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The invention relates to a profile rail for usage in a panel-shaped cladding element for connecting the profile rail to an adjacent plaster layer and/or spackle layer according to the preamble of claim 1 as well as in a cladding element having a respective profile rail for cladding a jamb of a door or a window.

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Normally, a plaster layer is applied onto a jamb of a window or a door. The plaster layer commonly serves for being able to apply wallpaper or a coat of paint or the like. For reducing the labour input, using pre-fabricated cladding elements is also known for covering the jamb, thus making plastering of the jamb redundant. The connection from the plaster arranged in front of the wall or brickwork to the cladding element poses a problem in this instance. Different profile rails are known from the state of the art for this kind of usage, said profile rails being connected to the cladding element in a form-fitting or integral manner. Furthermore, the known embodiments comprise a connecting mesh or a connecting profile, which covers certain sections of the adjacent brickwork when applying the cladding element to the jamb. The plaster layer to be subsequently applied consequently covers the connecting mesh or the connecting profile. Thus, a secure connection is ensured between the profile rail and the plaster to be applied.

20 A problem in the known embodiments from the state of the art, however, is that the connecting mesh or the connecting profile collides with the bumps in the corner of the brickwork when larger tolerances, which cannot always be avoided, are present in the corner of the brickwork, the consequence being that the direct application of the cladding element to the profile rail is impeded. This leads to touch-ups of the brickwork being necessary beforehand in order to be able to subsequently use the cladding element without the profile rail colliding with the corner of the brickwork.

The object of the present invention is therefore to allow greater tolerance deviations from the straightness of the adjacent brickwork which would allow using a cladding element without requiring touch-ups to the brickwork.

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The set object is attained by using a profile rail according to the invention and in accordance with the teachings of claim 1.

A cladding element according to the invention using a respective profile rail is  
5 disclosed in claim 7.

Advantageous embodiments are the subject matter of the dependent claims.

From DE 101 31 933 A1, a complete jamb system having a jamb plate is known,  
10 which can be installed and plastered in a window jamb using a profile rail.

A disadvantage of this complete jamb system is that the profile rail first has to be mounted in the window jamb when being installed. Only then can the jamb plate be cut to size and applied in the free space between the window frame and the  
15 profile rail. Pre-installing the profile rail at the jamb plate is not possible.

From DE 20 2006 014 727 U1, a mopboard profile having a perforated attachment section which sticks out perpendicularly is known.

20 The generic profile rail serves for being used in a panel-shaped cladding element and as such serves to enable connecting the cladding element to an adjacent plaster layer and/or spackle layer. The implementation of the plaster layer and/or spackle layer is of no importance in this instance, although it is important that a firm grip is ensured between the cladding element and a laterally adjoining plaster  
25 layer and/or a laterally arranged spackle layer via the usage of the profile rail.

The profile rail being used on the panel-shaped cladding element comprises a visible-side profile section arranged on a visible side, a front-side profile section arranged on a front side, and an attachment section arranged on a rear side. The  
30 visible side is defined as the side of the profile rail or the cladding element, respectively, which faces away from the jamb. The front side is arranged perpendicular to the visible side and corresponds to the side of the profile rail or the cladding element, respectively, which faces away from the window. The rear side

correspondingly forms the side of the profile rail which faces towards the jamb. Furthermore, the generic profile rail comprises a mounting section arranged essentially parallel to the visible side. In this context, the mounting section is arranged between the visible side and the rear side and serves for securing the  
5 position of the profile rail being used on the panel-shaped cladding element.

A profile rail having a visible-side profile section, a front-side profile section, and a mounting section which is arranged essentially parallel to the visible side and which can engage with a front-side groove between the visible side and the rear  
10 side of the panel-shaped cladding element for realizing a sturdy connection is known from DE 10 2011 121 377 A1.

A disadvantage of this profile rail is that the attachment section extends perpendicular from the mounting section. Applying plaster to this attachment section is  
15 therefore not possible; indeed the attachment section rests on the visible side of the brickwork in a pointedly protruding manner, which impairs the visual appearance of the installed profile rail.

Contrary to common embodiments from the state of the art, certain sections of  
20 the attachment section arranged rearward are no longer guided across the adjacent brickwork but the attachment section rather extends parallel to the mounting section along the rear side of the profile rail.

Through this novel arrangement of the attachment section, it becomes possible  
25 for larger tolerances in the straightness of the brickwork to become unimportant regarding the usage of the profile rail according to the invention or a cladding element, respectively, having a profile according to the invention. A collision between the attachment section and a bump in the corner of the brickwork is thus successfully prevented. The touch-ups of the brickwork often required according  
30 to the state of the art have thus become redundant. Furthermore, the embodiment of the profile rail according to the invention simplifies placing and subsequently mounting the cladding element at the jamb, since, for example, an adhesive or

insulating foam can be inserted at the rear between the cladding element and the jamb without a bothersome connecting mesh.

In order to secure the connection between the profile rail and the adjacent plaster layer and/or spackle layer, it is necessary for a free space to be available in the corner of the front side and the rear side for applying a respective plaster or spackle. In the profile rail, for realizing the free space, the front-side profile section is connected to the attachment section via a connecting section, said connecting section making the respective free space available.

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Even though it is conceivable that an improved connection between the profile rail and the adjacent plaster layer or the adjacent spackle layer, respectively, is available via the known embodiments having attachment profiles covering certain sections of the wall, a sufficient connection is attained between the plaster layer or the spackle layer, respectively, and the profile rail by realizing the free space by means of the connecting section so that there is no risk of cracks forming.

In order not to unnecessarily impair the subsequent decoration of the wall surface by applying wallpaper, paint or an ornate plaster, it is advantageous if the area of the profile rail arranged outward is kept as small as possible. For this reason, the width of the visible-side profile section is chosen to be between 2 mm and 5 mm and/or the width of the front-side profile section is chosen to be between 4 mm and 10 mm. In a worst case scenario, the visible-side profile section can be reduced to the material thickness of the front-side profile section. It is also not absolutely necessary for the outward surface of the visible-side profile section as well as of the front-side profile section to be realized flush with the visible side or the front side, respectively, even though this is the simplest and most purposeful implementation.

A sufficient free space for applying the plaster and/or spackle is advantageously realized if the attachment section is arranged at a distance of at least 10 mm from the front side. Moreover, the attachment section should not be arranged at a dis-

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tance greater than 30 mm from the front side since this would lead to disadvantages regarding the design of the panel-shaped cladding element and no extra advantages would be obtained from the connection to the adjacent plaster layer or spackle layer. An advantageous usage of the profile rail in a panel-shaped cladding element is further given if the width of the attachment section is between 10 mm and 30 mm.

A simple and advantageous design of the connecting section is given if the connecting section is realized as a connecting line between the front-side profile section and the attachment section and extends at an angle between 30° and 60° towards the visible side. Consequently, a triangular free space is realized in the corner of the front side and the rear side. It is of no importance in this respect if the connecting section comprises a shoulder between 0 mm and 5 mm towards the front side as well as a shoulder between 0 mm and 5 mm towards the rear side. This design promotes the usage in the panel-shaped cladding element since the labour input for producing the cladding element is low in this case.

Alternatively, a complex design of the connecting section can also be realized so that the free space is not merely a simple geometric form in the sense of a triangle or quadrangle. It is definitely essential for a respective free space to be available for applying the plaster and/or spackle and thus for enabling a reliable connection between the profile rail and the plaster layer or spackle layer being formed.

The design of the connecting section influences the labour input for producing the cladding element. It can thus also be advantageous to realize the free space as being essentially rectangular, with a tothing crosspiece being inserted within the free space for increasing the firm grip on the adjacent plaster layer or spackle layer. In this case, this tothing crosspiece cannot extend beyond the rear side and must enable an unrestricted introduction of plaster and/or spackle into the free space.

In order to advantageously introduce plaster and/or spackle into the free space as well as to in particular enable an advantageous grip on the profile rail or the

cladding element, respectively, it is furthermore particularly advantageous if the connecting section comprises a plurality of perforations which can be permeated by the plaster and/or spackle. It is just as advantageous if the mounting section and/or the attachment section comprise a plurality of perforations which enable  
5 an improved firm grip on the profile rail in the panel-shaped cladding element.

The design of the perforations is initially of no importance, said perforations comprising a free cross section between 7 mm<sup>2</sup> and 70 mm<sup>2</sup> for advantageously increasing the firm grip on the profile rail within the panel-shaped cladding element  
10 as well as within the plaster and/or spackle, two perforations being arranged at a distance between 5 mm and 50 mm to each other in each instance.

Furthermore, the firm grip of the plaster layer and/or spackle layer on the profile rail is improved if another free space is available on the side of the connecting  
15 section facing away from the corner, the free space in the corner being connected to the other free space via the advantageous perforations. Thus, the plaster and/or spackle can completely permeate the perforations and the firm grip is further improved.

20 In addition to the profile rail according to the invention, the invention comprises a cladding element which generically serves for covering a jamb, a lintel, a window or a door. In this context, this cladding element comprises a panel element which comprises a rear side facing towards the jamb and a visible side facing away from the jamb, as does the profile rail. In this case, the panel element is to be realized  
25 such that a decorating material can be applied onto the visible side as intended. This decorating material can be a coat of paint, wallpaper or an ornate plaster as desired.

The generic cladding element further comprises a profile rail which is mounted in  
30 and/or on the panel element using a mounting section, said profile rail covering the end of the panel element facing away from the window.

In the cladding element according to the invention, a profile rail is now used which corresponds to the afore-described embodiment according to the invention or an advantageous embodiment thereof.

5 The cladding element according to the invention thus enables a usage for cladding a lintel or a jamb in a wall opening so that touch-ups become redundant despite slightly larger tolerances in the straightness of the brickwork and an inexpensive embodiment is realized.

10 The design of the panel element is initially of no importance as long as it has a sufficient inherent rigidity and can easily be provided with the desired decorative surface. For this reason, a customary construction panel is used as a panel element in an advantageous embodiment, said construction panel being a gypsum board, a gypsum fibreboard, a calcium silicate board or a clay building panel.

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When using a construction panel for producing a respective panel element, it is furthermore advantageous if a groove is milled in the side of the construction panel facing towards the front side, the mounting section coming to rest in said groove so that a sturdy connection between the profile rail and the construction  
20 panel can be realized.

Alternatively to forming the panel element using a construction panel, a layered design which comprises a respective construction panel at least on the side facing towards the visible side can also be chosen.

25

Moreover, it is also advantageous if the panel element comprises a support layer forming the visible side and having a wall thickness between 2 mm and 13 mm and a heat-insulating layer forming the rear side and having a wall thickness between 10 mm and 25 mm. Using a support layer enables a reliable application of  
30 the decorating material whereas using a heat-insulating layer on the rear side enables a reliable heat insulation in the area of the window jamb or the lintel.

For connecting the profile rail to the panel element, the mounting section can be realized and positioned in different manners. In this respect, it is advantageous if, in a first embodiment, the mounting section is arranged between the support layer and the heat-insulating layer, in particular in a stepped shoulder of the heat-insulating layer. This embodiment enables a simple processing of the plate-shaped panel element for applying the profile rail on the one hand and enables a largest possible free space for connecting the profile rail to the adjacent plaster layer and/or spackle layer on the other hand. Processing the panel element is particularly simple if the mounting section is arranged in a groove in the heat-insulating layer.

In regard of the embodiment of the plate-shaped panel element adjacent to the profile rail, different implementations are possible, said plate-shaped panel element, on the one hand, being able to be processed in such a manner that it is aligned flush with the rear side of the front-side profile section and of the connecting section as well as of the attachment section. Certain sections of the panel element are accordingly clamped between the mounting section and the attachment section. This promotes a firm grip of the panel element on the profile rail, a sufficient connection being able to be further realized between an adjacent plaster layer and/or spackle layer and the profile rail.

However, it can also be intended that another free space is present on the panel element behind the connecting section, said other free space enabling engaging through the plaster and/or spackle into the other free space in the presence of advantageously available perforations in the connecting section.

In regard of the rearward design of the profile rail having the attachment section and the panel element, it is possible, on the one hand, that the attachment section comes to rest on the rear side of a level panel element. Advantageously, however, the panel element comprises a stepped shoulder on its rear side so that the rear side of the profile rail, i.e. the attachment section, is realized flush with the rear side of the panel element.

In the following figures, three exemplary embodiments for a profile rail according to the invention as well as for a cladding element according to the invention are illustrated.

5 In the figures,

Fig. 1 illustrates a profile rail as well as a cladding element having an essentially triangular free space;

10 Fig.2 illustrates a profile rail and a cladding element having an essentially quadrangular free space;

Fig. 3 illustrates another embodiment of a cladding element according to the invention having a profiled profile rail.

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In **Figure 1**, a first example of a cladding element 01 according to the invention is illustrated, which uses a first exemplary embodiment of a profile rail 11 according to the invention. The plate-shaped design of the panel element can be seen, which consists of a support layer 07 as well as a heat-insulating layer 08. The support layer 07 serves for applying a decorative material, such as a coat of paint, wallpaper or an ornate plaster, on the visible side 02. Contrary to the support layer 07, the heat-insulating layer 08 is provided for advantageously heat-insulating the jamb or lintel, respectively, of a window or a door. The end of the cladding element 01 facing away from the window or door, respectively, is formed by the front side 03 on which the profile rail 11 is arranged. For securely anchoring and connecting the profile rail 11 to the panel element 06, the profile rail 11 is provided with a mounting section 15 which engages with a groove in the heat-insulating layer 08.

20  
30 The profile rail 06 is further formed by a short visible-side profile section 12 arranged on the visible side 02, a front-side profile section 13 arranged on the front side 03 as well as an attachment section 14 arranged on the rear side 04. The

front-side profile section 13 is connected to the attachment section 14 via a connecting section 16. By the attachment section 14 being arranged at an offset to the front side 03, with the front-side profile section 13 having a correspondingly short width, a free space 19 is formed in the corner of the front side 03 and the rear side 04 for applying a plaster or spackle. The illustrated design of the connecting section 16 leads, on the one hand, to a simple design of the profile rail 11 as well as to a processing of the panel element 06 for applying the profile rail 11. In this instance, the free space enables a sufficient connection of the profile rail 11 to the adjacent plaster layer and/or spackle layer.

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In **Figure 2**, in contrast to the embodiment illustrated in Fig. 1, an embodiment of a cladding element 21 according to the invention having a respective profile rail 31 is illustrated, said embodiment being improved in terms of the grip on the adjacent plaster layer and/or spackle layer, this embodiment being more complex as compared to the embodiment illustrated in Fig. 1. Here, too, the plate-shaped panel element 26 can be seen having the support layer 27 arranged on the visible side 02 as well as the heat-insulating layer 28 arranged on the rear side 04. The profile rail 31 also comprises a visible-side profile section 32, a front-side profile section 33 as well as an attachment section 34 arranged rearward. Here, too, the profile rail 31 is reliably connected to the panel element 26 by using a mounting section 35 engaging with the panel element 26.

However, in contrast to the previous embodiment, the free 39 space is now realized essentially square, and correspondingly the connecting section 36 between the front-side profile section 33 and the attachment section 34 has an angled design. In order to increase the firm grip between the profile rail 31 and an adjacent plaster layer and/or spackle layer, the connecting section 36 in this example additionally comprises an exemplary tothing crosspiece 37 which extends into the free space 39. Furthermore, an additional free space 29 can be seen on the side of the connecting section 36 arranged on the visible side 02, perforations having to be present in the connecting section 36 for an advantageous usage in this exemplary embodiment. A design of the tothing crosspiece 37 having a

tooth-like structure or a plurality of perforations promotes an optimal connection between the profile rail 31 and the adjacent plaster layer and/or spackle layer.

Another exemplary embodiment for a cladding element 41 according to the invention is illustrated in **Figure 3**. Here, too, the profile rail 51 of the cladding element 41 comprises a visible-side profile section 52 arranged on the visible side 02, a front-side profile section 53 arranged on the front side 03 as well as an attachment section 54 arranged on the rear side 04. The front-side profile section 53 is connected to the attachment section 54 via the connecting section 56, the free space 59 being present in the corner of the front side 03 and the rear side 04. The profile rail 51 also comprises the mounting section 55 for being anchored in the panel element 46 of the cladding element 41. Here, too, a support layer 47 is arranged on the visible side 02 of the cladding element 41 and a heat-insulating layer 48 is arranged on the rear side. In this instance, the mounting section 55 is arranged between the heat-insulating layer 48 and the support layer 47, a respective shoulder being available in the heat-insulating layer 48 for this purpose. In order to increase the firm grip of the mounting section 55 in the panel element 46 as well as to also improve the firm grip of the plaster layer and/or spackle layer to be applied adjacently, the mounting section 55 as well as the connecting section 56 and the attachment section 54 on the surface comprise a wave structure for enlarging said surface.

**Patentkrav**

1. Profilskinne (11, 31) til anvendelse ved et pladeformet beklædningsselement (01, 21), som er beregnet til afdækningen af en lysning eller en overligger i forbindelse med et vindue eller en dør, hvorved profilskinnen (11, 31) er beregnet til forbindelsen med et tilstødende puds- og/eller spartellag,
- a) hvorved profilskinnen (11, 31) omfatter et profilafsnit (12, 32) til en synlig side, og som er anbringelig på en synlig side (02) af det pladeformede beklædningsselement (01, 21),
- b) og hvorved profilskinnen (11, 31) omfatter et frontsideprofilafsnit (13, 33), som er indrettet til at blive anbragt på det pladeformede beklædningsselements frontside (03), som er anbragt vinkelret på den synlige side (02),
- c) og hvorved profilskinnen (11, 31) har et fastgørelsesafsnit (15, 35), som er anbragt i alt væsentligt parallelt med den synlige side (02) og til realiseringen af en stabil forbindelse kan gribe ind i en på frontsideen værende not imellem det pladeformede beklædningsselements (01, 21) synlige side og bagside,
- kendetegnet ved,**
- at profilskinnen (11, 31) har et tilslutningsafsnit (14, 34), som er anbringeligt på en bagside (04) af det pladeformede beklædningsselement (01, 21), hvorved tilslutningsafsnittet (14, 34) er rettet i alt væsentligt parallelt ind med fastgørelsesafsnittet (15, 35), hvorved der imellem frontsideafsnittet (13, 33) og tilslutningsafsnittet (14, 34) er anbragt et forbindelsesafsnit (16, 36), som i hjørnet af frontside (03) og bagsiden (04) danner et frirum (19, 39) til anbringelse af en puds- og/eller spartelmasse.
2. Profilskinne (11, 31) ifølge krav 1,
- kendetegnet ved,**

at bredden af den synlige sides profilafsnit (12, 32) udgør imellem 2 mm og 5 mm, og/eller at bredden af den synlige sides frontsideafsnit (13, 33) er imellem 4 mm og 10 mm.

5 3. Profilskinne (11, 31) ifølge krav 1 eller 2,

**kendetegnet ved,**

at tilslutningsafsnittet (14, 34) befinder sig imellem 10 mm og 30 mm fra frontsi-  
den (03), og bredden af tilslutningsafsnittene (14, 34) er imellem 10 mm og 30  
mm.

10

4. Profilskinne (11, 31) ifølge et af kravene 1 til 3,

**kendetegnet ved,**

at forbindelsesafsnittet (16, 36) er anbragt i vinklen imellem 30° og 60° i forhold  
til den synlige side (02) og er forsat tilbage imellem 0 mm og 5 mm fra frontsidens  
15 (03) og imellem 0 mm og 5 mm fra bagsiden (04).

5. Profilskinne (11, 31) ifølge et af kravene 1 til 4,

**kendetegnet ved,**

at fastgørelsesafsnittet (15, 35) og/eller forbindelsesafsnittet (16, 36) og/eller til-  
20 slutningsafsnittet (14, 34) omfatter et antal gennembrud.

6. Profilskinne (11, 31) ifølge krav 5,

**kendetegnet ved,**

at gennembruddene hver for sig har et frit tværsnit på imellem 7 mm<sup>2</sup> og 70 mm<sup>2</sup>,  
25 hvorved to gennembrydninger overalt har en afstand på imellem 5 mm og 50 mm.

7. Beklædningselement (01, 21) til afdækningen af en lysning eller en overlig-  
ger i forbindelse med et vindue eller en dør med et pladeelement (06, 26), som  
har en imod lysningen vendende bagside (04) og en væk fra lysningen vendende  
30 synlig side (02), hvorved der på den synlige side (02) efter bestemmelserne kan  
anbringes et dekorationsmateriale, især en farvemaling eller et tapet eller en de-  
korationspuds,

og med en profilskinne (11, 31), som er fastgjort med et fastgørelsesafsnit (15, 35) i og/eller på pladeelementet (06, 26), og som dækker over den væk fra vinduet vendende ende af pladeelementet (06, 26),

**kendetegnet ved,**

5 en profilskinne (11, 31) ifølge et af de foregående krav.

8. Beklædningselement (01, 21) ifølge krav 7,

**kendetegnet ved,**

10 at pladeelementet på den ud imod den synlige side vendende side har en bygningsplade, hvorved især bygningspladen er en gipskartonplade eller en gipsfiberplade eller en kaliumsilicatplade eller en lerbygningsplade.

9. Beklædningselement (01, 21) ifølge krav 8,

**kendetegnet ved,**

15 at fastgørelsesafsnittet er anbragt i en not i bygningspladen.

10. Beklædningselement (01, 21) ifølge krav 7,

**kendetegnet ved,**

20 at pladeelementet (06, 26) omfatter et bærelag (07, 27), som danner den synlige side og har en vægtykkelse på imellem 2 mm og 13 mm og et varmesoleringslag (08, 28), som danner bagsiden (04), og som har en vægtykkelse på imellem 10 mm og 25 mm.

11. Beklædningselement (01, 21) ifølge krav 10,

25 **kendetegnet ved,**

at fastgørelsesafsnittet (15, 35) er anbragt imellem bærelag og varmesoleringslag eller i en not i varmesoleringslaget (08, 28).

12. Beklædningselement (01, 21) ifølge et af kravene 7 til 11,

30 **kendetegnet ved,**

at pladeelementet (06, 26) afsnitsvis er klemt inde imellem fastgørelsesafsnittet (15, 35) og tilslutningsafsnittet (14, 34).

13. Beklædningselement (01, 21) ifølge et af kravene 7 til 12,

**kendetegnet ved,**

at tilslutningsafsnittet (14, 34) er tilsluttet fladeflugtende med pladeelementet (06, 26) på bagsiden (04).



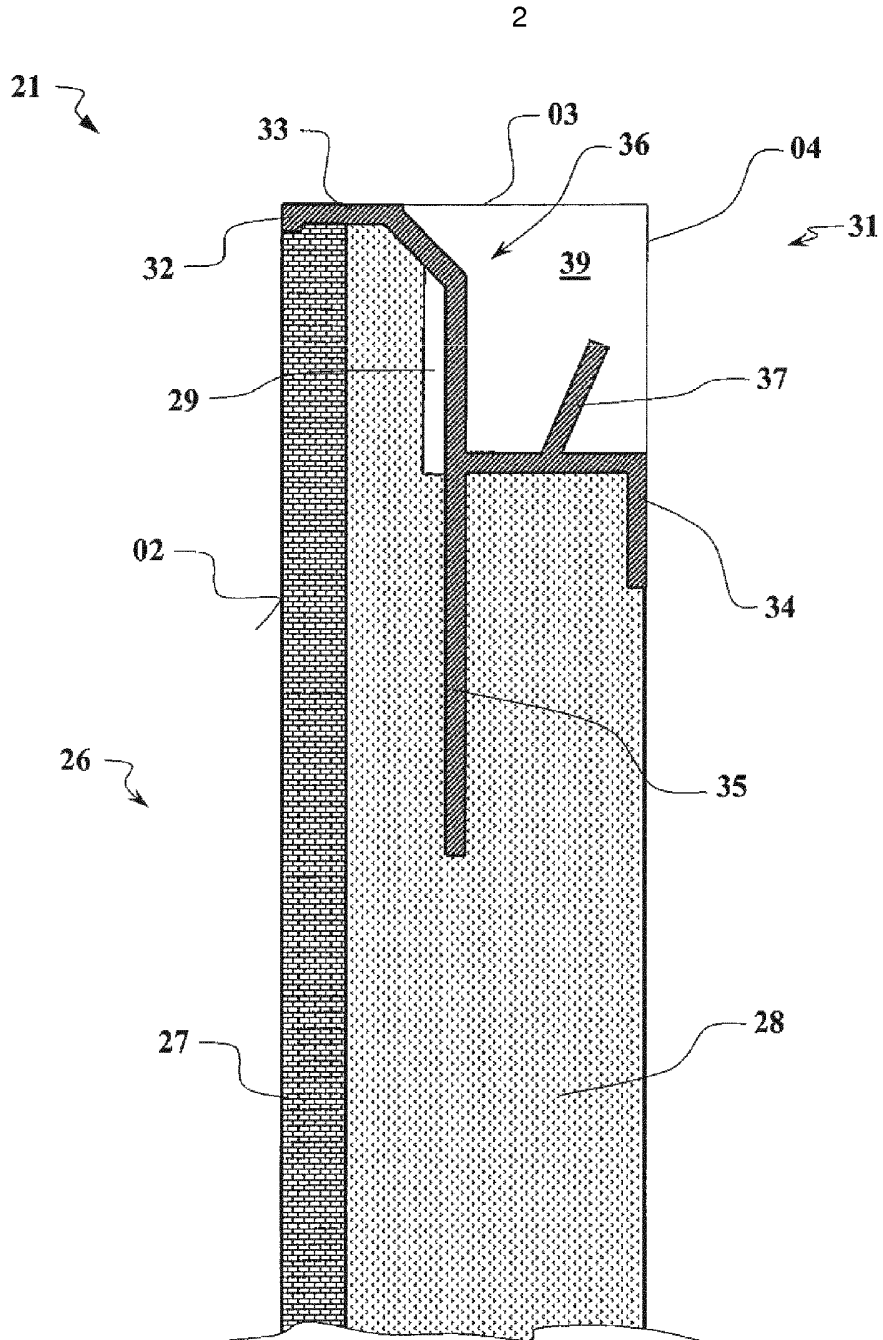


Fig. 2

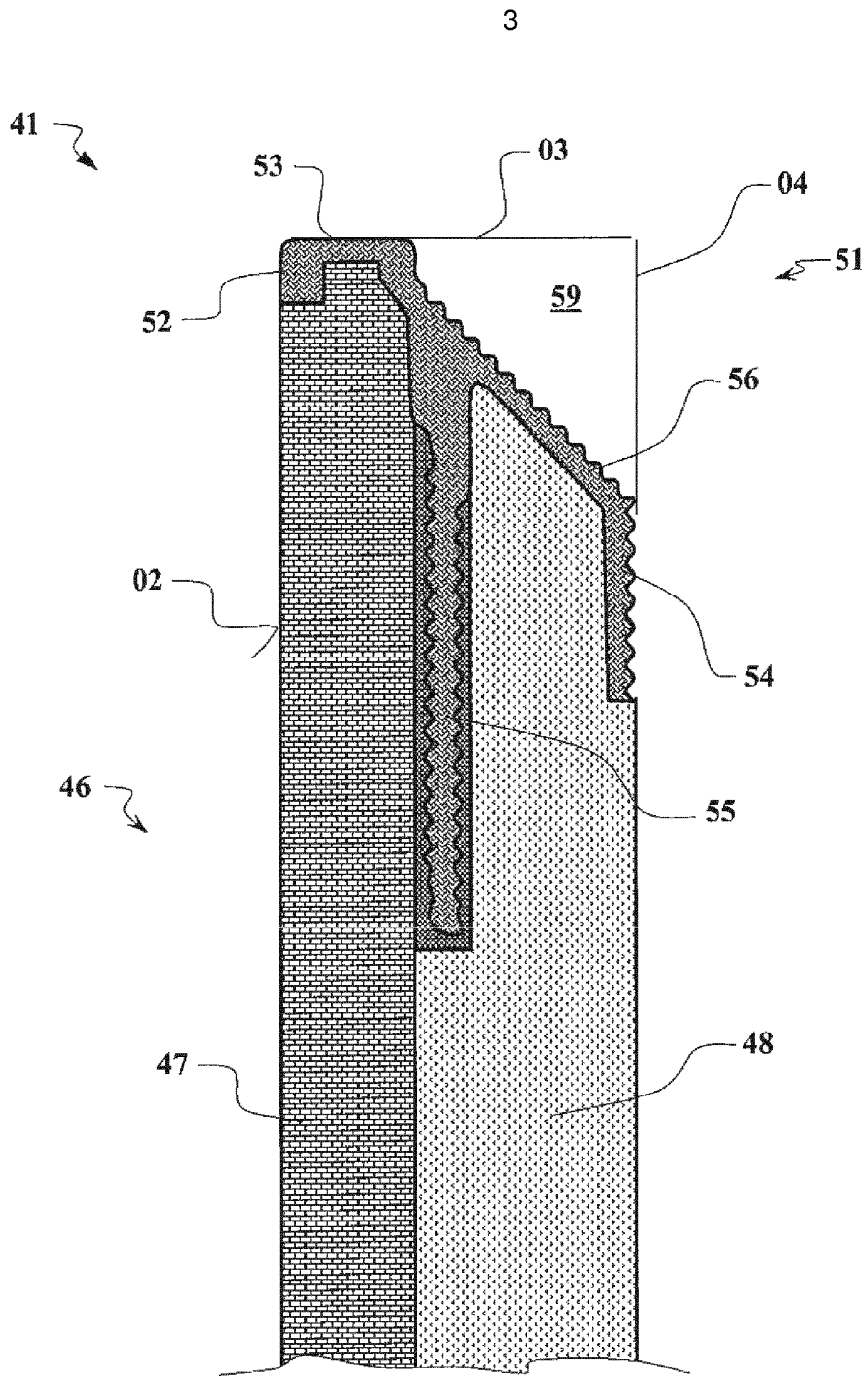


Fig. 3