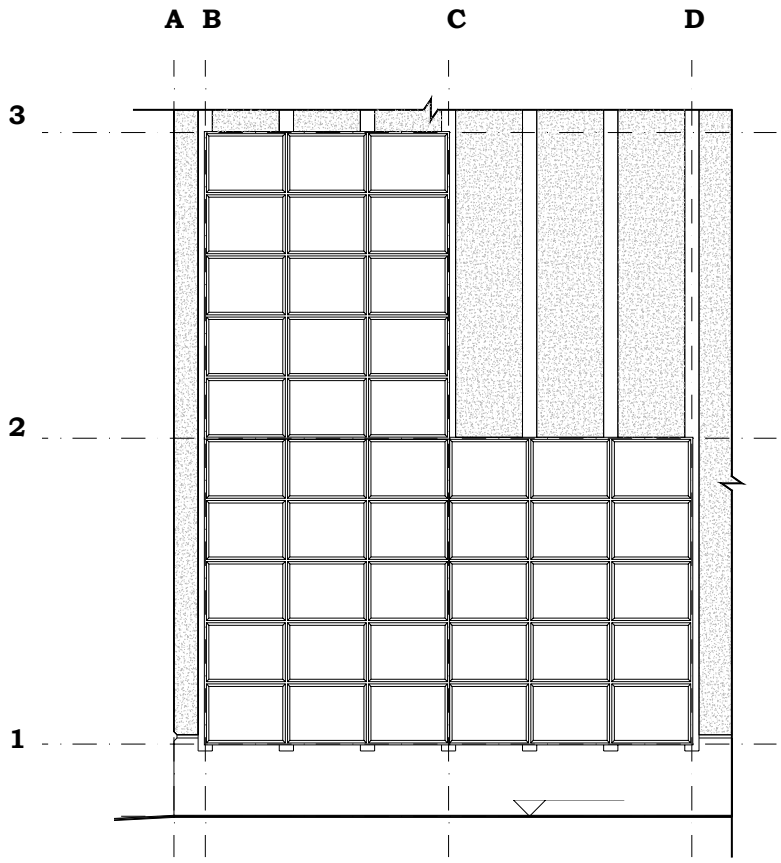
1.5. Corners and openings

Corner solutions and different flashings, such as door and window flashings are finishing touches to the MTH Concertto facade. Deliveries can include all the required flashings, which are always designed and measured according to the project. Examples are presented in the separate detail library, giving guidelines for different flashings for example on the edge of the window, plinth/base foundation and corners. Details are presented for both steel and wooden frames.

2 DESIGNING AND DIMENSIONING MTH CONCERTTO FACADE

The MTH Concertto products are planned, measured and manufactured project specifically utilizing the building's module lines. The sheets are always dimensioned from centre to centre (c/c) of the sheet's fastening grooves or connecting edges. The measurements from centre to centre are the effective measurements of the product sheet and corner piece. For each project a specific plan is made, in which the used raw materials, product types, sheet and panel lengths, installation directions and corner solutions are noted. The choice of the panel sizes is dependent on the thickness of the steel and the wind loads. The product pages presented in appendix A, show the maximum panel lengths based on a wind load of 23m/s for a building height of 20m. The influence of the wind loads is checked project specifically.

Important vertical and horizontal module lines are defined for the facade (Picture 14) and these are used as a base for dimensioning the product sheets. Module lines are influenced amongst others by the facade's edge measurements, flashings and window and door positions. The centre of the fastening groove of the product sheet is positioned in the centre of the module line of the facade. When utilizing the vertical module lines (Picture 1: A, B, C and D), the product sheets are planned for horizontal installation. When the horizontal module lines (Picture 14: 1, 2, and 3) are determining, the sheets are measured to be installed vertically.

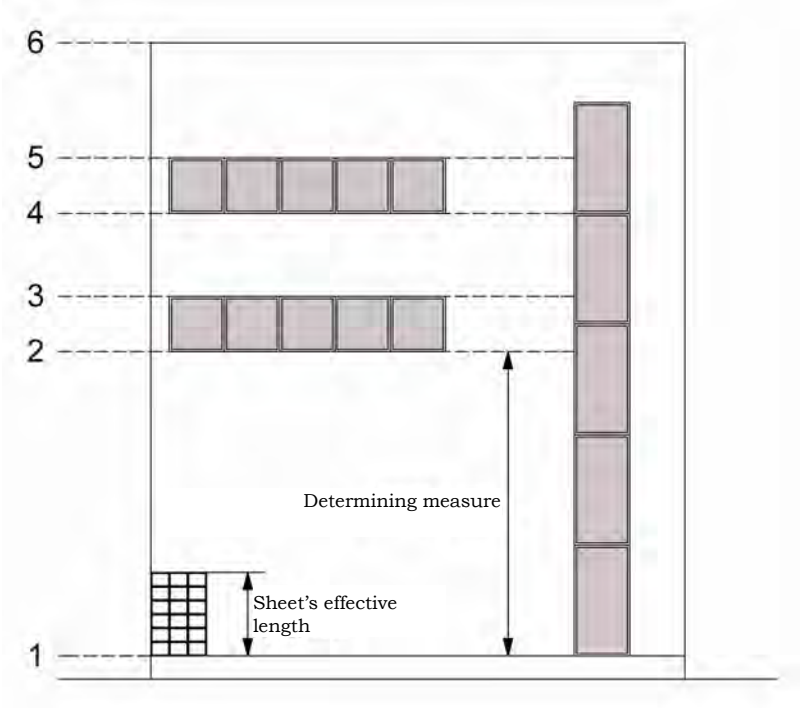


Picture 14. Positions of the building's module lines in regards to the MTH Concertto product sheet. Horizontal installation module lines A, B, C and D and vertical installation 1, 2 and 3.

2.1. Vertical installation

The product sheets are recommended to be planned and dimensioned for vertical installation when the horizontal module lines (Picture 15: 1, 2, 3, 4, 5 and 6) are determining. This means a case in accordance with picture 15, in which the distance between the top surface of the plinth (module line 1) and the window's bottom edge (module line 2) is determining, but it is not divisible by the product sheet's effective width of 1200 mm or the product type specific panel width 300mm, 400mm or 600mm. In the latter event, the panel width can be

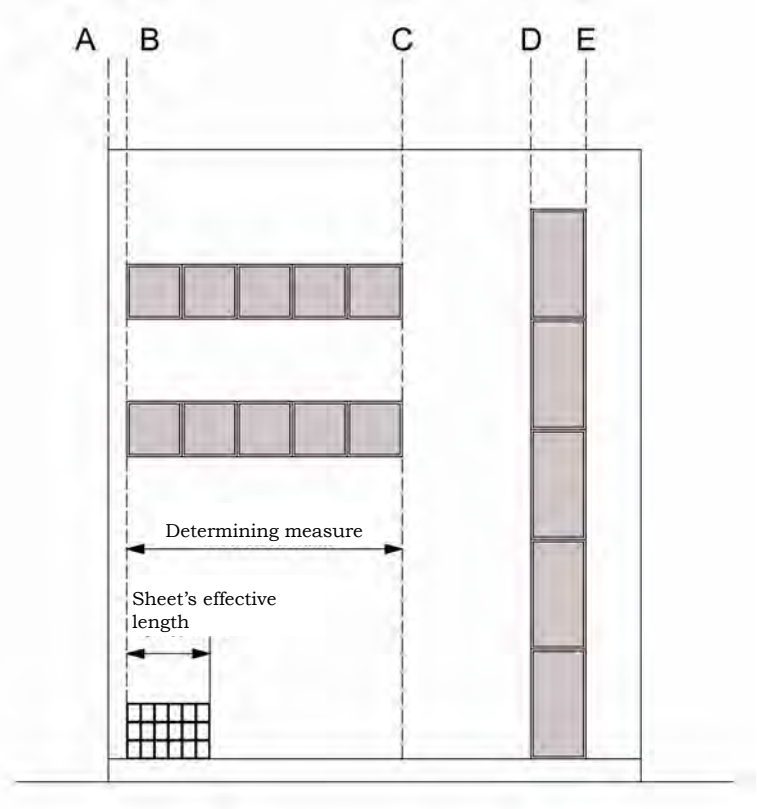
utilized by cutting the product sheet from the groove. Due to the steplessly adjustable panel length and vertical installation, the product sheets can fit the determining vertical measure between two horizontal module lines. Thus the cutting of the product sheets can be avoided. In the vertical installation, it is to be noted that the use of the corner pieces is possible only with panel lengths of 300mm, 400mm, 600mm or 1200mm. Different corner flashings can be used with other panel lengths and they are presented in the separate MTH Concertto detail library.



Picture 15. Vertical installation, when the determining measure is vertical.

2.2. Horizontal installation

The product sheets are recommended to be planned and dimensioned for horizontal installation, when the vertical module lines (Picture 16: A, B, C, D and E) are determining. This means a case in accordance with picture 16, whereupon the distance between the facade's left edge (module line B) and the right edge of the window line (module line C) is determining, but it is not divisible by the effective width 1200mm of the product sheet or with the product type specific panel width 300mm, 400mm or 600mm. In the latter event, the panel width can be utilized by cutting the product sheet from the groove. Due to the steplessly adjustable panel length and horizontal installation, the product sheets can fit the determining horizontal measure between the two vertical module lines. Thus, cutting of the product sheets can be avoided. Use of the corner pieces for the horizontal installation is successful with the help of the corresponding corner piece type.



Picture 16. Horizontal installation, when the determining measure is horizontal.

There may be parts in the facade, where both the vertical and horizontal module measures are determining. In that case a choice of the dominant measures must be made. If a non-dominant measure is not divisible by the effective width of the product sheet, 1200 mm, the product sheets must be cut. The product sheet should always be cut from the groove, whereupon the panel's surface remains intact. This is however not always possible and in some cases the product sheets have to be cut at occasional points. In that case, support for the panel surfaces is obtained by panel support flashings, which are presented in more detail in the separate MTH Concertto detail library. In the detail library, steel and wooden frame details are presented for both cases, in which the MTH Concertto product sheets are cut and when they are not cut.

Within the same facade, there can only be either vertical or horizontal installation, not both. Color coated steel, particularly metal colours, reflect light in different ways according to the direction of view. Due to this, the facade may present difference in colour shades, if the installation direction changes in the middle. To maintain the installation direction, the protective film of the product sheets shows direction arrows. In one facade, these arrows must always point to the same direction.

3 HANDLING THE FACADE SHEETS

3.1. Reception of the goods

Check, that the delivered goods are according to the order and that all goods on the delivery note are present. Errors or wrong deliveries are to be announced immediately and faulty or wrong products should not be installed. Metehe Oy is not responsible for the costs caused by not taking heed of these instructions. Claims of damages, caused during transport, are to be made with an explanation accompanied by the driver's signature. Metehe Oy assumes responsibility for all transport damages occurring during the transportation arranged by the factory.

3.2. Unloading

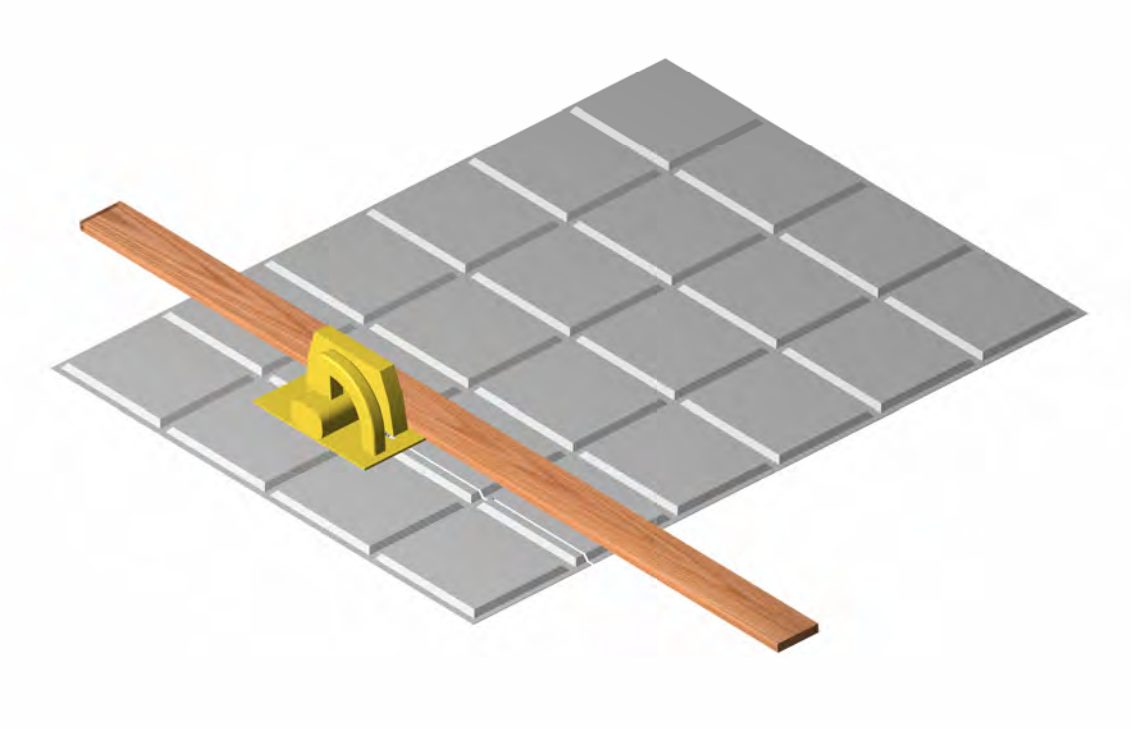
Packages are to be placed on a level and dry base. The product package must not be bent during unloading or moving. Packages must not be unloaded on top of each other. Care must be shown when handling the MTH Concertto sheets, due to sharp edges and corners. Sheets must not be pushed or pulled against each other, so that the coating is not damaged by sharp edges. When handling individual sheets, note should be taken that long sheets cannot be lifted only from the ends, in order to prevent bending. Long sheets should be lifted from the sides at many points. It is recommended to carry the product sheets sideways.

3.3. Storage

The MTH Concertto facade sheets can be temporarily stored outside (maximum 1 month). Product package should be placed at least 20cm above ground and protected from the rain and sun. Long term storage outside is not recommended. Product packages are not allowed to be stored upon one another.

3.4. Working

Tools that cause sparks are not to be used with the product sheets, for example use of an angle grinder is forbidden. When working with facade sheets, use for example a circular saw (Picture 17), gauge nibbler or shears. Possible metal flakes, caused by work, are to be removed carefully from the product surface by brushing immediately after the installation. Possible scratches on the coating can be repaired by spot painting. Protective film, if present, will be removed after installation and possible smears on the product surface can be removed by water or neutral cleaning fluid.



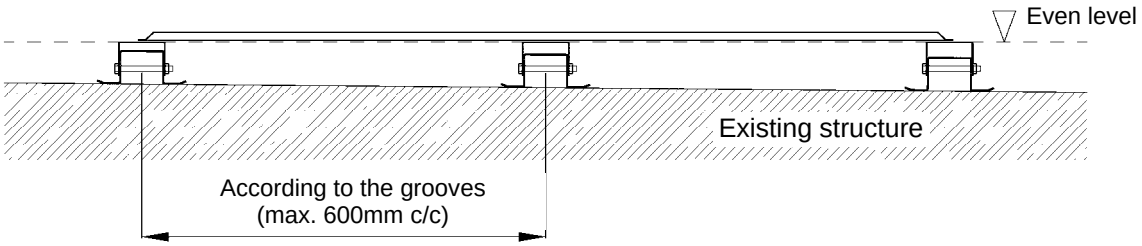
Picture 17. MTH Concertto product sheet, working with a circular saw.

4 PREPARATIONS FOR INSTALLING THE FACADE SHEETS

The installation of the MTH Concerto facade system is to be planned and executed carefully. All the guides for the planning and installation must be gone through carefully to understand the outline. If facing problems with the installation, it is advisable to contact the designer or specialist at the factory, in order to ensure the orthodox installation and to avoid troublesome post repairs. It is good to become acquainted with the installation site beforehand. At that time, the module lines of the building and the possible cutting points and required flashings can be clarified. The assembly plans, delivered from the factory, clarify the places of the product sheets and installation directions.

Before installing the frames, the evenness of the base structure must be fully ensured, particularly in cases where wooden frames or steel frames without adjustment allowance are used. When using adjustable CON So50 adjustment frames and CON Sk50 adjustment fasteners, a final frame surface straightness can be obtained with the aid of the 30mm adjustment allowance. The measurement of the evenness can be checked for example by laser measurement. Take note of the frame distribution and frame places in the facade and ensure the fastening way to the base structure. When using product type 12 A in the vertical installation or any product type with panel length over 600mm in horizontal installation, a frame is also to be fitted in the middle of the vertical grooves of the product sheet. In those

cases, particular note should be made of the evenness of the base (Picture 18), when the centre frame is not behind a vertical groove of the product sheet. In these cases, there is a risk of bending the panel surface, when the product sheet is fastened to the frame.



Picture 18. Making the mounting frames even.

Before starting the installation, the flashings that come on top of the frame should be noted, such as plinth flashings, corner flashings, storm flashings on eaves and under the windows, the window's upper edge flashings and fit flashings. Examples of different flashings are presented in the separate MTH Concertto detail library. Flashings for the project should always however be checked with the designer. Collected in the list below, are the main points of the MTH Concertto installation preparations and the frame and flashing installations.

1. Becoming acquainted with the installation plan

- Module lines of the building
- Limit measurements of the building
- Places for the facade sheets
- Flashings that come under the facade sheet
- Window and doorway locations

2. Leveling the base

- Ensure the evenness of the facade's mounting frames, for example by laser measurement. Particular note should be taken that a possible frame between the vertical product grooves is at the same level with frames behind the vertical grooves.

3. Vertical frames

A. Adjustable steel frame

- Vertical frames are to be fitted behind each vertical groove of the product sheet and when additionally required, between the grooves. The distance between the frames is at most 600mm (c/c). Ensure the frame distribution with the designer.
- The CON So50 adjustment frames are fastened to the CON Sk50 adjustable fasteners by M8 machine screws that come with the delivery. After this, the frame and fastening entities are fastened to the wall structure vertically. At that time, note is to be

taken of the space between the fasteners, thus there must be a fastening surface behind the fasteners. Alternatively the fasteners can be first installed on the wall structure, after which the frames can be fastened to the fasteners. When installing the fasteners, note must be taken that they follow the vertical line.

- The number of the fasteners and the fastening method to the wall structure is defined by the designer.
- Joining seam of the frames is done utilizing the adjustable fasteners. There must always be a fastening surface behind the fastener.
- After fastening the frames, the required straightening of the frames is done with the aid of the adjustment allowance.

B. Wooden frame

- The vertical wooden frame is installed behind every vertical groove of the product sheet and in addition if required between the grooves, so that the distance between the frames is at most 600mm (c/c). Ensure the frame distribution with the designer.
- In fastening the wooden frame to the wall structure, it is recommended to use adjustable frame fixing screws, with which it is possible to adjust the evenness of the frame.
- The method of fastening to the wall is defined by the designer.
- Joining seam of wooden frames should always have fastening surface behind it.

Basis for a functional facade and successful installation are the wall structure's ventilation and an even base. In every frame solution air is to be allowed to circulate freely between the facade sheet and the wall structure. This means that the facade's lower and upper parts have openings and there is space between the frames for air to circulate for the whole width of the facade. Adequate ventilation must also be ensured at all window and doorway joints and other facade junctions. The even level of the frames and base structure guarantees a quality final appearance. Due to this, special note should be taken with the adjustment of the frames and ensuring their evenness, in order to avoid troublesome repairs after the sheets are installed.

4. Joint flashings

- Needed flashings, for example plinth flashings, corner flashings, storm flashings on eaves and under the windows, the window's upper edge flashings and fit flashings are installed on top of the frames.
- The material thickness of the flashings is 0.6mm - 1.0mm, taking note of the flashing's flat surfaces.
- When installing the flashings, adequate wall structure ventilation should be noted.

5 INSTALLING THE FACADE SHEETS

1. The product sheets can be installed either in vertical or horizontal position, according to the design. The installation direction can be from the left to right and vice versa and from below upwards and vice versa taking note of the direction of the water flow. All the facade sheets are installed uniformly thus, that the arrows on protective film point at the same direction.

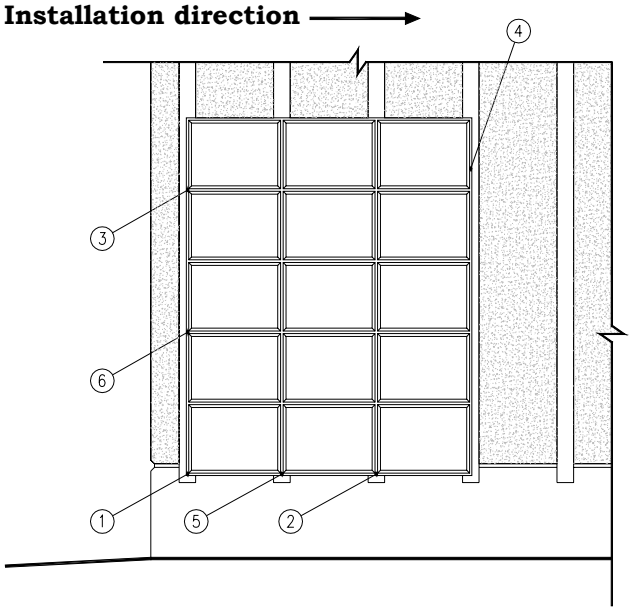
2. In installing the facade sheets and flashings, it is worth noting the installing direction, thus the joining seems are seen as little as possible from the main direction of view.

3. The vertical and horizontal propagations of the sheets are to be marked to the wall or frame surface before installation. These are to be followed during the installation. Fastening is done by drill head screws at every groove junction point and at the end of the groove at the sheet's edge. The maximum distance between the screws is not to exceed 600mm, and therefore in some cases the fastening screw will also be placed in the horizontal groove between the vertical grooves at the place of the frame behind the sheet.

4. In connection with the installation, the product sheets are to be pressed against the wall at the groove's base point and not from the panel surface.

5. Before installing the facade sheet, the protection film is to be removed from the points of the fastening screws and from all sides of the sheet by about 50mm, by pulling it towards the centre of the sheet.

6. The sheets are fastened as presented in picture 19.

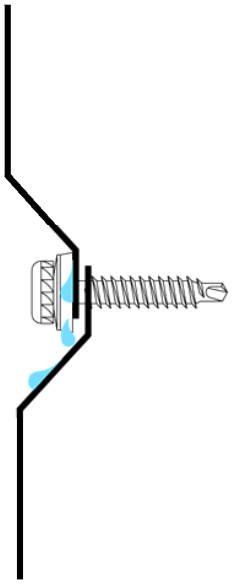


The fastening order of the screws

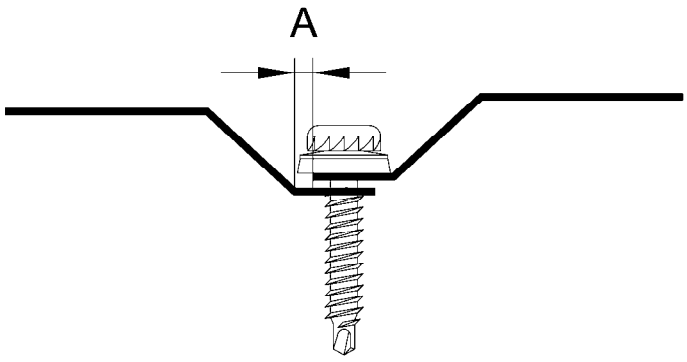
- Fasten screws 1, 2 and 3.
- Fasten the temporary screw 4, thus that the sheet's edge stays under the screws cover, not through the sheet. Screw 4 is removed before the following sheet is installed.
- Fasten screws 5 and 6.
- Fasten the groove's junction points with a screw.
- Fasten those sheet borders, which are not overlapping, from the groove.
- The following sheets above and next to are fastened in the same manner as above.

Picture 19. The fastening order of the screws.

7. Next product sheets in vertical and horizontal direction are installed in the previously presented way with overlapping edges. The direction of the water flow (Picture 20) and the heat expansion allowance (A) (Picture 21) should be noted. The heat expansion allowance in the sheet's width direction is one millimetre (A=1.00mm). In the length direction, the heat expansion allowance for a sheet under 1600mm is one millimetre (A=1.00mm) and for a sheet over 1600mm, two millimetres (A=2.00mm). The heat expansion allowance on the edge (mm) can be checked by multiplying the MTH Concertto product's sheet length or width (mm) by 0.0006.

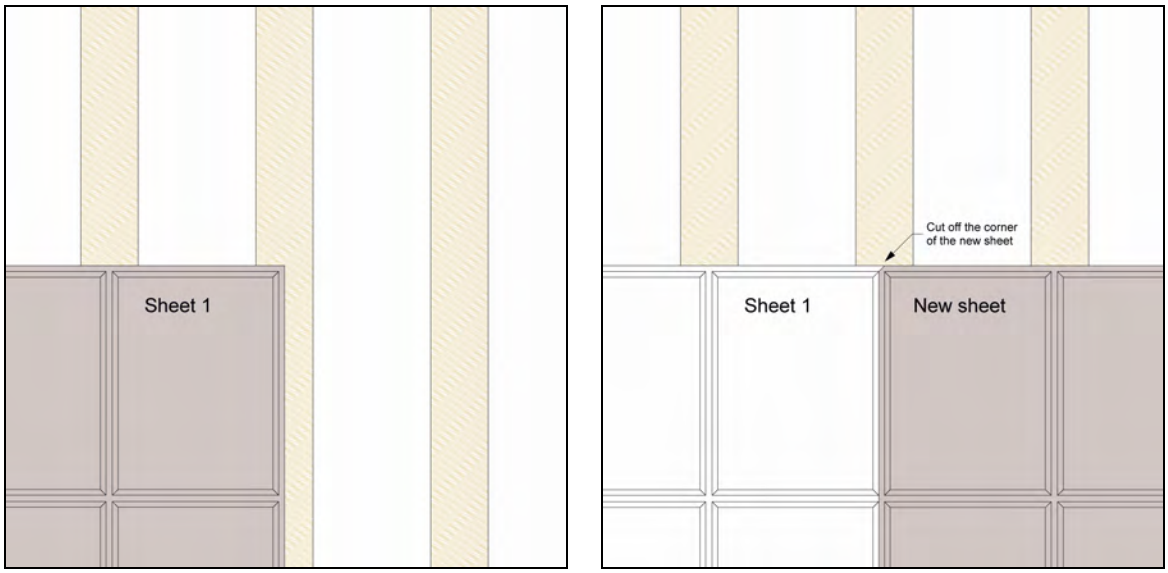


Picture 20. The direction of the water flow.

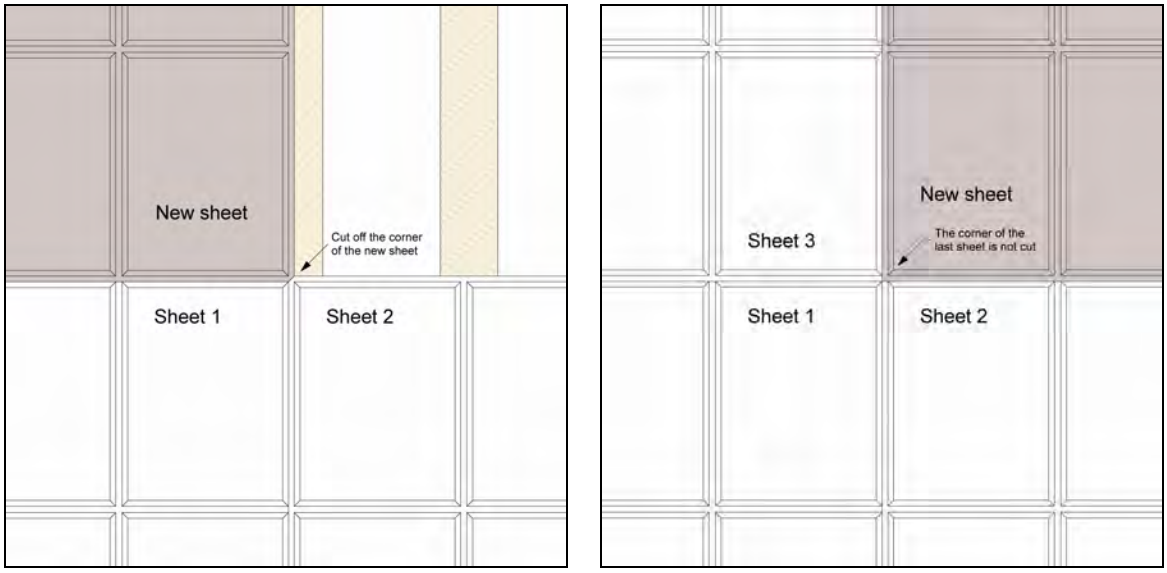


Picture 21. Overlapping edge and heat expansion allowance (A).

8. Because of the overlapping, the junction of the sheets normally involves four sheets on top of each other. When installing the MTH Concertto sheets according to pictures 22 and 23, the number of overlapping sheets can be decreased by one. In this case in stage 2 (Picture 22) and stage 3 (Picture 23), parts of the corners of the sheets are cut off, so that the corners of contradictory sheets do not overlap.



Picture 22. A four product sheet overlapping junction point. Stages 1 and 2.

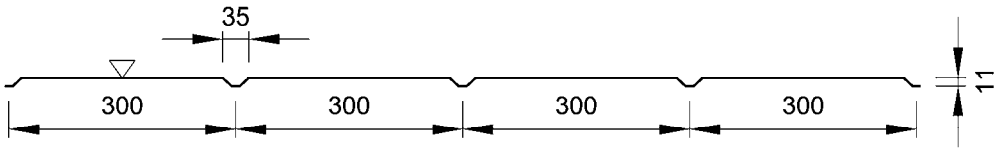


Picture 23. A four product sheet overlapping junction point. Stages 3 and 4.

9. Finally, possible joint flashings of window and door openings are installed on top of the facade, taking note of the direction of the water flow.

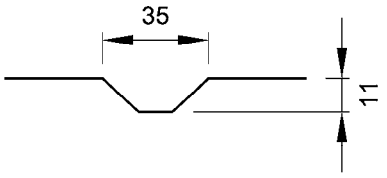
10. The protective film can be removed after the installation of the product sheets and flashings. The protective film can remain as a protection during the installation, but it is to be removed immediately from those areas, where there is no more risk of damage. The protective film should be removed after a reasonable time, because UV-radiation can weaken the properties of the plastic film and complicate its removal. A risk can also be that the film's glue will remain on the product sheet's surface as a stain. In that case, the surface can remain blotchy and collect dirt. The glue can be removed using a neutral cleaning fluid. The protective film should however be removed, when the required work platforms and apparatus are still in place.

MTH CONCERTTO 3333 A

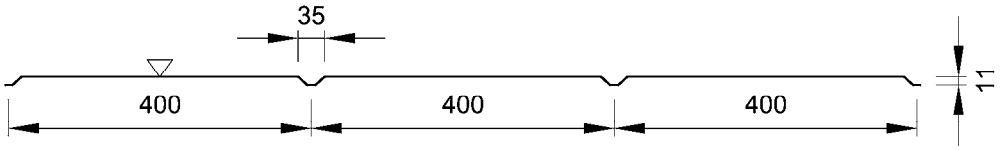


- Sheet's effective width 1200 mm
- Sheet's maximum length 3200 mm
- Panel width 4 x 300 mm
- Panel length 300 - 1200 mm

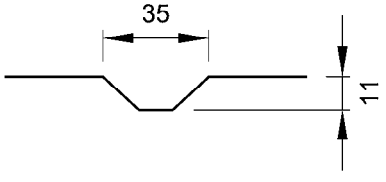
GROOVE FORM



MTH CONCERTTO 444 A

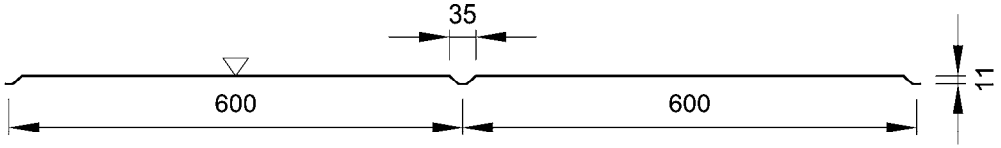


GROOVE FORM



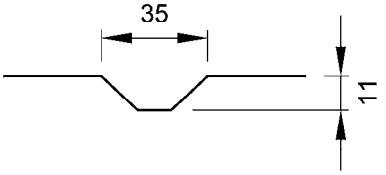
- Sheet's effective width 1200 mm
- Sheet's maximum length 3200 mm
- Panel width 3 x 400 mm
- Panel length 300 - 1200 mm

MTH CONCERTTO 66 A

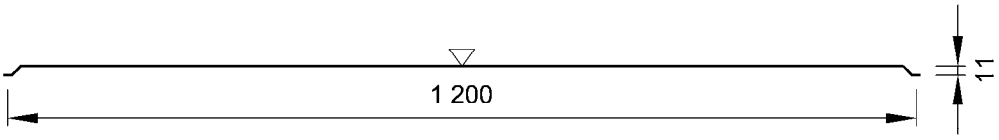


- Sheet's effective width 1200 mm
- Sheet's maximum length 3200 mm
- Panel width 2 x 600 mm
- Panel length 300 - 1200 mm

GROOVE FORM

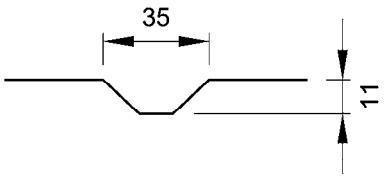


MTH CONCERTTO 12 A

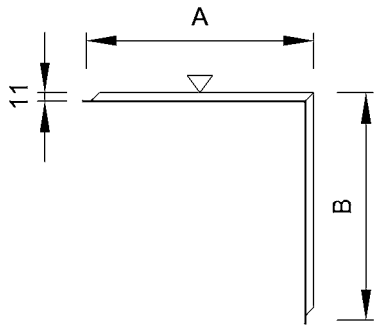


- Sheet's effective width 1200 mm
- Sheet's maximum length 3200 mm
- Panel width 1 x 1200 mm
- Panel length 300 - 600 mm

GROOVE FORM

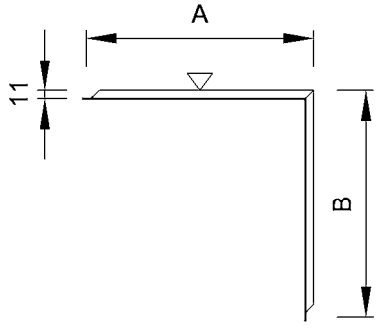


MTH CONCERTTO CORNER 3333 A



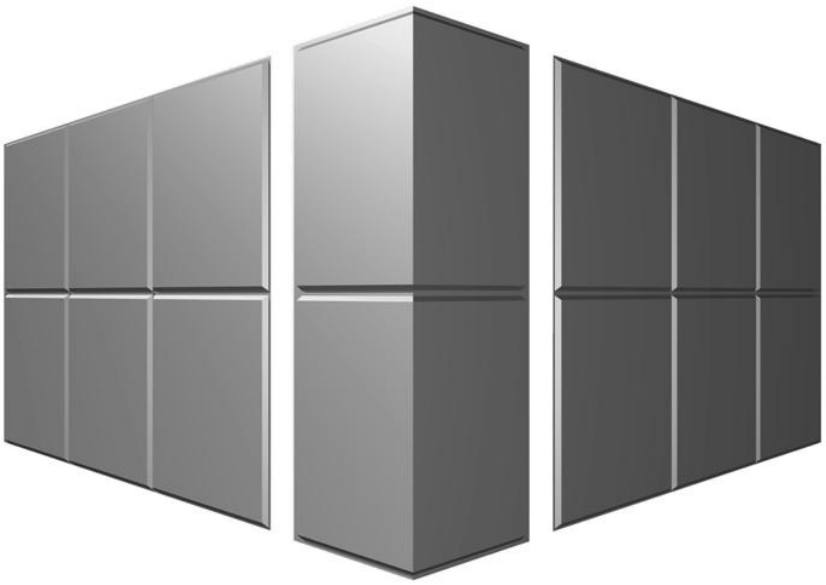
- Effective corner height 1200 mm
- Effective side length (Dimension A and B) 150 - 600 mm
- Panel height 4 x 300 mm

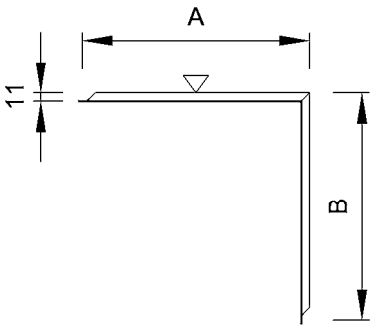
MTH CONCERTTO CORNER 444 A



- Effective corner height 1200 mm
- Effective side length (Dimension A and B) 150 - 600 mm
- Panel height 3 x 400 mm

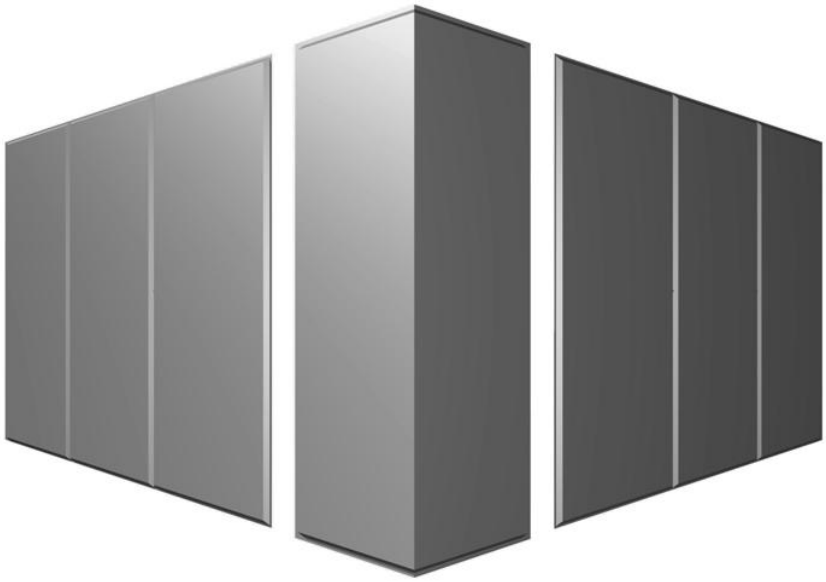
MTH CONCERTTO CORNER 66 A

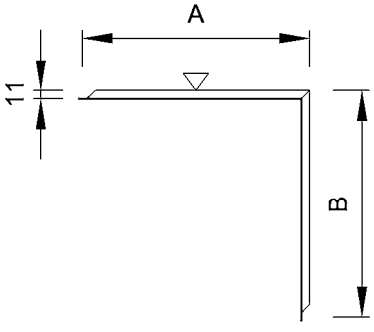




- Effective corner height 1200 mm
- Effective side length (Dimension A and B) 150 - 600 mm
- Panel height 2 x 600 mm

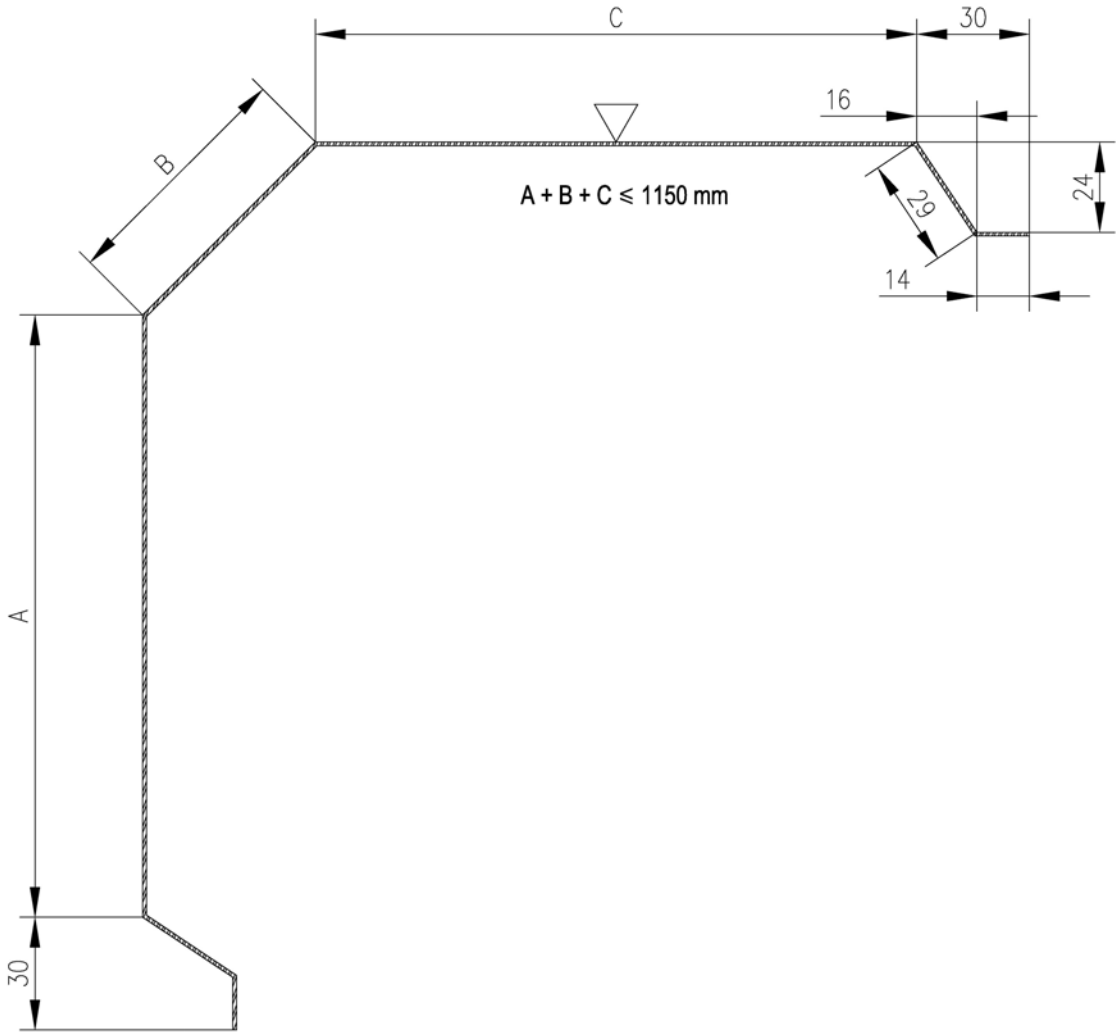
MTH CONCERTTO CORNER 12 A



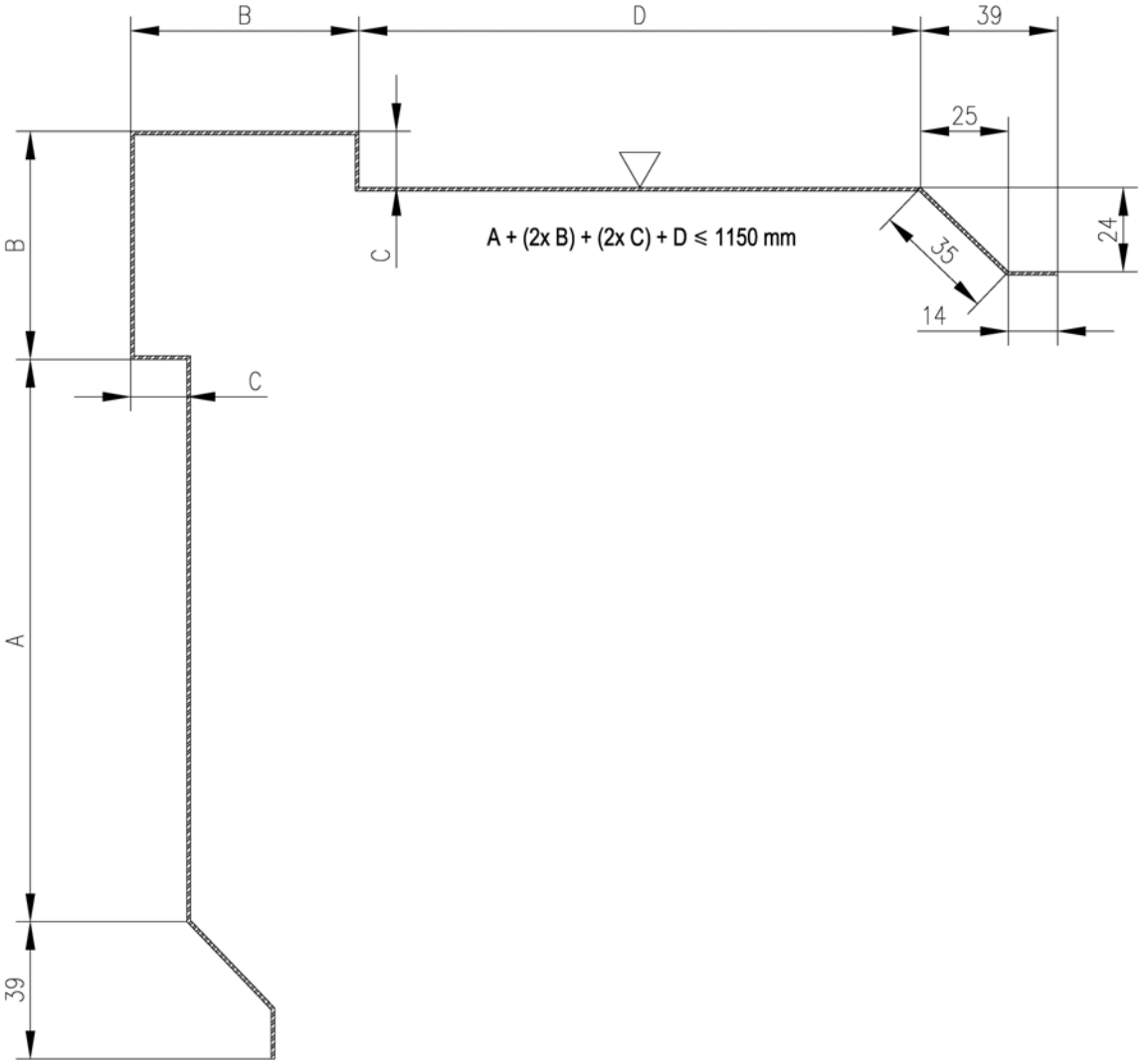


- Effective corner height 1200 mm
- Effective side length (Dimension A and B) 150 - 600 mm
- Panel height 1 x 1200 mm

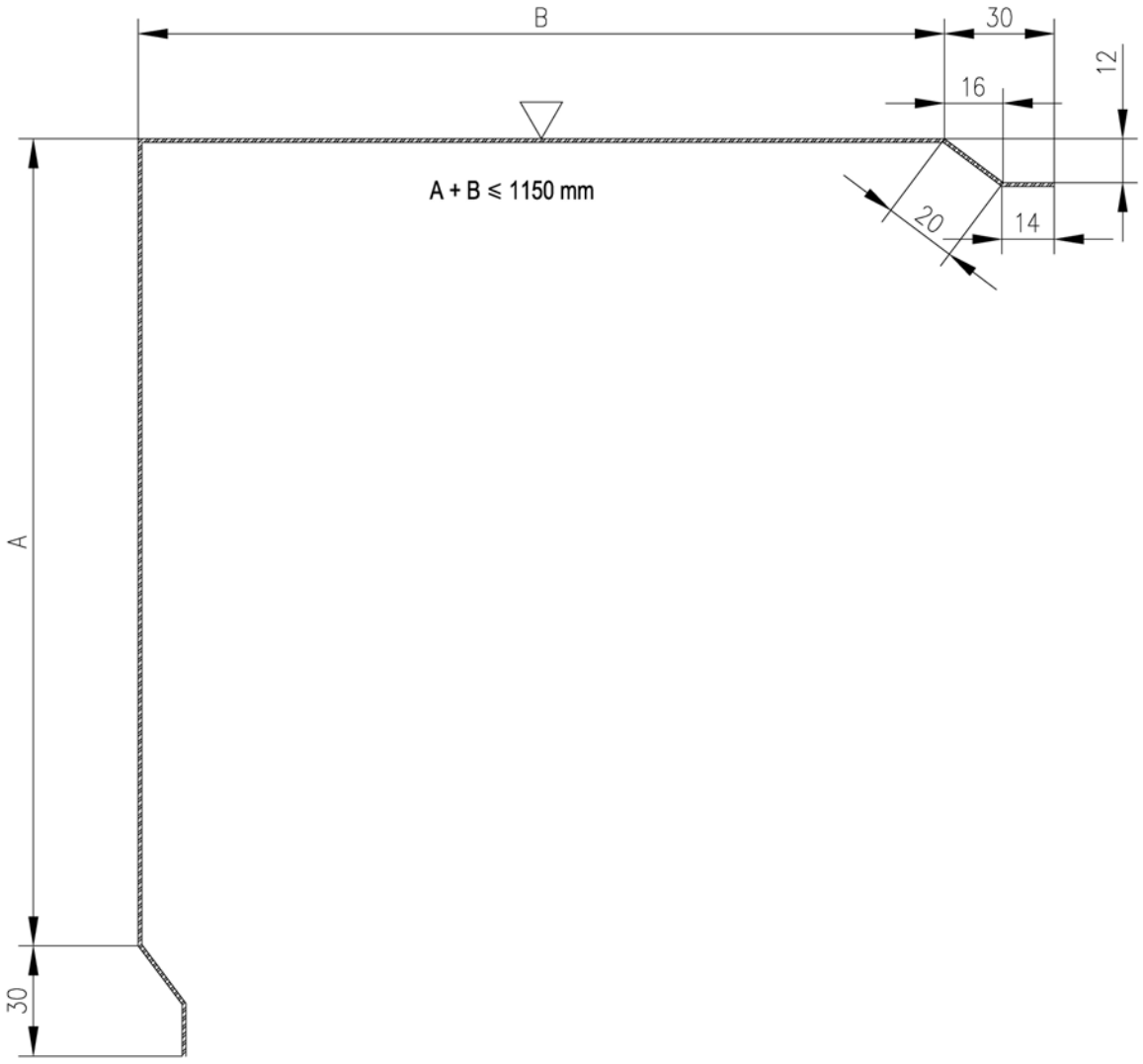
MTH CONCERTTO CORNER FLASHING CON N10



MTH CONCERTTO CORNER FLASHING CON N11



MTH CONCERTTO CORNER FLASHING CON N12



Patented steel facade system

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