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(54) **FACADE CLADDING ELEMENT, FACADE CLADDING SYSTEM AND METHOD FOR INSTALLING A FACADE CLADDING**

(57) The present invention relates to a facade cladding element (1) comprising a panel, a connector (6) and a hook (4). Additionally, the facade cladding element can include one or more ribs (7) and supports. The invention also describes a facade cladding system for interconnecting adjacent facade cladding elements for creating a recurring pattern on a facade. Additionally, the facade cladding system can include facade cladding closure profiles and facade cladding corner profiles. The invention further describes a method for installing a facade cladding.

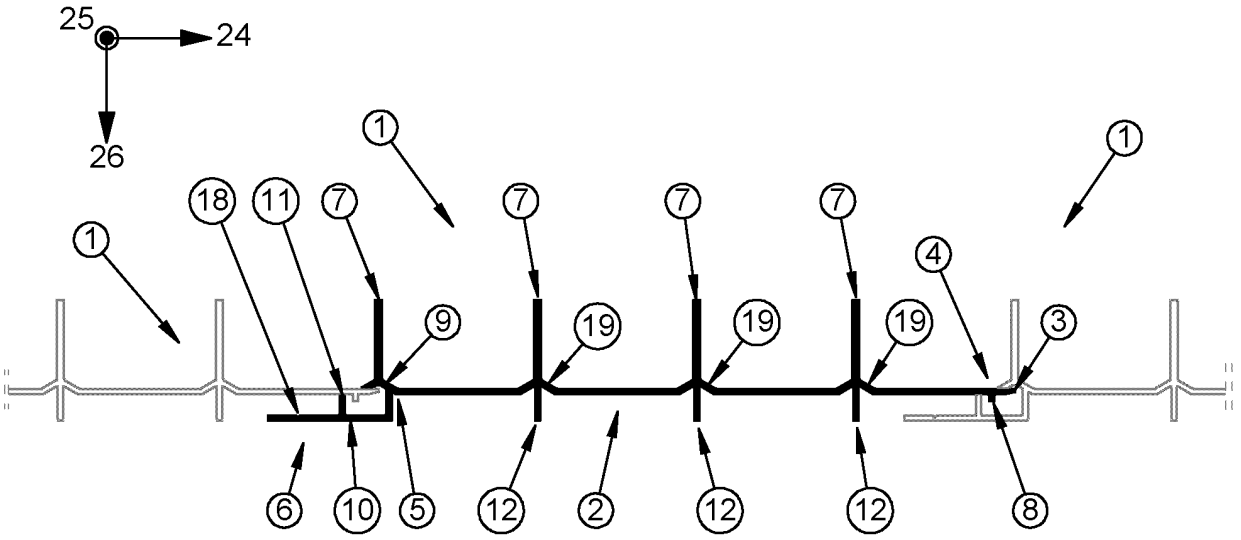

Fig.2B

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Description

TECHNICAL FIELD

[0001] The invention relates to a facade cladding element comprising a panel, a connector and a hook. The invention further relates to a facade cladding system for cladding a facade and a method for installing a facade cladding.

PRIOR ART

[0002] An assembly of facade elements for covering a facade has been known for some time. By combining facade elements, a recurring pattern is created to enhance the facade's appearance. To connect two consecutive facade cladding elements, a facade cladding element comprises a connector on a first longitudinal side and a hook on a second opposite longitudinal side. When connecting two adjacent facade cladding elements, the hook of a first facade cladding element is connected to the connector of a second facade cladding element.

[0003] Such facade cladding elements are known from EP 3019676. A specific type facade cladding element herein includes fine ribs to embellish the facade. The hook and connector allow fine adjustment in a transverse direction and provide an invisible attachment. A disadvantage is that although the hook is hidden behind the facade cladding element, there is a forward projection at the coupling between two facade cladding elements using the hook and the connector, creating a shadow effect, which is distracting for the overall facade cladding. Furthermore, the cladding element is rather heavy for installation due to the design of the hook and the connector. In addition, damage to the paintwork may occur during installation and expansion of the facade cladding elements, causing scratches to be visible on the facade cladding elements.

[0004] The present invention aims to at least find a solution to some of the above-mentioned problems or disadvantages.

SUMMARY OF THE INVENTION

[0005] In a first aspect, the present invention relates to a facade cladding element according to claim 1.

[0006] Such a facade cladding element is very advantageous because it allows adjacent facade cladding elements to be connected invisibly and without a projection. As a result, there is no shadow effect. Moreover, it is advantageous that the facade cladding element is designed to be lighter, which simplifies the installation of the facade cladding elements. Furthermore, this design allows for less to no scratches on the coating of the facade cladding elements during the correct adjustment of necessary play.

[0007] Preferred embodiments of the facade cladding element are presented in claims 2 to 6.

[0008] In a second aspect, the present invention relates to a facade cladding system according to claim 7.

[0009] The facade cladding system is advantageous because multiple facade cladding elements according to the first aspect can be connected invisibly and without a projection. Also, the installation of the facade cladding system is simpler due to the lighter facade cladding elements, allowing a facade to be clad more quickly. There is sufficient play between the cladding elements, so the facade cladding system can be adjusted to a required length for cladding a facade.

[0010] Preferred embodiments of the facade cladding system are presented in claims 8 to 9.

[0011] A specific preferred embodiment relates to a facade cladding system according to claim 8.

[0012] The facade cladding closure profiles are advantageous because they form a start or end point for a sequence of one or more facade cladding elements, allowing both ends of a first facade cladding element to be mounted on a facade without visually interrupting a recurring pattern. Furthermore, the facade cladding closure profile is advantageous at the end of a series of one or more facade cladding elements because it conceals the fastening means used to secure a facade cladding element.

[0013] A specific preferred embodiment relates to a facade cladding system according to claim 9.

[0014] The facade cladding corner profiles are advantageous because they allow the formation of a corner when connecting one or more facade cladding elements on a facade with one or more corner points. By using a facade cladding corner profile on a facade, the corner can be covered and finished without visually interrupting a recurring pattern. Furthermore, the facade cladding corner profile is advantageous because it allows the facade to be completely covered, providing more optimal protection for the underlying facade without dirt or moisture getting between the facade and the facade cladding elements.

[0015] In a third aspect, the present invention relates to a method according to claim 10.

[0016] This method has the advantage, among others, that a facade cladding can be installed quickly and in a few simple steps. Additionally advantageous is that the facade cladding is light, allowing a person to place the facade cladding against a facade in an ergonomic manner. Furthermore, this method allows scratches on the coating of the facade cladding elements to be avoided.

DESCRIPTION OF THE DRAWINGS

[0017]

Figure 1 shows a top view of a facade cladding element, which includes five ribs according to an embodiment of the prior art.

Figure 2A shows a top view of a facade cladding

element according to an embodiment of the present invention, which includes one rib.

Figure 2B shows a top view of a facade cladding element similar to the facade cladding element from Figure 2A, which includes four ribs and wherein the adjacent coupled facade cladding elements are also shown.

Figure 3A shows a first facade cladding closure profile according to an embodiment of the present invention.

Figure 3B shows a second facade cladding closure profile with a cover plate according to an embodiment of the present invention.

Figure 4A shows a facade cladding corner profile for an external corner according to an embodiment of the present invention, wherein adjacent coupled facade cladding elements are also shown.

Figure 4B shows a facade cladding corner profile for an internal corner according to an embodiment of the present invention, wherein adjacent coupled facade cladding elements are also shown.

DETAILED DESCRIPTION

[0018] Unless otherwise defined, all terms used in the description of the invention, including technical and scientific terms, have the meanings as commonly understood by a person skilled in the art to which the invention pertains. For a better understanding of the description of the invention, the following terms are explained explicitly.

[0019] In this document, "a" and "the" refer to both the singular and the plural, unless the context presupposes otherwise. For example, "a segment" means one or more segments.

[0020] The terms "comprise," "comprising," "consist of," "consisting of," "provided with," "have," "having," "include," "including," "contain," "containing" are synonyms and are inclusive or open terms that indicate the presence of what follows, and which do not exclude or prevent the presence of other components, characteristics, elements, members, steps, as known from or disclosed in the prior art.

[0021] In the context of this document, substantially transverse means that two directions form an angle of at least 75° and at most 105°, preferably at least 80° and at most 100°, more preferably at least 85° and at most 95°, even more preferably at least 88° and at most 92°, and even more preferably at least 89° and at most 91°.

[0022] Substantially L-shaped in the context of this document is an L-shape where a longest leg and a shortest leg of the L-shape are substantially transverse to each other.

[0023] 'Base' in the context of this document refers to the base of a connector if the word 'extra' is not added to the base.

[0024] Quoting numeric intervals by the endpoints includes all integers, fractions, and/or real numbers between the endpoints, including those endpoints.

[0025] In a first aspect, the present invention relates to a facade cladding element for forming a recurring pattern on a facade.

[0026] The facade cladding element includes a panel with a front side and a rear side. The front and rear side extend according to a height and a transverse direction. The rear side of the panel can be placed against a facade.

[0027] The panel includes at a first end of the panel in the transverse direction a hook for coupling with a first adjacent facade cladding element. The hook extends in the height direction. Preferably, the hook extends in the height direction along a full height of the panel. The panel includes a connector at a second end of the panel in the transverse direction for receiving the hook of a second adjacent facade cladding element. The connector extends in the height direction. Preferably, the connector extends in the height direction along the full height of the panel.

[0028] The panel includes at least one rib on the front side of the panel for forming a pattern. The rib extends in the height direction.

[0029] The facade cladding element is preferably an extruded profile. Preferably, the extruded profile is made of a metal, where the metal is more preferably aluminum. This provides sufficient strength for dimensional stability. More preferably, the aluminum is powder-coated. This is advantageous because it makes the aluminum more weather-resistant.

[0030] According to a preferred embodiment, the hook is formed by a first upright tooth on the rear side of the panel. The first upright tooth is offset in the transverse direction from the first end of the panel. This is advantageous because, with play between the hook and the connector, allowing the hook and the connector to be slidable relative to each other in the transverse direction, the panel conceals a possible gap between the hook and the connector.

[0031] The connector includes a base, a mounting plate, and a second upright tooth. The base includes a rib on the front side of the panel. The mounting plate is substantially L-shaped. A shortest leg of the L-shape is substantially transverse to the rear side of the panel. A longest leg of the L-shape extends parallel to the panel and away from the panel past the second end of the panel. The second upright tooth extends substantially transversely to the long leg of the L-shape towards a plane in which the rear side of the panel lies. The second upright tooth, seen in a direction transverse to the panel, lies outside a perimeter of the panel. A free end of the second upright tooth extends to a distance of at most 1 mm from the plane in which the rear side of the panel lies. The mentioned distance is measured along a depth direction. The depth direction is transverse to the height

direction and the transverse direction. The base is located at the front side of the panel. The base, viewed in a direction transverse to the panel, is located partially within and partially outside the perimeter of the panel. This is advantageous for concealing a first end of an adjacent facade cladding element on the base of the connector. An edge of the base, which extends in the height direction and lies outside the perimeter of the panel, is situated at a maximum distance of 1 mm from a plane in which the front side of the panel lies. This is advantageous because the panel of an adjacent facade cladding element, after the hook of the adjacent facade cladding element is hooked into the connector of the facade cladding element, is clamped between the second upright tooth and the base of the facade cladding element.

[0032] This embodiment is very advantageous because it allows adjacent facade cladding elements to be connected invisibly and without a projection. As a result, there is no shadow effect. Moreover, it is advantageous that the facade cladding element is designed to be lighter, which simplifies the installation of the facade cladding elements. Furthermore, this design allows for less to no scratches on the coating of the facade cladding elements during the correct adjustment of necessary play between the hook and the connector.

[0033] According to one embodiment, the free end of the second upright tooth extends to a distance of at most 0.50 mm from the plane in which the rear side of the panel lies, more preferably to a distance of at most 0.10 mm, even more preferably to a distance of at most 0.05 mm, and even more preferably to the plane in which the rear side of the panel lies. This is advantageous because when connecting two adjacent facade cladding panels, a facade cladding panel that is hooked into the connector can only bend slightly, preventing the hook from unhooking from the connector. No large opening is created between two adjacent facade cladding panels after connecting. This embodiment is particularly advantageous for a good clamping of the panel of an adjacent facade cladding element between the second upright tooth and the base of the facade cladding element.

[0034] According to a preferred embodiment, a distance in the transverse direction between the first end of the panel and a free end of the hook is 2 mm to 6 mm shorter than a distance between the second upright tooth and the short leg of the L-shape of the mounting plate to form a play. The distance between the second upright tooth and the short leg of the L-shape of the mounting plate is measured in the transverse direction.

[0035] In the context of this document, the play is a distance within which a facade cladding element to be secured can slide with the hook in a connector of an already secured facade cladding element in the transverse direction, with the function of correctly aligning all facade cladding elements on a facade. The limits of the play are determined by a first position where the first end of the panel of the facade cladding element to be secured is placed against the short leg of the L-shape of the mounting plate of the already secured facade cladding element and a second position where the first upright tooth of the facade cladding element to be secured abuts the second upright tooth of the already secured facade cladding element. In the first position, the facade cladding elements are minimally extended. In the second position, the facade cladding elements are maximally extended. The distance between the first end of the panel and a free end of the hook is preferably at least 2.5 mm shorter than the distance between the second upright tooth and the short leg of the L-shape of the mounting plate, more preferably at least 3.5 mm, and even more preferably at least 4.0 mm. The distance between the first end of the panel and a free end of the hook is preferably at most 5.5 mm shorter than the distance between the second upright tooth and the short leg of the L-shape of the mounting plate, more preferably at most 5.0 mm, even more preferably 4.5 mm.

[0036] According to a preferred embodiment, the first upright tooth has a length in the depth direction of the panel that is at most half of the length of the second upright tooth in the depth direction of the panel. More preferably, the first upright tooth has a length in the depth direction of the panel that is at most one-third of the length of the second upright tooth in the depth direction of the panel. Preferably, the first upright tooth has a length in the depth direction of the panel that is at least one-fourth of the length of the second upright tooth in the depth direction of the panel. A length of the first upright tooth that is at most half of the length of the second upright tooth is advantageous for hooking the hook into the connector. Because the first tooth is shorter than the second upright tooth, the hook can be easily hooked into the connector. No large opening is needed in the connector to receive the hook. Additionally advantageous is that because the first upright tooth is shorter than the second upright tooth, the panel of an adjacent facade cladding element will rest on the second upright tooth after the hook is received in the connector. The first tooth should have a sufficiently long length so that the first tooth can hook behind the second upright tooth.

[0037] According to one embodiment, a distance in the depth direction from the front side of the panel to a free end of a nearest rib near the first end of the panel in the transverse direction is at most 60% of a distance between the nearest rib near the first end of the panel in the transverse direction and the first end of the panel. More preferably, the distance in the depth direction between the front side of the panel and the free end of the nearest rib near the first end of the panel in the transverse direction is at most 50% of the distance between the nearest rib near the first end of the panel in the transverse direction and the first end of the panel. This is advantageous because it allows facade cladding elements to be coupled together without ribs colliding with each other when sliding the facade cladding elements together. As a result, an insertion angle between 30° and 60° is possible. Preferably, the insertion angle is 35° to 55°, and more

preferably, the insertion angle is between 40° and 50°. This allows the opening between the connector and the second upright tooth to be kept as minimal as possible. The insertion angle is the angle between the panel of a first facade cladding element and the panel of a second facade cladding element during the sliding of the hook of the second facade cladding element into the connector of the first facade cladding element.

[0038] According to one embodiment, the first end of the panel includes a chamfer on the rear side of the said first end of the panel. Additionally, the first end has rounded corners. This is advantageous because it allows the tilting of an inserted additional facade cladding element into a connector of an already secured facade cladding element to proceed more smoothly and without scraping, preventing damage to the coating and thus improving the weather resistance of the profile.

[0039] According to a preferred embodiment, the panel includes at least one extra base for a rib on the front side of the panel in addition to the base of the connector. The extra base is a protrusion in the depth direction on the front side of the panel. The at least one extra base is located between the base of the connector and the first end. The at least one extra base is offset from the first end. Preferably, the extra bases, and more preferably also the base of the connector, are equidistant from each other in the transverse direction. This is advantageous for forming a recurring pattern with the facade cladding.

[0040] According to one embodiment, one or more extra bases include one or more ribs on the front side of the panel for forming a pattern. The one or more ribs extend in the height direction. Optionally, the ribs on the one or more extra bases and on the base of the connector have the same length in the depth direction. Preferably, a minimum distance between a nearest extra base near the hook and the first end is equal to a distance between the nearest extra base near the hook and a next base towards the connector starting from the nearest base near the hook. The next base is either an extra base or the base of the connector. This is advantageous for forming a recurring pattern with the facade cladding.

[0041] According to one embodiment, a thickness of a rib on the base of the connector and/or on the one or more extra bases is at least the thickness of the panel, where the thickness of a rib is measured in the transverse direction and the thickness of the panel is measured in the depth direction. Preferably, the ribs on a facade cladding element have an equal thickness. Ribs with the same thickness are advantageous for a recurring pattern. Preferably, the ribs have a greater thickness than the panel. This is advantageous because a light facade cladding element with a sturdy rib, resistant to deformation, is obtained.

[0042] According to a preferred embodiment, the base of the connector includes a V-shaped protrusion in the depth direction. A first leg of the V-shaped protrusion is connected to the front side of the panel. A free end of a second leg of the V-shaped protrusion is the edge of the base and lies outside the perimeter of the panel. The base extends in the height direction. The V-shaped protrusion has the advantage that the V-shaped protrusion can distribute impact forces over the two legs of the V-shape to the panel of the facade cladding element and to the panel of a coupled fastening element and therefore also has greater resistance to deformation of the base. Furthermore, the V-shape has the advantage that less dirt will accumulate in the corners than with a substantial 90° angle. Additionally, a V-shaped protrusion is less visible due to the gradual transition between rib and panel.

[0043] According to an alternative embodiment, the base of the connector includes a shape from the non-limiting list of an arched protrusion, a beam-shaped protrusion, a trapezoidal protrusion. The shapes allow the panel to be more resistant to deformation.

[0044] According to one embodiment, one or more extra bases include a shape from the non-limiting list of: a V-shaped, an arched protrusion, a beam-shaped protrusion, a trapezoidal protrusion. The shapes allow the panel to be more resistant to deformation. Preferably, the one or more extra bases comprise a V-shaped protrusion.

[0045] According to a preferred embodiment, at the level of at least one of the at least one extra base, the facade cladding element at the rear side of the panel comprises a support. Preferably, all of the at least one extra base include a support. The support extends in the depth direction to a plane in which the long leg of the L-shape of the mounting plate of the connector lies. This is advantageous because a facade cladding element is additionally supported against a facade, allowing external forces on the panel to be transferred more quickly to a facade, and the panel can be made thinner.

[0046] According to a further embodiment, the support is located in an extension of the rib on the at least one extra base. This is advantageous because forces acting on the rib are directly transferred to the facade. This allows the panel of the facade cladding element to be made thinner. Preferably, the support has an equal thickness up to a free end. This means that the support does not include a foot for placement against the facade. This is advantageous because irregularities of a facade have less influence on the coupling of multiple facade cladding elements to each other and/or the securing of a facade cladding element to the facade.

[0047] According to a further embodiment, the one or more supports have the same thickness as the panel. The thickness of the support is measured in the transverse direction. The thickness of the panel is measured in the depth direction. The corresponding thickness of the support and the panel is advantageous because it creates the same resistance to deformation. This embodiment is particularly advantageous in combination with a rib whose thickness is greater than the thickness of the panel. The one or more supports are usually shorter than a rib, reducing the risk of buckling compared to a rib. By

making the support thinner than the rib, a lighter facade cladding element is obtained.

[0048] According to one embodiment, the panel, the hook, and the connector are at least 1 mm thick, preferably at least 1.5 mm thick. The thickness is measured in a cross-section transverse to the height direction. Preferably, the panel, the hook, and the connector are at most 2 mm thick. A thickness of the panel, the hook, and the connector of at least 1 mm and at most 2 mm is advantageous for a light but sufficiently strong facade cladding element.

[0049] According to one embodiment, a rib is at least 1.5 mm thick measured in the transverse direction, preferably at least 2 mm thick. Preferably, a rib is at most 3 mm thick, more preferably at most 2.5 mm. A thickness of at least 1.5 mm and at most 3 mm is advantageous for a light but sufficiently strong facade cladding element.

[0050] According to one embodiment, a support is at least 1.5 mm thick measured in the transverse direction, preferably at least 2 mm thick. Preferably, a rib is at most 3 mm thick, more preferably at most 2.5 mm. A thickness of at least 1.5 mm and at most 3 mm is advantageous for a light but sufficiently strong facade cladding element.

[0051] In a second aspect, the present invention relates to a facade cladding system for cladding a facade.

[0052] The facade cladding system includes multiple facade cladding elements. The multiple facade cladding elements form a repeatedly recurring pattern on the facade. The facade cladding elements include a hook for coupling with a first adjacent facade cladding element and a connector for receiving the hook of a second adjacent facade cladding element. The adjacent facade cladding elements are connected to each other using the hooks and connectors.

[0053] According to a preferred embodiment, the facade cladding elements of the facade cladding system are according to the first aspect.

[0054] The facade cladding system is advantageous because multiple facade cladding elements according to the first aspect can be connected invisibly and without a projection. Also, the installation of the facade cladding system is simpler due to the lighter facade cladding elements, allowing a facade to be clad more quickly. There is sufficient play between the cladding elements, so the facade cladding system can be adjusted to a required length for cladding a facade.

[0055] According to a preferred embodiment, the facade cladding system includes facade cladding closure profiles for closing the facade cladding system. A first facade cladding closure profile is placed at a first end of the facade cladding system. A second facade cladding closure profile is placed at a second end of the facade cladding system. The first facade cladding closure profile includes a connector. The hook of an adjacent facade cladding element is connected to the connector of the first facade cladding closure profile. The second facade cladding closure profile includes a hook. The hook of the second facade cladding closure profile is connected to the connector of an adjacent facade cladding element.

[0056] The facade cladding closure profiles are advantageous because they form a start or end for a sequence of one or more facade cladding elements, allowing both ends of a first facade cladding element to be mounted on a facade without visually interrupting a recurring pattern. Furthermore, the facade cladding closure profile is advantageous at the end of a series of one or more facade cladding elements because it conceals the fastening means used to secure a facade cladding element.

[0057] According to one embodiment, the first facade cladding closure profile includes a connector. The connector includes a base, a mounting plate, and a second upright tooth. The mounting plate is substantially L-shaped. A shortest leg of the L-shape extends substantially transverse to a first end of the base. A longest leg of the L-shape extends in a transverse direction and behind the base. The second upright tooth extends substantially transverse to the long leg of the L-shape in a depth direction towards the base. A free end of the second upright tooth extends to a distance of at most 2.5 mm from a free end of the base in the depth direction, preferably at most 2.0 mm, more preferably at most 1.7 mm. This is advantageous because the panel of a facade cladding element according to the first aspect is preferably at least 1 mm and at most 2 mm thick and can therefore slide snugly between the free end of the second upright tooth and the free end of the base. It is clear that after coupling the first facade cladding closure profile, the transverse direction and the depth direction are the same as the transverse direction and the depth direction defined for the facade cladding elements.

[0058] According to a further embodiment, the first facade cladding closure profile includes a rib. The rib extends on the base of the connector in the depth direction, away from the mounting plate. This is advantageous so that a recurring pattern on a facade can be obtained, starting with a rib.

[0059] According to one embodiment, the second facade cladding closure profile comprises a panel, a hook, an end plate, and a separately mountable cover plate, which includes at least one additional base for a rib, a connecting plate, and at least one coupling part. The hook includes a first upright tooth on the rear side of the panel, wherein the first upright tooth is offset in the transverse direction from a first end of the panel. The end plate is substantially L-shaped. A shortest leg of the L-shape extends substantially transverse to a second end of the panel and away from the panel on the rear side of the panel. A longest leg of the L-shape extends in a transverse direction and beyond a second end of the panel. The facade cladding element can be coupled with the hook of the second facade cladding closure profile via the connector of the facade cladding element. The panel, the hook, and the end plate of the second facade cladding closure profile extend in a height direction. This is advantageous because a final facade cladding element of the facade cladding system can be secured to a facade

with coverage of the fastening elements. It is clear that after coupling the second facade cladding closure profile, the transverse direction and the depth direction are the same as the transverse direction and the depth direction defined for the facade cladding elements.

[0060] According to one embodiment, a cover plate includes at least one extra base at each end of the connecting plate. At least one of the extra bases includes a rib transverse to the connecting plate in the depth direction on a front side of the connecting plate. The coupling part extends in an opposite direction from the one or more ribs relative to the connecting plate, and the coupling part is an L-shape where the short leg of the L-shape extends substantially transverse to the rear side of the connecting plate at an end of the connecting plate, away from the connecting plate. A longest leg of the L-shape extends in the transverse direction and beyond the end of the connecting plate, where preferably the L-shape at an end of the longest leg of the L-shape, which is substantially behind an extra base, includes a protrusion in the depth direction towards the one or more ribs. The L-shape preferably includes a projection. The projection lies in an extension of the longest leg of the L-shape, on a side of the shortest leg of the L-shape opposite the side where the longest leg of the L-shape lies. Preferably, the cover plate includes two coupling parts that are mirrored relative to each other along an axis in the height direction. The cover plate can be coupled with the end plate via the one or more coupling parts and by means of one or more hooks. The one or more coupling parts hook behind the one or more hooks. The one or more coupling parts hook with the protrusion and/or the projection behind the one or more hooks.

[0061] This embodiment is advantageous so that a recurring pattern on a facade can be obtained, ending with a rib.

[0062] According to one embodiment, the second facade cladding closure profile includes a first hook. The first hook is substantially transverse to the longest leg of the L-shape. The first hook is positioned under the connecting plate after placing the cover plate. The first hook is suitable for receiving a projection of a coupling part, as previously described.

[0063] According to one embodiment, the second facade cladding closure profile includes a third upright tooth. The third upright tooth extends substantially transverse to the longest leg of the L-shape in the depth direction towards the panel. The third upright tooth extends to a plane in which an underside of the one or more coupling parts lies after placing the cover plate. The third upright tooth is advantageous for correctly positioning the cover plate. It prevents the cover plate from being placed too close to the end plate.

[0064] According to one embodiment, the second facade cladding closure profile includes a second hook. at the free end of the longest leg of the L-shape. The second hook has an F-shape substantially transverse to the longest leg of the L-shape in the direction of the panel. The upper leg of the F-shape extends in the transverse direction at the same depth as the panel.

[0065] Preferably, the second facade cladding closure profile includes both a first hook and a second hook.

[0066] According to one embodiment, the second facade cladding closure profile includes an extra panel for transitioning between types of facade cladding on a facade. The panel lies parallel to the end plate on a rear side of the end plate. Optionally, a portion of the extra panel located outside the end plate is folded over. This is advantageous so that a door or window can be incorporated into the facade or so that a transition can be made to another facade cladding system around a corner of the facade.

[0067] According to one embodiment, a facade cladding corner profile is a facade cladding corner profile that includes a panel, a hook, at least one support, and a connector, wherein the connector includes a mounting plate. The mounting plate includes a second upright tooth. The hook is formed by a first upright tooth on the rear side of the panel near a first end of the panel in the transverse direction. The mounting plate is substantially transverse to the second end of the panel, wherein the second upright tooth extends substantially transverse to the transverse mounting plate, parallel with the panel. This embodiment is advantageous because it allows the formation of a corner when connecting one or more facade cladding elements on a facade with one or more corner points. By using a facade cladding corner profile on a facade, the corner can be covered and finished without visually interrupting a recurring pattern.

[0068] According to one embodiment, the connector of a facade cladding corner profile for an internal corner includes a base that is an upright directed at an angle towards the mounting plate. The mounting plate lies substantially transverse in the depth direction away from the front side of the panel. Preferably, the upright lies at an angle between 30° and 60°, more preferably at an angle between 40° and 50°, even more preferably at an angle of 45°. The base in the form of an upright is advantageous because the panel of an adjacent facade cladding element can be placed in abutting fashion in the connector of the facade cladding corner profile for an internal corner.

[0069] According to one embodiment, the connector of a facade cladding corner profile for an external corner includes a base with one or more ribs. This embodiment is advantageous so that the ribs within a recurring pattern on a facade protrude at the same depth as previous ribs on preceding facade cladding elements.

[0070] In a third aspect, the present invention relates to a method for installing a facade cladding.

[0071] The method includes the steps of:

- placing a first facade cladding element on the facade, wherein the facade cladding element includes a hook for coupling with a first adjacent facade cladding element and a connector for receiving the hook of a second adjacent facade cladding element,

- securing the first facade cladding element to the facade,
- placing an additional facade cladding element on the facade, wherein the additional facade cladding element includes a hook for coupling with a first adjacent facade cladding element and a connector for receiving the hook of a second adjacent facade cladding element, wherein the hook of the additional facade cladding element is coupled with a connector of an already secured facade cladding element on the facade, and
- securing the additional facade cladding element to the facade.

[0072] Optionally, the previous two steps are repeated until a desired part of the facade is clad.

[0073] According to a preferred embodiment, the facade cladding element is a facade cladding element according to the first aspect.

[0074] Placing an additional facade cladding element in an already secured facade cladding element on the facade includes the following additional steps:

- sliding the hook of the additional facade cladding element into the connector of an already secured facade cladding element on the facade at an angle,
- tilting the angled inserted additional facade cladding element towards the facade until the additional facade cladding element is placed against the facade, and
- securing the additional facade cladding element to the facade by means of a fastening element through the mounting plate.

[0075] Non-limiting examples of suitable fastening elements are screws, nails, staples, etc. Preferably, the fastening element is a screw, more preferably a self-tapping screw.

[0076] Preferably, the facade cladding elements are according to the first aspect.

[0077] During tilting, the panel of the additional facade cladding element and the panel of the previously secured facade cladding element come into alignment with each other.

[0078] This method has the advantage, among others, that a facade cladding can be installed quickly and in a few simple steps. Additionally advantageous is that the facade cladding is light, allowing a person to place the facade cladding against a facade in an ergonomic manner. Furthermore, this method allows scratches on the coating of the facade cladding elements to be avoided.

[0079] According to a preferred embodiment, the method includes the additional steps of:

- placing and securing a first facade cladding closure profile before placing the first facade cladding element at the start of a facade cladding, wherein the first facade cladding closure profile includes a connector for receiving the hook of the first facade cladding element;
- placing and securing a second facade cladding closure profile after placing a final additional facade cladding element at the end of the facade cladding, wherein the second facade cladding closure profile includes a hook at a first end for coupling with the connector of the final additional facade cladding element and wherein the second facade cladding closure profile includes a mounting plate at a second end for securing the second facade cladding closure profile to the facade; and
- covering the mounting plate of the second facade cladding profile with a cover plate.

[0080] The first facade cladding closure profile is preferably a first facade cladding closure profile as described in the facade cladding system in the second aspect, and the second facade cladding closure profile is preferably a second facade cladding closure profile as described in the facade cladding system in the second aspect. Furthermore, the cover plate is preferably a cover plate as described in the facade cladding system in the second aspect.

[0081] Such an embodiment is advantageous because the facade cladding closure profiles form a start and an end for a sequence of one or more facade cladding elements. Additionally, the facade cladding closure profile is advantageous at the start and end of the facade cladding because the fastening means for securing a facade cladding element can be concealed, among other things, by means of an extra cover plate. Furthermore, the use of facade cladding closure profiles allows the facade to be completely covered, providing a more optimal protection for the underlying facade without dirt or moisture getting between the facade and the facade cladding elements.

[0082] According to a preferred embodiment, the method includes the additional steps of:

- sliding the hook of a facade cladding corner profile into the connector of an already secured facade cladding element on the facade at an angle,
- tilting the angled inserted facade cladding corner profile towards the facade until the facade cladding corner profile is placed against the facade, and
- securing the facade cladding corner profile to the facade by means of a fastening element through the mounting plate.

[0083] The facade cladding corner profile is preferably a facade cladding corner profile as described in the facade cladding system in the second aspect.

[0084] This embodiment is advantageous because the facade cladding corner profiles allow the formation of a corner when connecting one or more facade cladding elements on a facade with one or more corner points. By using a facade cladding corner profile on a facade, the

corner can be covered and finished without visually interrupting a recurring pattern. Furthermore, the facade cladding corner profile is advantageous because it allows the facade to be completely clad, providing more optimal protection for the underlying facade without dirt or moisture getting between the facade and the facade cladding elements.

[0085] According to a preferred embodiment, the method includes the additional step of sliding the additional facade cladding element after tilting the angled inserted additional facade cladding element for overlapping coverage of the facade in the transverse direction. The advantage of being able to slide facade cladding elements is that it allows for correct alignment in the transverse direction of all facade cladding elements on a facade. Play, which is present due to the connector and the hook, wherein the hook of the additional facade cladding element can be shifted into the connector of the already mounted facade cladding element, allows this shifting without causing damage to the coating.

[0086] According to one embodiment, the method includes the additional step of sliding the second facade cladding closure profile after tilting the angled inserted second facade cladding closure profile for overlapping coverage of the facade in the transverse direction. This embodiment has similar advantages as previously described for sliding the additional facade cladding element.

[0087] One skilled in the art will appreciate that a facade cladding system according to the second aspect is preferably obtained by performing a method according to the third aspect and that a method according to the third aspect is preferably performed to obtain a facade cladding system according to the second aspect. Each feature described in this document, both above and below, can therefore relate to any of the three aspects of the present invention.

[0088] In what follows, the invention is described using non-limiting figures that illustrate the invention, and which are not intended to and should not be interpreted as limiting the scope of the invention.

DESCRIPTION OF THE DRAWINGS

[0089] **Figure 1** shows a top view of a facade cladding element (1), which includes five ribs (7) according to an embodiment of the prior art.

[0090] The facade cladding element (1) includes a panel, a hook (4), a connector (6), two supports (12) and five ribs (7). The facade cladding element in Figure 1 is made of extruded aluminum. At a first free end of the panel, according to the transverse direction (24), there is a projection (20) according to the depth direction (26) from the front of the panel. On the projection (20) there is a rib, on a free end of the projection (20), and a hook (4). The hook (4) comprises a first upright tooth (8), substantially transverse to the projection (20) and a parallel upright tooth (21) comprised on a free end of the first upright tooth (8). By the combination of the first upright tooth (8) and the parallel upright (21), a substantially perpendicular angle is formed wherein a first opening is directed towards a second end (5) of the panel in the transverse direction (24). The first opening is intended to secure the hook (4) into the connector (6) of an adjacent facade cladding element. The connector (6) is located at the second end (5) of the panel in the transverse direction (24), wherein the connector (6) comprises a mounting plate (10) and a second upright tooth (11). The mounting plate (10) is an L-shape where a shortest leg of the L-shape is attached substantially transverse to the rear side of the panel. On a longest leg of the L-shape there is a second upright tooth (11) substantially transversely which has a hook (4) shape, with a second opening towards the short leg of the L-shape, to accommodate the parallel upright (21) of an adjacent facade cladding element. At equal distances in the transverse direction (24), the five ribs (7), four on the panel and one on the projection (20), are distributed relative to each other. The first rib (7) on the panel is located at double the distance from the second end (5) of the panel compared to the distance between the ribs (7) themselves. The ribs (7) are substantially transverse to the panel and projection (20) in the depth direction (26). The facade cladding element also includes two supports (12) which are aligned with the first and third rib (7) starting from the second end (5) of the panel. The panel, the ribs (7), the hook (4), the connector (6), and the supports (12) extend in the height direction (25).

[0091] **Figure 2A** shows a top view of a facade cladding element (1) according to an embodiment of the present invention, which includes one rib.

[0092] The facade cladding element (1) includes a panel (2), a hook (4), a connector (6), and one rib (7). The facade cladding element (1) in Figure 2A is made of extruded aluminum. The connector (6) includes a base (9), a mounting plate (10), and a second upright tooth (11). The panel (2), the hook (4), and the connector (6) are at least 1 mm thick, measured in a plane transverse to the height direction (25). Preferably, the panel (2), the hook (4), and the connector (6) are 1.5 mm thick. The rib (7) is at least 1.5 mm thick measured in the transverse direction (24), preferably 2 mm thick. The facade cladding element is powder-coated for the protection of the aluminum. The facade cladding element (1) includes a hook (4) at a first end (3) of the panel (2) in the transverse direction (24). The hook (4) is formed by a first upright tooth (8) substantially transverse to a rear side of the panel with a length of 2 mm. The first end (3) is chamfered on the rear side of the panel (2) over a length of 1 mm in the transverse direction (24) and over a depth measured in the depth direction (26) of 0.5 mm, where the first end (3) is slightly rounded. The connector (6) is on the panel (2) and the rib (7) is on the base (9). The base (9) of the connector (6) has a V-shape with two legs, with a protrusion on a front side of the panel (2) of 3 mm in the depth direction (26), where the panel (2) extends in a transverse direction

(24). The rib (7) is on the base (9) of the connector (6) at an intersection of the two legs of the V-shape and extends over a length of 25 mm in the depth direction (26) from the front side of the panel (2). A free end of a leg of the V-shape that lies outside the panel (2) is 0.1 mm from the plane of the front side of the panel (2). The mounting plate (10) is substantially L-shaped, where a shortest leg of the L-shape is substantially transverse to the rear side of the extension of the panel (2). The short leg of the L-shape has a length of 7.5 mm, measured in the depth direction (26). A longest leg of the L-shape extends parallel to the panel (2) and away from the panel (2) beyond a second end (5) of the panel (2) over a length of 35 mm. A second upright tooth (11) extends substantially transverse to the long leg of the L-shape towards a plane in which the rear side of the panel (2) lies, and the second upright tooth (11), seen in a direction transverse to the panel (2), lies outside a perimeter of the panel (2). A free end of the second upright tooth (11) extends over a length of 5.95 mm to a distance of 0.05 mm from the plane in which the rear side of the panel (2) lies, and the distance is measured in the depth direction (26). The second upright tooth (11) is at a distance of 20.3 mm from a free end of the mounting plate (10) in the transverse direction (24). A groove (18) is present at a distance of 8.5 mm from the free end of the mounting plate (10) in the transverse direction (24). The groove (18) is used to secure the fastening element (1) through the groove (18) so that the facade cladding element (1) can be attached to a facade. Often, the fastening element is a self-tapping screw. The panel (2), the rib (7), the hook (4), the connector (6), the mounting plate (10), the second upright tooth (11), and the groove (18) extend in the height direction (25).

[0093] **Figure 2B** shows a top view of a facade cladding element (1), which includes four ribs (7) according to an embodiment of the present invention, where the adjacent coupled facade cladding elements are also shown.

[0094] The facade cladding element (1) from Figure 2B is similar to the facade cladding element 2A. The facade cladding element (1) has the same dimensions as the facade cladding element (1) from Figure 2A, with the difference that the panel extends further in the transverse direction (24). The facade cladding element (1) further includes three supports (12) and four ribs (7). The facade cladding element in Figure 2B shows in black the facade cladding element with four ribs (7), and the non-black filled facade cladding elements are coupled facade cladding elements (1) that are not fully shown. The ribs (7) are on the base (9) and/or on extra bases (19). The distance between the first upright tooth (8) and a nearest rib (7) is 36.7 mm. The distance between the nearest rib (7) and a first end (3) of the panel (2) is 45 mm in the transverse direction (24). The extra bases (19) have a V-shape with two legs. The extra bases (19) have a protrusion on a front side of the panel (2) of 3 mm in the depth direction (26). The ribs (7) are attached to the base (9) and on the extra bases (19) at an intersection of the two legs of the V-shape and extend in the depth direction (26) from the front side of the panel (2) over a distance of 25 mm in the depth direction (26) and are equidistant from each other, being 45 mm in the transverse direction (24). According to the rear side of the panel, the supports (12) are substantially transverse to the panel (2) at the height of the extra bases (19). The supports (12) are in line with the ribs (7) on the extra bases (19). The supports (12) have a length of 10.5 mm. The supports (12) extend in the height direction (25).

[0095] **Figure 3A** shows a first facade cladding closure profile according to an embodiment of the present invention.

[0096] The first facade cladding closure profile includes a connector (6) and one rib (7). The first facade cladding closure profile in Figure 3A is made of extruded aluminum. The connector (6) includes a base (9), a mounting plate (10), and a second upright tooth (11). The connector (6) is at least 1 mm thick, measured in a plane transverse to the height direction (25). Preferably, the connector (6) is 1.5 mm thick. The rib (7) is at least 1.5 mm thick measured in the transverse direction (24), preferably 2 mm thick. The facade cladding closure profile is powder-coated for the protection of the aluminum. The rib is on the connector (6). The rib (7) has a height of 25 mm in the depth direction (26) and is on the base (9) of the connector (6). The base (9) of the connector (6) has a V-shape with two legs. The base (9) has a protrusion of 3 mm in the direction in which the rib (7) extends, namely the depth direction (26). The rib (7) is attached to the V-shaped base (9) of the connector (6) at an intersection of the two legs of the V-shape. The mounting plate (10) is substantially L-shaped where a shortest leg of the L-shape is substantially transverse to the connector (6). The short leg has a length of 7.5 mm, measured in the depth direction (26). A longest leg of the L-shape extends in the transverse direction (24) over a length of 35 mm. A free end of the V-shape of the connector (6) is 7.6 mm from the longest leg of the L-shaped mounting plate (10), in the depth direction (26). A second upright tooth (11) extends substantially transverse on the long leg of the L-shape parallel with the rib (7). A free end of the second upright tooth (11) extends over a length of 5.95 mm in the depth direction (26) towards the side of the rib (7). The second upright tooth (11) is at a distance of 20.3 mm from a free end of the mounting plate (10) in the transverse direction (24). A groove (18) is present at a distance of 8.5 mm from the free end of the mounting plate (10) in the transverse direction (24). The groove (18) is used for securing a fastening element through the groove (18) so that the facade cladding element can be attached to the facade. Often, the fastening element is a self-tapping screw. The rib (7) and the connector (6) extend in the height direction (25).

[0097] **Figure 3B** shows a second facade cladding closure profile with a cover plate according to an embodiment of the present invention.

[0098] A second facade cladding closure profile in-

cludes a panel (2), a hook (4), an end plate (22), and a separately mountable cover plate (16), which includes at least one extra base (19) for a rib (7), a connecting plate (17), and at least one coupling part (13). The second facade cladding closure profile and the cover plate (16) are made of extruded aluminum. The end plate (22) includes a first hook (15), a second hook (14), and a third upright tooth (23). The end plate (22), the panel (2), the hook (4), and the cover plate (16) are at least 1 mm thick, measured in a plane transverse to the height direction (25). Preferably, the end plate (22), the panel (2), the hook (4), and the cover plate (16) are 1.5 mm thick. The ribs (7) are at least 1.5 mm thick measured in the transverse direction (24), preferably 2 mm thick. The second facade cladding closure profile and cover plate (16) are powder-coated for the protection of the aluminum. The hook (4) is formed by a first upright tooth (8) on the rear side of the panel (2), where the first upright tooth (8) is offset in the depth direction (26) from the first end (3) of the panel (2). The distance between a second end (5) of the panel and a first end (3) of the panel (4) is 40.5 mm in the transverse direction (24). The first end (3) of the panel (2) is chamfered on the rear side of the panel (2) over a length of 1 mm in the transverse direction (24) over a depth measured in the depth direction (26) of 0.5 mm, where the first end (3) is slightly rounded. The connector (6) is on the panel at the second end (5) of the panel. The end plate (22) is substantially L-shaped, where a shortest leg of the L-shape extends substantially transverse to the rear side of the panel at a second end (5) of the panel (2), away from the panel (2) over a distance of 7.6 mm. A longest leg of the L-shape extends in the transverse direction (24) over 54.51 mm and beyond the second end (5) of the panel. On the longest leg of the L-shape, the third upright tooth (23) extends substantially transverse to the longest leg of the L-shape towards the panel. The third upright tooth (23) is located 13.59 mm from an end of the longest leg of the end plate (22) that is not connected to the shortest leg of the L-shape. The first hook (15) extends substantially transverse to the longest leg of the L-shape. The first hook (15) is positioned between the third upright tooth (23) and the short leg of the L-shape, at 12.6 mm in the transverse direction (24) relative to the shortest leg of the L-shape. The first hook (15) is directed with an opening towards the shortest leg of the L-shape. An upright of the hook (15) extends from the end plate (22) over 5.5 mm in the depth direction (26). A horizontal leg of the first hook (15) has a length of 3.5 mm in the transverse direction (24). At an end of the longest leg of the L-shape, the second hook (14) extends substantially transverse towards the panel (2). The second hook (14) has an F-shape with an upright leg in the depth direction (26) of 9 mm, a shortest horizontal leg of 3.5 mm, and a longest horizontal leg of 6.5 mm in the transverse direction (24). The panel (2), the hook (4), and the end plate (22) extend in the height direction (25).

[0099] The cover plate (16) includes two extra bases (19) at each end of the connecting plate (17). Each extra base (19) has a V-shape with a rib (7) at the intersection of the V-shape, transverse to the connecting plate (17). The rib (7) extends in the depth direction (26) on a front side of the connecting plate (17). The rib (7) has a height in the depth direction (26) of 25 mm from the front side of the panel. At each end of the connecting plate (17) in the transverse direction (24) is a coupling part (13). The coupling parts (13) extend in an opposite direction to the extension direction of the ribs (7) on the connecting plate (17). A coupling part (13) is an L-shape where a shortest leg of the L-shape extends over a distance of 2.1 mm substantially transverse to the rear side of the connecting plate (17) at an end of the connecting plate (17) and away from the connecting plate (17). A longest leg of the L-shape extends in the transverse direction (24) beyond the end of the connecting plate (17) over a distance of 10.5 mm. The L-shape includes a protrusion at an end of the longest leg of the L-shape, which is substantially behind an extra base (19), in the depth direction (26) with a length of 2 mm towards the one or more ribs (7). The L-shape preferably includes a projection. The projection lies in an extension of the longest leg of the L-shape, on a side of the shortest leg of the L-shape opposite the side where the longest leg of the L-shape lies. The projection has a length of 2 mm in the transverse direction (24). Between a free end of a leg of the V-shape of the extra base (19) and a plane in which the longest leg of the L-shape of the coupling part (13) is located, there is a distance of 5.1 mm in the depth direction (26).

[0100] **Figure 4A** shows a facade cladding corner profile for an external corner according to an embodiment of the present invention, wherein adjacent coupled facade cladding elements are also shown.

[0101] The facade cladding corner profile for an external corner includes a panel (2), a hook (4), a connector (6), a support (12), and two ribs (7). The facade cladding corner profile is made of extruded aluminum. The connector (6) includes a base (9), a mounting plate (10), and a second upright tooth (11). The hook (4) is formed by a first upright tooth (11), transverse to the mounting plate (10) with a length of 2 mm. The panel (2), the support (12), the hook (4), and the connector (6) are at least 1 mm thick, measured in a plane transverse to the height direction (25). Preferably, the panel (2), the support (12), the hook (4), and the connector (6) are 1.5 mm thick. The ribs (7) are at least 1.5 mm thick measured in the transverse direction (24), preferably 2 mm thick. The facade cladding corner profile is powder-coated for the protection of the aluminum. The free end (3) of the panel (2) is chamfered on the rear side of the panel (2) over a length of 1 mm in the transverse direction (24) and over a depth measured in the depth direction (26) of 0.5 mm, where the free end (3) of the panel (2) is slightly rounded. The connector (6) is on the panel at a second end (5) of the panel, and the ribs (7) are on the connector (6). The base (9) of the connector (6) has a diamond shape wherein a fourth side is missing. A first rib (7) extends transverse to a front side of the panel (2). A second rib (7) extends

parallel to the panel (2). The ribs (7) are located at the corner points of the diamond shape. The base (9) has a protrusion on a front side of the panel of 3 mm in the depth direction (26), where the panel extends in a transverse direction (24). The free end of the base (9) is at least 0.1 mm shorter than the other two sides of the base (9). The mounting plate (10) extends transverse to a rear side of the panel (2) and away from the panel (2) from the second end (5) of the panel (2) over a length of 41.3 mm. A second upright tooth (11) extends substantially transverse to the mounting plate (10), where the second upright tooth (11) extends in the transverse direction (24) over a length of 5.95 mm, where the upright tooth (11) is directed away from the panel. The second upright tooth (11) is at a distance of 29.3 mm from a free end of the mounting plate (10) in the depth direction (26). A groove (18) is present over a distance of 8.5 mm from the free end of the mounting plate (10) in the depth direction (26). The support (12) is at a distance of 34.1 mm from a free end of the mounting plate (10) in the depth direction (26). The groove (18) is used for securing a fastening element through the groove (18) so that the first facade cladding corner profile can be attached to the facade. Often, the fastening element is a self-tapping screw. The panel, the ribs (7), the hook (4), the connector (6), the mounting plate (10), the second upright tooth (11), and the groove (18) extend in the height direction (25).

[0102] **Figure 4B** shows a facade cladding corner profile for an internal corner according to an embodiment of the present invention, wherein adjacent coupled facade cladding elements are also shown.

[0103] The facade cladding corner profile for an internal corner includes a panel, a hook (4), a connector (6), and a support. The facade cladding corner profile is made of extruded aluminum. The connector (6) includes a base (9), a mounting plate (10), and a second upright tooth (11). The hook (4) is formed by a first upright tooth (11), transverse to the mounting plate (10) with a length of 2 mm. The panel (2), the hook (4), and the connector (6) are at least 1 mm thick, measured in a plane transverse to the height direction (25). Preferably, the panel (2), the hook (4), and the connector (6) are 1.5 mm thick. The support (12) is at least 1.5 mm thick measured in the depth direction (26), preferably 2 mm thick. The facade cladding corner profile is powder-coated for the protection of the aluminum. The free end (3) of the panel (2) is chamfered on the rear side of the panel (2) over a length of 1 mm in the transverse direction (24) and over a depth measured in the depth direction (26) of 0.5 mm, where the free end (3) of the panel (2) is slightly rounded. The connector (6) is on the panel at a second end (5) of the panel. The mounting plate (10) is substantially L-shaped where a shortest leg of the L-shape lies in an extension of the panel (2) at the second end (5) of the panel with a length in the transverse direction (24) of 13 mm. A longest leg of the L-shape extends in the depth direction (26) over a length of 37 mm. A second upright tooth (11) extends substantially transverse on the long leg of the L-shape parallel with the panel. The second upright tooth (11) extends in the transverse direction (24) over a length of 7.45 mm. The second upright tooth (11) is at a distance of 23.8 mm from a free end of the mounting plate (10) in the depth direction (26). A groove (18) is present at a distance of 8.5 mm from the free end of the mounting plate (10) in the depth direction (26). The base (9) of the connector (6) is an upright at an angle, close to 45°, directed towards the mounting plate (10). The base (9) has a protrusion from a front side of the panel of 3 mm in the depth direction (26). A free end of the base (9) has a distance to the longest leg of the L-shape of the mounting plate (10) of 7.6 mm in the transverse direction (24). The support (12) is on the rear side of the panel (2) at the second end (5) of the panel (2) and has a length in the depth direction (26) of 7.5 mm. The groove (18) is used for securing a fastening element through the groove (18) so that the second facade cladding corner profile can be attached to a facade. Often, the fastening element is a self-tapping screw. The panel (2), the support (12), the hook (4), the connector (6), the mounting plate (10), the second upright tooth (11), and the groove (18) extend in the height direction (25).

1) Facade cladding element
2) Panel
3) First end of the panel
4) Hook
5) Second end of the panel
6) Connector
7) Rib
8) First upright tooth
9) Base of the connector
10)Mounting plate
11) Second upright tooth
12) Support
13)Coupling part
14)Second hook
15)First hook
16)Cover plate
17)Connecting plate
18)Groove
19)Extra base
20) Projection
21)Parallel upright
22)End plate
23)Third upright tooth
24)Transverse direction
25)Height direction
26)Depth direction

Claims

1. A facade cladding element for forming a recurring pattern on a facade, comprising a panel with a front side and a rear side, wherein the front and rear side extend according to a height and a transverse direc-

tion, wherein the rear side can be placed against a facade, wherein the panel at a first end of the panel in the transverse direction comprises a hook for coupling with a first adjacent facade cladding element, wherein the hook extends in the height direction, wherein the panel at a second end of the panel according to the transverse direction comprises a connector for receiving the hook of a second adjacent facade cladding element, wherein the connector extends in the height direction, and wherein the panel comprises at least one rib on the front side of the panel for forming a pattern, wherein the rib extends in the height direction, **characterized in that** the hook is formed by a first upright tooth on the rear side of the panel, wherein the first upright tooth is in the transverse direction from the first end of the panel, wherein the connector comprises a base, a mounting plate, and a second upright tooth, wherein the base comprises a rib on the front side of the panel, wherein the mounting plate is substantially L-shaped, wherein a shortest leg of the L-shape is substantially transverse to the rear side of the panel, wherein a longest leg of the L-shape extends parallel to the panel and away from the panel past the second end of the panel, wherein the second upright tooth extends substantially transversely to the long leg of the L-shape towards a plane in which the rear side of the panel lies, wherein the second upright tooth, seen in a direction transverse to the panel, lies outside a perimeter of the panel, wherein a free end of the second upright tooth extends to a distance of at most 1 mm from the plane in which the rear side of the panel lies, wherein the distance is measured along a depth direction, wherein the depth direction is transverse to the height direction and the transverse direction, wherein the base is located at the front side of the panel, wherein the base, viewed in a direction transverse to the panel, is located partially within and partially outside the perimeter of the panel, wherein an edge of the base that extends according to the height direction and lies outside the perimeter of the panel, is situated at a maximum distance of 1 mm from a plane according to the depth direction, in which the front side of the panel lies.

2. A facade cladding element according to the preceding claim 1 **characterized in that** a distance in the transverse direction between the first end of the panel and a free end of the hook is 2 mm to 6 mm shorter than a distance between the second upright tooth and the short leg of the L-shape of the mounting plate to form a play, wherein the distance between the second upright tooth and the short leg of the L-shape of the mounting plate is measured in the transverse direction.

3. A facade cladding element according to any of the preceding claims 1 or 2 **characterized in that** the first upright tooth has a length in the depth direction of the panel that is at most one-third of a length of the second upright tooth in the depth direction of the panel.

4. A facade cladding element according to any of the preceding claims 1-3 **characterized in that** the panel includes at least one extra base for a rib on the front side of the panel next to the base of the connector, wherein the extra base is a protrusion in the depth direction on the front side of the panel, wherein the at least one extra base is located between the base of the connector and the first end and wherein the at least one extra base is offset from the first end.

5. A facade cladding element according to claim 4 **characterized in that** at the height of at least one of the at least one extra base, the facade cladding element includes a support on the rear side of the panel, wherein the support extends in the depth direction to a plane in which the long leg of the L-shape of the mounting plate of the connector lies.

6. A facade cladding element according to any of the preceding claims 1-5 **characterized in that** the base of the connector includes a V-shaped protrusion in the depth direction, wherein a first leg of the V-shaped protrusion is connected to the front side of the panel and wherein a free end of a second leg of the V-shaped protrusion is the edge of the base and lies outside the perimeter of the panel, wherein the base extends in the height direction.

7. A facade cladding system for cladding a facade, comprising multiple facade cladding elements, wherein the multiple facade cladding elements form a repeatedly recurring pattern on the facade, wherein the facade cladding elements include a hook for coupling with a first adjacent facade cladding element and a connector for receiving the hook of a second adjacent facade cladding element, wherein adjacent facade cladding elements are connected to each other using the hooks and connectors, **characterized in that** the facade cladding elements are according to any of the preceding claims 1-6.

8. A facade cladding system according to claim 7, **characterized in that** the facade cladding system includes facade cladding closure profiles for closing the facade cladding system, wherein a first facade cladding closure profile is placed at a first end of the facade cladding system and a second facade cladding closure profile is placed at a second end of the facade cladding system, wherein the first facade cladding closure profile includes a connector, wherein the hook of an adjacent facade cladding element is coupled with the connector of the first facade cladding closure profile and wherein the second facade

cladding closure profile includes a hook, wherein the hook of the second facade cladding closure profile is coupled with the connector of an adjacent facade cladding element.

9. A facade cladding system according to any of the preceding claims 7 or 8, **characterized in that** the facade cladding system includes a facade cladding corner profile, wherein the facade cladding corner profile includes a hook for coupling with a first adjacent facade cladding element and a connector for receiving the hook of a second adjacent facade cladding element, wherein the facade cladding corner profile connects two facade cladding elements, wherein the first adjacent facade cladding element and the second adjacent facade cladding element form a corner.

10. A method for installing a facade cladding on a facade, comprising the steps of:

- placing a first facade cladding element on the facade, wherein the facade cladding element includes a hook for coupling with a first adjacent facade cladding element and a connector for receiving the hook of a second adjacent facade cladding element;
- securing the first facade cladding element to the facade;
- placing an additional facade cladding element on the facade, wherein the additional facade cladding element includes a hook for coupling with a first adjacent facade cladding element and a connector for receiving the hook of a second adjacent facade cladding element, wherein the hook of the additional facade cladding element is coupled with a connector of an already secured facade cladding element on the facade; and
- securing the additional facade cladding element to the facade;

characterized in that facade cladding elements are used according to any of the preceding claims 1-6, wherein placing an additional facade cladding element in an already secured facade cladding element on the facade includes the following additional steps:

- sliding the hook of the additional facade cladding element into the connector of an already secured facade cladding element on the facade at an angle;
- tilting the angled inserted additional facade cladding element towards the facade until the additional facade cladding element is placed against the facade; and
- securing the additional facade cladding element to the facade by means of a fastening element through the mounting plate.

11. A method according to claim 10, comprising the additional steps of:

- placing and securing a first facade cladding closure profile before placing the first facade cladding element at the start of a facade cladding, wherein the first facade cladding closure profile includes a connector for receiving the hook of the first facade cladding element;
- placing and securing a second facade cladding closure profile after placing a final additional facade cladding element at the end of the facade cladding, wherein the second facade cladding closure profile includes a hook at a first end for coupling with the connector of the final additional facade cladding element and wherein the second facade cladding closure profile includes a mounting plate at a second end for securing the second facade cladding closure profile to the facade; and
- covering the mounting plate of the second facade cladding closure profile with a cover plate.

12. A method according to any of the preceding claims 10 or 11, comprising the additional steps of:

- sliding the hook of a facade cladding corner profile into the connector of an already secured facade cladding element on the facade at an angle;
- tilting the angled inserted facade cladding corner profile towards the facade until the facade cladding corner profile is placed against the facade; and
- securing the facade cladding corner profile to the facade by means of a fastening element through the mounting plate.

13. A method according to any of the preceding claims 10-12, comprising the additional step of sliding the additional facade cladding element after tilting the angled inserted additional facade cladding element for overlapping coverage of the facade in the transverse direction.

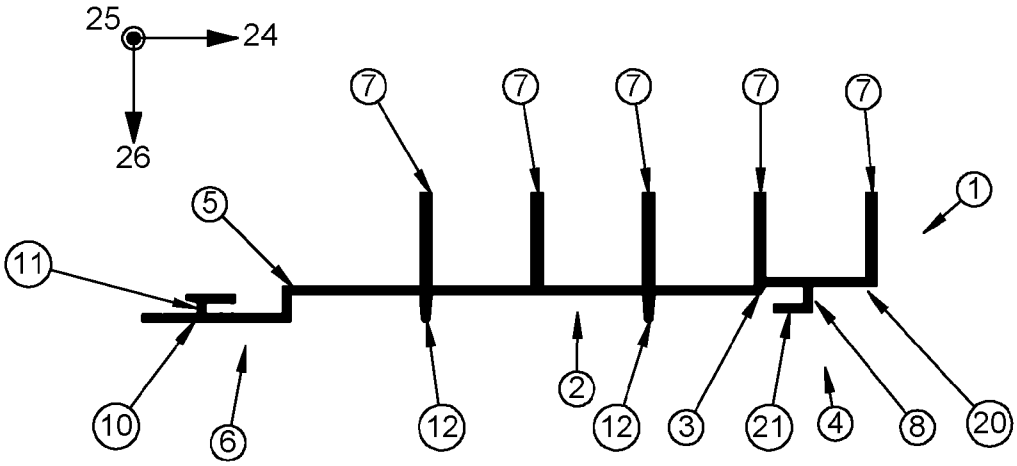

Fig.1

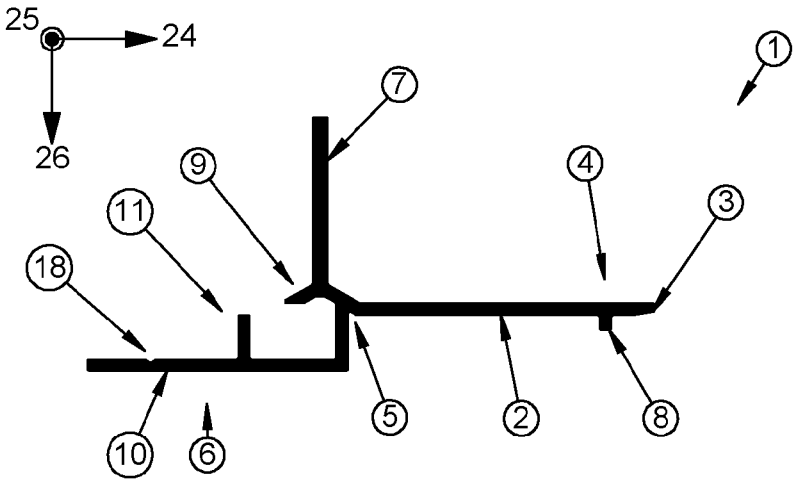

Fig.2A

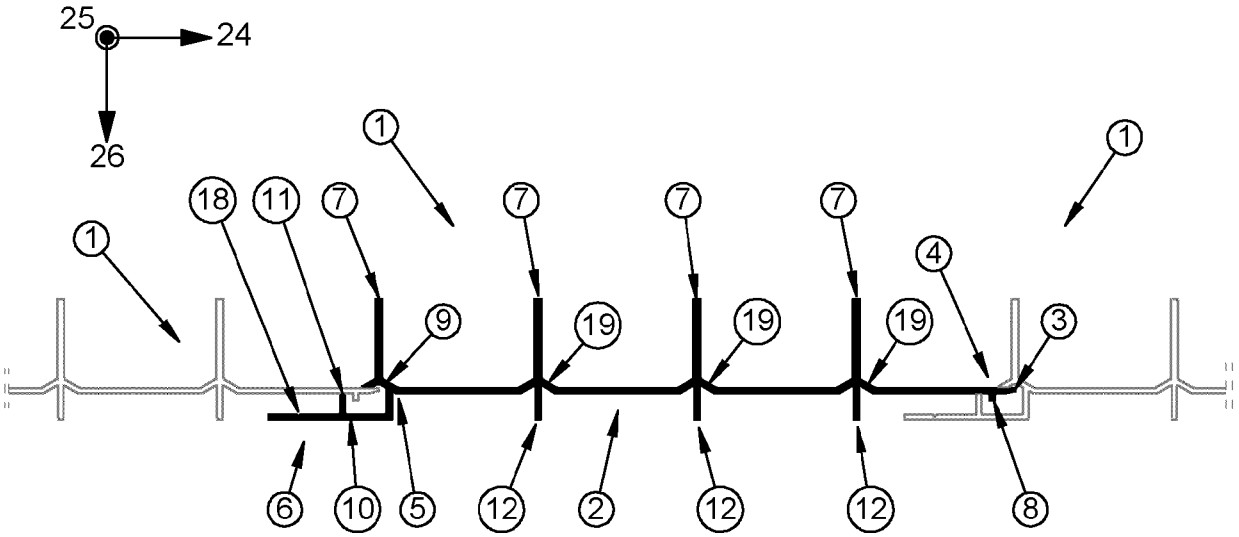

Fig.2B

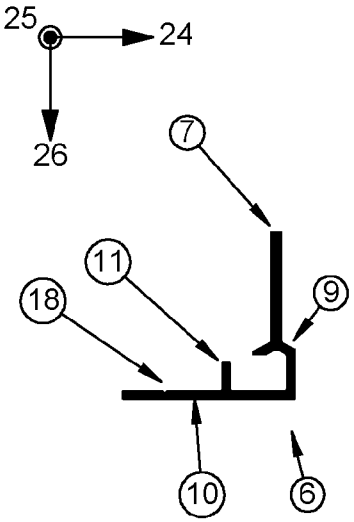

Fig.3A

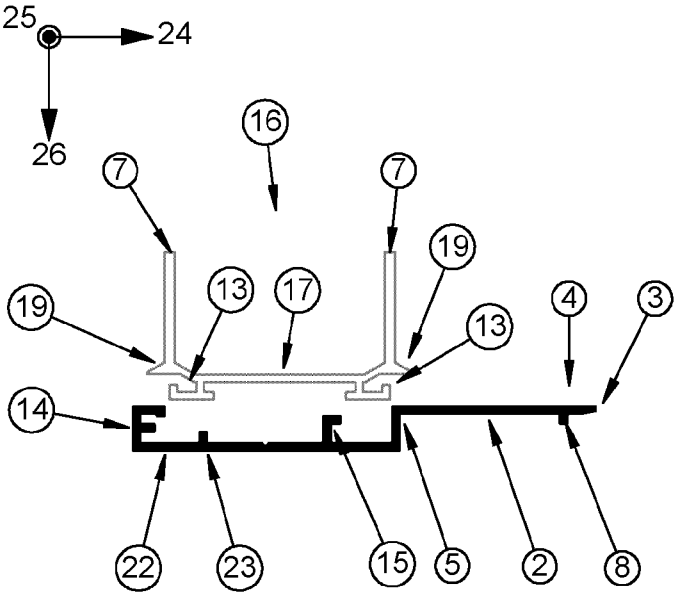

Fig.3B

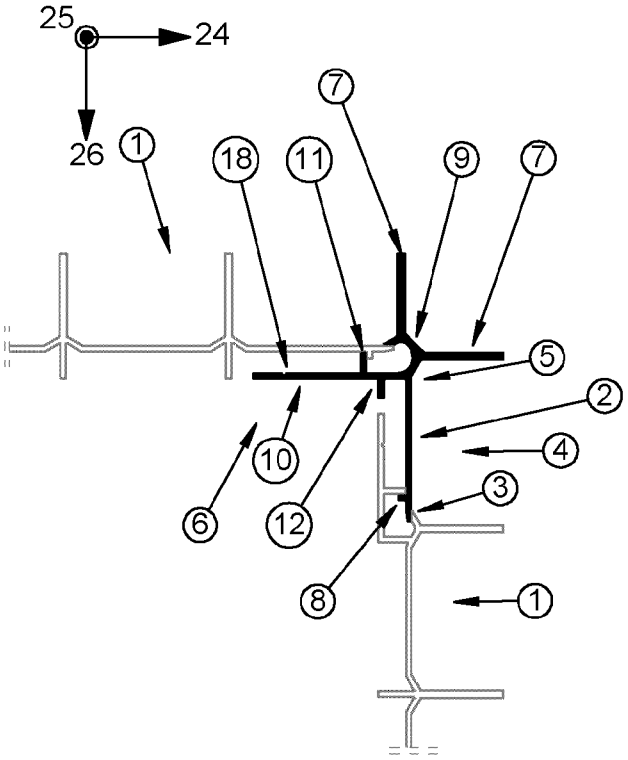

Fig.4A

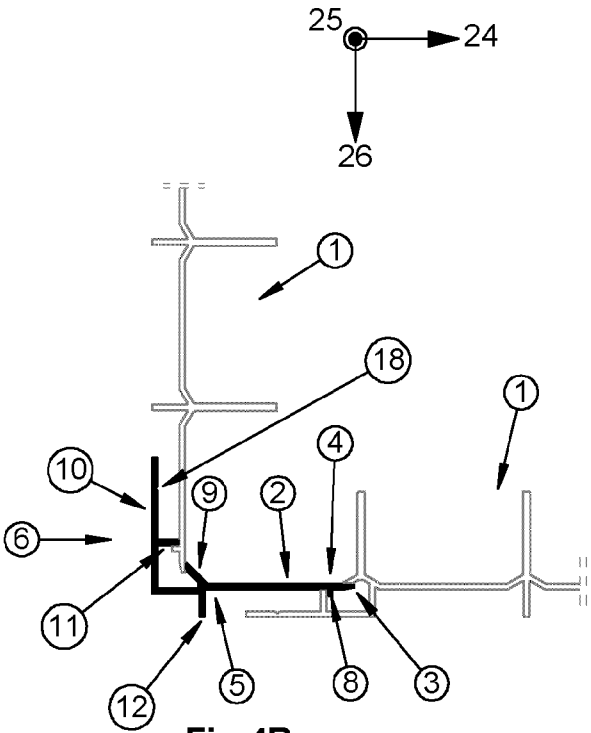

Fig.4B

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EUROPEAN SEARCH REPORT

Application Number
EP 24 21 7967

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	BE 1 028 103 A1 (XALU NV [BE]) 21 September 2021 (2021-09-21)	1-3,7-13	INV. E04F13/08
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E04F

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	14 May 2025	Warthmüller, Almut

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