FACADE AND/OR ROOF INCLUDING A SEALING STRIP WITH A FILLING PIECE

Inventors: Wolfgang Ley, Paderborn (DE); Hans-Dieter Steege, Bad Salzuflen (DE)

Correspondence Address:
Samuels, Gauthier & Stevens LLP
Suite 3300
225 Franklin Street
Boston, MA 02110 (US)

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ABSTRACT
A facade and/or light roof including a device for drainage, especially of inclined and roof glazing in post and beam construction, and including a seepage water gutter or seepage water groove within the beam section and post section, and at least one condensation gutter or condensation groove on the beam section, is characterized in that the condensation gutter or condensation groove of the beam section is guided directly into the seepage water groove of the post section, and in that this region is sealed by a filling piece.
FACADE AND/OR ROOF INCLUDING A SEALING STRIP WITH A FILLING PIECE

BACKGROUND OF THE INVENTION

[0002] The invention relates to a facade and/or a roof that includes a sealing strip with a filling piece.

[0003] In the design of facades and light roofs, condensation-collecting gutters are principally located on the beam sections which, separated from the seepage water drain, carry away the condensation in separate gutters or cavities of the post sections or sealing systems. The principal reason for this is that the inner pane level or filler level forms the critical sealing level so as to prevent the passage of interior air into the pane rabbet of the facade as far as possible. Combining the condensation gutter with the seepage water drain would automatically let warm interior air into the groove which, in the case of insulating glass panes, would increase the danger of water vapor diffusing into the space between the panes.

[0004] The aforementioned designs are not cost-effective to construct. Accordingly, it is the object of the invention to develop a cost-effective drain for water condensation. In particular, an object if the invention is to preclude any exchange of air between the interior and the glass rabbet of the facade or of the light roof in a cost effective manner.

BACKGROUND OF THE INVENTION

[0005] Broadly, the condensation gutter of the beam section is guided directly into the seepage water groove of the post section and sealed in this area by a filling piece. The filling piece is preferably designed to prevent any exchange of air while allowing condensation to pass through.

[0006] Use of these filling pieces is advantageous in those facade and light roof designs in which the condensation gutters are located in the seals for mounting the glass, and in designs in which the condensation gutters are attached in one piece to the facade sections themselves, or by using accessory sections.

[0007] The filling piece is comprised preferably of fibers, specifically in a design in which the fibers are arranged layered longitudinally in the direction of flow, or chaotically intertwined or felted. The fibers are made preferably of fiberglass or plastic, especially polyamide.

[0008] Use of a suitably fine filter structure in the filling pieces prevents any exchange of air between the interior and the drainage level. The diffusion of vapor through joints in a sealing system is not increased or negatively affected by these filling pieces. When the capillaries and spaces between fibers are filled with liquid, any vapor diffusion in this area is minimized or reduced to zero.

[0009] In one embodiment, at least one sealing strip of the beam sections and/or post sections has at least one drainage gutter, preferably, a condensation gutter. The condensation gutter is preferably molded onto the sealing strip in one piece.

[0010] The condensation gutter of the sealing strip is of a visually attractive and functional design, preferably rectangular, and preferably dimensioned according to the subjects of the additional subclaims such that it is in an especially advantageous relationship relative to the other sealing strips of the post sections.

[0011] The seals are made of an elastic material, may be easily modified using simple tools such knives and shears, and ensure a high level of sealing without special demands being placed on the worker.

[0012] The condensation gutter on the sealing strip of the stay bar visually balances the height differences of the seals relative to the post.

[0013] These and other objects, features and advantages of the present invention will become more apparent in light of the following detailed description of the preferred embodiments thereof, as illustrated in the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] FIG. 1 shows, on the left side a cross-section of the region of the beam section and, on the right side, a cross-section of a region of the post section of a first embodiment of the facade according to the invention, the left and right parts of the post sections providing different variants of embodiments merely as illustrative examples; and

[0015] FIG. 2 shows, on the left side a cross-section of a region of the beam section, and, on the right side, a cross-section of a region of the post section of a second embodiment of the facade according to the invention, the left and right parts of the post sections again providing different variants of embodiments merely as illustrative examples;

[0016] FIGS. 3 and 4 show variants of a separate drain for seepage water into the space or the cavity under the sealing strip;

[0017] FIG. 5 shows an intersection of a facade of the type seen in FIG. 1;

[0018] FIG. 6 shows an intersection of a facade of the type seen in FIG. 1 in which the sealing strip of the post section does not have a condensation gutter;

[0019] FIGS. 7-10 are top views of variants of the intersecting regions of post section and beam section;

[0020] FIGS. 11 and 12 are perspective exploded views of the intersecting regions of the sections;

[0021] FIGS. 13 and 14 show various sealing end pieces;

[0022] FIG. 15 is an enlarged cross-sectional view of a sealing strip for the beam section;

[0023] FIGS. 16-18 show various cross-sections of sealing strips for the beam and post sections;

[0024] FIGS. 19-20 are perspective views of sealing strips;

[0025] FIG. 21 is a partial exploded view of the intersecting regions of the beam section and post section in another variant;
FIG. 22 shows, on the left side a cross-section of a region of the post section, and, on the right side, a cross-section of a region of the beam section of a cover design;

FIG. 23 shows, on the left side a cross-section of a region of the post section, and, on the right side, a cross-section of a region of the beam section of another embodiment of a cover design;

FIG. 24 shows an intersecting region between the beam section and the post section;

FIGS. 25 and 26 are perspective views of sealing strips with filling pieces; and

FIGS. 27a and 27b are perspective views of filling pieces.

DETAILED DESCRIPTION OF THE DRAWINGS

FIG. 1 shows part of a facade of a metal-glass design with a metal framework comprising post sections 1, and beam sections 2 that are at an angle relative to the post section, the beam sections being mounted on post section 1.

The faces of post section 1 and beam section 2 each have a center rib 100 for the attachment of caps 101. These caps hold in-filling items such as panes, for example insulating panes 102.

Beam section 2 is clinched at the ends such that the section wall 3, which faces the insulating glass pane and forms the base for the seepage water groove 4 and sealing groove 5, rests when assembled on the sealing groove 6 of post section 1.

Viewed from the building side of the facade outward, sealing groove 6 of post section 1 is located above cavity 7. A sealing groove 6 and a cavity 7 together delimit a seepage water groove 8 of post section 1.

In a variant shown as an example in FIG. 1 on the right side of post section 1, sealing groove 6 on post section 1 may also be open at the bottom such that sealing groove 6 extends into the region of cavity 7, and sealing groove 6 is effectively integrated with cavity 7 to form a sealing groove 9 which combines the functions of the sealing groove and cavity.

Together with the actual glass mounting region 10z and the seal base 10b of beam section 2, the sealing strip 10 advantageously has a condensation gutter 11 molded on as a single piece to glass mounting region 10z, the gutter being preferably rectangular.

Condensation gutter 11 together with the groove wall facing the sealing body of sealing strip 10, adjoining the outer surface of beam section 2 forms a seal. The groove base 12 adjoins the bottom of section wall 3, and is flush and aligned with it. In principle, condensation gutter 11 may also have any other shape, such as that of a round cross-section, although the rectangular shape is preferred based on its visual appearance and stability. The essential requirement is that the gutter cross-section be dimensioned so as to create a sufficiently large water drain and sufficient stability. Another especially advantageous feature is the one-piece design of sealing strip 10. However, multi-piece variants of the sealing strip are theoretically also conceivable.

Sealing strip 10 is guided into the region of sealing strip 13 of post section 1 where it rests against a sealing corner piece 14, to which the glass mounting seal 13 of post section 1 is attached or joined.

Sealing corner piece 14 has an extension 15 matching condensation gutter 11 and interfacing with sealing strip 10 of post section 2, which extension encloses condensation gutter 11 laterally and from the bottom, thereby supporting and aligning it.

Sealing corner piece 14 includes a condensation gutter facing the beam section, which gutter discharges in the alignment region of sealing strip 13 into a closed hollow channel from which an outlet 16 is guided downward, passing through groove base 17 of sealing groove 6 and discharging into cavity 7. Alternatively, outlet 16 discharges into sealing groove 9, which is open at the bottom. In this case, outlet 16 may be eliminated so that only one outlet hole is present in the sealing body of sealing corner piece 14.

The facade designs with the new seal shown in FIG. 1 provide a cost-effective condensation drainage system of simple construction which functions reliably and separately from the seepage water drainage of seepage water gutters 4 and 8.

FIG. 2 shows a facade design in which the post section and beam section 1, 2 are unchanged from FIG. 1. Augmenting the design of FIG. 1, however, sealing strip 21 of post section 1 here also has a condensation gutter 18 molded directly onto the glass mounting region of the sealing strip, which gutter again is surrounded and supported by an extension 19 of a sealing corner piece 20.

Sealing corner piece 20 includes a type of base which engages both sealing groove 5 of the beam section and sealing grooves 6, 9 of the post section and is fixed there by a form-fitting shape.

In addition, sealing corner piece 20 has a channel aligned with condensation gutter 11 and extending this gutter, which channel passes through the leg of the sealing corner piece which is aligned with sealing strip 21.

As a result, seepage water gutter 8 of the post section is directly connected to the condensation drainage system thereby directly draining the condensation directly into the seepage water drainage system.

Sealing corner piece 20 may have a drain extension for seepage water groove 8.

In FIG. 2, the drainage systems for condensation and seepage water are no longer separated but combined into a single integrated system.

This approach reduces the exchange of air between seepage water groove 8 and condensation gutters 11, 18. For this purpose, a fibrous filter insert (filling piece) 25 is inserted into the channel that connects the condensation gutters to seepage water gutter 8 of the post section, which filter insert blocks the exchange of air while at the same time diverting the collecting condensation into the seepage water drain through adhesion and capillary action.

Both of the two different drainage systems of FIGS. 1 and 2, that is, the combined and separate drains and the placement of a condensation gutter 18 on sealing strip 21, may be used or interchanged in any way desired.
For inclined surfaces, sealing strip 10 along with its attached integrated gutter 11 for beam section 2 can be located on the top side of the beam section. In the case of lesser inclinations of the roof surfaces or facade surfaces, this seal may also be located along both sides of the beam section. The same applies also to facades in which condensation generated by the condensation gutter which appears at the top side of the beam sections may be covered and carried away.

FIG. 3 is a top view of an intersecting point of post section 1 and beam section 2. Sealing strip 21 with its integrated condensation gutter 18 is located on post 1. Sealing strips 10, 21 are connected by sealing corner piece 20. Condensation gutters 11, 18 are enclosed and supported by extensions 15, 19, with an appropriate seal being provided. In addition, appropriate enlarged bonding surfaces are provided for attaching the seals to the sealing corner piece.

FIG. 3 shows the separate drain for seepage water into space 9 or cavity 7 under sealing strip 21. The drainage channel 23, which is an extension to condensation gutter 11 leads into sealing corner piece 20 to outlet 16.

In contrast to FIG. 3, FIG. 4 shows a sealing strip, here a glass mounting seal 13 for post 1 without condensation gutter.

FIG. 5 is a top view of a facade of the type shown in FIG. 2. Drainage channel 24 in particular is readily visible in this top view of a section intersecting point, the channel being aligned with condensation gutter 11 and discharging into seepage water groove 8 of post section 1. This drainage channel is filled by the filter insert (filling piece) 25 which blocks the change of air between seepage water grooves 8, also called the rabbet cavity, and the condensation gutters, also called the interior. Only the condensation is carried away through the channels formed by the fibers by adhesion to the fibers or by capillary action.

FIG. 6 essentially matches the design of FIG. 1, the only difference being that sealing strip 13 is designed without a condensation gutter, and the drainage is effected—as in FIG. 5—via drainage channel 24 and the installed filter insert (filling piece) 25.

In FIG. 7, only sealing strip 13 is inserted in post 1. Sealing strip 10 along with condensation gutter 11 adjoins a sealing end piece 26 which extends beam seal 10 into the region of post section 1. Sealing end piece 26 engages sealing groove 5 of the beam section by a base feature and is fixed therein by seal 10. The width of sealing end piece 26 matches the overall width of sealing strip 10 including condensation gutter 11 so that, under pretension, the front face of seal 13 may form a tight fit with the outer face of sealing end piece 26. As an extension of condensation groove 11, the sealing end piece 26 includes a drainage channel 27 which may have a condensation gutter 11 located upstream from it. Drainage channel 27 discharges into outlet 16 which in turn conducts the condensation into space 9 or cavity 7 of the post section separately from the seepage water.

As in FIG. 7, FIG. 8 shows an intersecting point for post section 1 with beam section 2. Shown here is sealing end piece 28 which is provided in the overlap region between the beam section and the post, with drainage channel 27 of this end piece discharging into drainage channel 8 or into the rabbet of the post section. This sealing end piece 26 is especially well suited for inclined abutting beam sections, since sealing end piece 26 may be correspondingly sized to the abutment angle of the sections.

Sealing end piece 26 has a smooth surface facing sealing strip 13, against which surface glass mounting seal 13 may be mounted to form a tight seal. As has already been shown in FIGS. 5 and 6, discharge channel 27 is equipped with filter insert (filling piece) 25.

FIGS. 9 and 10 reveal an additional aspect of this interconnection by which sealing end piece 26 primarily supports the intersecting points at which beam section 2 adjoins the post section at an angle. For this purpose, sealing end piece 26 is longer than is required for the right-angle abutment so as to be as easily adaptable as possible to changed conditions.

FIG. 9 shows the already mentioned oblique abutment of the beam section against the post section, and thus matches FIG. 7 already described. Only sealing end piece 26 and sealing strip 13 have been adapted to the abutment angle of the sections.

FIG. 10 is a top view of an oblique abutment of the beam and the post, otherwise matching the description of FIG. 8. Only sealing end piece 28 and sealing strip 13 of the post section have been appropriately adapted to the intersection angles.

FIG. 11 is a perspective exploded view showing the design of a beam post interface of a facade. Beam section 2 overlaps stay bar section 1 in the region of the sealing groove. Level compensation is achieved by the varying height of the seal 10 and seals 13, 13.1. This height difference is effectively compensated by sealing corner piece 14. Sealing corner piece 14, and a sealing strip without a condensation gutter 18 as in FIG. 2, are shown here. Sealing corner piece 14 is clearly evident here. On its legs in the abutment region, the sealing corner piece has centering toes 29, 30, 31 which interact with the corresponding cavities of the glass mounting sections, engaging these so as to secure the relative positions of the individual components. At the same time, the toes create an enlargement of the contact surfaces for possible cementing of the components.

Either drainage outlet 16, or drainage extension 22 together with drainage channel 27 scaled by filling piece 25, may be located on sealing corner piece 14, or alternatively on sealing corner piece 20.

FIG. 12 also provides an exploded perspective view of an intersecting abutment of a beam/post facade. Sealing end piece 26 is shown in this figure, this piece similarly having a centering toe 29 which interacts with a cavity of glass mounting section 10. Glass mounting section 13 rests elastically on the outer surface of sealing end piece 26.

To implement separate drainage of condensation, sealing end piece 26 may be fitted with outlet 16, or in the event condensation is combined with the seepage water, with drainage channel 27 and filter insert (filling piece) 25.

FIG. 13 shows sealing corner piece 14, also analogously representing sealing corner piece 20, in which the same details described above may also be found. In place of drainage channel 27 and the already described sealing insert
25, the sealing corner piece must be fitted with outlet 16 for separate drainage of condensation.

[0067] The same applies to FIG. 14, which shows sealing end piece 26.

[0068] In place of sealing corner pieces or sealing end pieces, sealing strip 10 together with condensation gutter 11 may extend continuously into the overlap region of beam 2 and post 1 (not shown here). Sealing strip 13 of the post section is then guided under pretension to the outer surface of condensation groove 11, an adapter piece being inserted into condensation gutter 11 in the region of sealing strip 13, which adapter piece both equalizes the overall height up to the glass support and seals condensation gutter 11 so as to allow drainage of condensation into space 9 under sealing strip 13, or into cavity 7 via a punched hole in the groove base of condensation gutter 11.

[0069] The adapter piece may also be in the form of a channel in which filling piece 25 is located which enables drainage into the rabbet or seepage water groove 8.

[0070] Especially in this latter embodiment, but also in the embodiments of FIGS. 7, 8, 9, 10, 12, and 14 which all relate to sealing end piece 26, compensation of levels between the beam section and the post section relative to the glazing level may also be implemented by a two-part post seal 13 (see FIG. 18). The specific concept to be considered here is a combination of an aluminum base strip and matching sealing strip 10 without the condensation gutter.

[0071] The following discussion describes in more detail the design of the sealing strips, specifically the sealing strips with an attached or molded-on drainage channel.

[0072] FIG. 15 shows an enlarged cross-section of sealing strip 10 which rests at plane X on the two upper edges of sealing groove 5 and is held by form fit inside beam section 2 by the seal base. A rib 10c adjoins the sealing body—that is, the conventionally designed glass mounting region 10a with its molded-on seal base 10b engaging sealing groove 5,—which rib is directly molded on laterally to glass mounting region 10a, and has substantially the same height as glass mounting region 10a. Condensation gutter 11, which is open on the side facing the insulating glass pane but is otherwise rectangular and substantially “U-shaped,” adjoins stable web 10e which overlaps the outer lateral edge of sealing groove 5, the condensation gutter being formed by groove walls 12, 200 and groove base 130, and resting on beam section 12 by its wall or side 12 facing beam section 2. The plane Y of groove wall 12 relative to the sealing body thus forms the lateral attachment and support plane on beam section 2.

[0073] The sealing body or glass mounting region 10a has a height “a” viewed from plane X (i.e., the upper edge of sealing groove 5), while the seepage water groove has the dimension “b” starting from plane X up to the lower edge of groove base 130. The effective overall height “H” of sealing strip 13 for post section 1 is composed of the height of the glass mounting region plus the dimension “b” of the seepage water groove, that is, “a+b.”

[0074] Dimensions a and b are chosen such that groove base 130 of the seepage water groove rests on the upper edges of sealing groove 6 of the post sections. Groove wall 200 then rests vertically on groove base 130, and in this particular embodiment forms part of the support surface for sealing strip 13.

[0075] In one advantageous embodiment, the height “h” of groove wall 200 is equal to the dimension “b” of condensation gutter 11.

[0076] FIGS. 16 and 18 provide a comparison of the assembly dimensions of different seals. FIG. 16 shows sealing strip 10 for beam section 2. FIG. 17 shows sealing strip 13 for the post section; and FIG. 18 shows a combined sealing unit 13.1 for the post section. FIGS. 16 through 18 are positioned relative to each other so as to show that the glass support section 10 for the beam sections including condensation gutter 11 has the same overall height as the post seals in FIGS. 16 and 17.

[0077] The applicable formula is:

\[ H = a + b \]

[0078] In FIG. 18, the sealing strip or sealing strip 13.1 is of a two-part design, i.e., it has a sealing strip 21, made of a sealing material, and a rabbet reduction section 220 which is generally made of the same material as the beam section and post section, that is, for example, or preferably, of aluminum.

[0079] Rabbet reduction section 220 has a height b which in an especially advantageous embodiment of groove wall 200 matches seal 10.

[0080] In this configuration, sealing strip 21 may run continuously up to the groove rib or groove base 12 of sealing strip 10, the seal base of sealing strip 21 along with condensation gutter 11 being removed in the overlap region. The drainage channel thus produced is filled by filter insert (filling piece) 25, or sealed by a filling piece.

[0081] This feature ensures that there is either a condensation drain into seepage water groove 8 or a cavity under sealing strips 7, 9 of the post section.

[0082] FIG. 19 shows a part of sealing strip 10 into the end of which a seal molding 230 may be inserted in the region of condensation gutter 11. This seal molding 230 completes the condensation gutter up to the upper sealing surface of sealing strip 10, while simultaneously forming an exterior flush seal with groove wall 20 such that the sealing strip of the post section forms a smooth overall support surface ensuring a tight fit in the overlap region between beam section 2 and post section 1. In this case, sealing strip 10 is guided into the overlap region of the sections without any additional sealing corner pieces or sealing end pieces being required.

[0083] Seal molding 230 leaves a free channel free so as to allow a punched hole in the base of condensation water groove 11 to be accessible to drain the condensation.

[0084] Unlike the configuration in FIG. 19, seal molding 240 in FIG. 20 has a continuous channel to allow the condensation to be passed through into the seepage water intake of the beam section. Filter insert (filling piece) 25, comprising a synthetic polyamide filter medium, may be inserted into this exposed channel.

[0085] FIG. 21 against shows a facade intersection or region. Sealing strip 10 is again guided into the overlap
The closed attachment surface is formed by seal moldings 230, 240 and allows sealing strip 13 to form a tight seal against sealing strip 10 or condensation gutter 11. The invention is also suitable for cover designs.

FIG. 22 shows a steel post section 1001 and a steel beam section 1002. Cover sections 1003 are mounted onto and attached to steel post section 1001 and steel beam section 1002 so as to retain and align the glass mounting seals, the cover sections accommodating post cover seal 1004 and beam cover seal 1005. Cover section 1003 may be made of steel, aluminum, plastic, or even wood.

The insulating glass panes 1104 are attached by cover sections 1101 for the post, and by cover sections 1102 for the beam, as well as by retainers 1103.

Post cover seal 1004 has seepage water grooves 1006, 1007 which are delimited by the sealing wall enclosing the helical groove of the cover section and by the wall of the glass mounting region.

Post cover seal 1004 includes a seal base 1008 which is mounted onto cover section 1003 via helical channel K, and extends along the two outer sides of post section 1001 facing the insulating glass pane and under insulating glass panes 1104 where the seal base rests, supporting glass mounting regions 1009. Walls 1010 between each seal base 1008 below insulting glass pane 1104 and the region of seal 1004 located over cover section 1003 form the groove base for seepage water grooves 1006 and 1007.

The glass mounting regions 1009 are connected to seal base 1008 by integral hinges 1105 along the longitudinal edges and are thus easily detached from this base. In the separation level 1011 between seal base 1008 and glass mounting region 1009, a form-fitting attachment—here a type of slot-and-key joint 1106—may be located up to the integral hinges on the edge in the longitudinal axis of the sealing strand or sealing strip.

Walls 1010 forming the groove base for the seepage water grooves are situated significantly below separation level 1011, but are at least flush with this level. Walls 1010 are connected to each other by additional sealing walls which enclose the helical channel.

Beam cover seal 1005 is also of a one-piece design but has a “two-piece” function, the seal base 1012 being designed as sealing strips which are connected to glass mounting region 1013 by at least one integral hinge on the longitudinal side. If needed, form-fitting means—here of the type of slot-and-key joint 1106—are also provided in separation level 1011 to align the base 1012 on glass mounting region 1013. Besides integral hinge 1105, there is no other connection between seal base 1012 and glass mounting region 1013.

Glass mounting seal or cover seal 1005 has seepage water grooves 1014, 1015. These grooves are formed by walls 1016 which extend above separation level 1011 between glass mounting regions 1013 and the region of the seal covering helical channel K. The lower level of walls 1016 is aligned with separation level 1011 and the lower wall of glass mounting region 1013.

In addition, on the outside, when viewing the beam section in the installed position, there is a condensation gutter 1017 molded onto the glass mounting regions 1013 of the beam cover seal. At least one such condensation gutter 1017 is provided, and preferably two condensation gutters 1017 are molded on.

The embodiment of FIG. 22, condensation gutters 1017 consist of three rectangular facing walls; the inner wall 1017a is the outer wall of the glass mounting region, relative to which another wall 1017b is aligned with the lower side of separation level 1011 is perpendicular, onto which wall the outer wall 1017c projecting vertically from wall 1017b is molded on.

The wall of condensation gutter 1017b forming the groove base is flush with separation level 1011, that is, when condensation gutter 1017 is present, the notch along post cover seal 1004 need only be implemented along the entire width of glass mounting region 1013 including condensation gutter 1017. Both condensation gutter 1017 and seepage water grooves 1014, 1015, including glass mounting region 1013, thus rest on seal base 1006 of post cover seal 1004.

As in FIG. 1, condensation gutter 1017 and seepage water grooves 1014, 1015 here drain together into seepage water grooves 1006, 1007 of the post.

The embodiment of FIG. 23 essentially matches that of FIG. 22. In contrast to FIG. 22, however, post cover seal 1019 has a cavity 1018 in the region of seal base 1020, which may be closed on all sides, but which may also be partially open toward separation level 1011.

This arrangement allows the condensation from condensation gutter 1017 to drain into this cavity 1018. Post cover seal 1019 is guided into the base region of a facade, or into the drainage region of a light roof, thus providing a simplified means of separate drainage for seepage water and condensation. Joining cavity 1018 to condensation gutter 1017 is easily implemented by punching through the groove base of condensation gutter 1017 in the assembled state.

Glass mounting region 1013, including at least one condensation gutter 1017, is positioned simply by notching glass mounting region 1009 of post cover seal 1004, 1019. Depending on the overlap of the beam cover seal on the post cover seal, seal bases 1012, 1021 are back-notched from glass mounting region 1013.

FIG. 24 is a perspective view of a beam-post abutment in which the backing comprises a so-called double-T-beam instead of a hollow section. The condensation gutter 1017 is inserted in between the corresponding notched post cover seal 1004, 1019 in the region of glass mounting region 1009 and then tightly fitted onto glass mounting region 1009.

Particularly because of the fact that condensation groove 1017 aligns with seepage water grooves 1014, 1015 of beam cover seals 1005, 1021, that only notching of the post section is required and the seal is readily ensured.

The two drainage water systems for condensation and for seepage water are joined by condensation gutter 1017. To prevent the exchange of air between interior air and the facade glass rabbet, filling piece 1250 is inserted into the condensation groove in the overlap region of the beam and the post, as in FIG. 25, the filling piece scaling the opening.
formed between the condensation gutter, the glass pane, and the adjacent glass mounting seal of the post section.

[0105] Filling piece 1250 comprises a material which prevents the passage of air, while allowing condensation to pass through and discharge into the seepage water region of the post sections.

[0106] FIG. 26 shows an extruded-on condensation gutter 17 of the type shown in FIG. 25. Here again, the transition from the condensation gutter to the seepage water drain or rabbet of the post section is effected by a sealing adapter 1240 which is inserted into the condensation groove in the overlap region between the beam and the post. This sealing adapter 1240 has a tunnel-like channel 1500 into which filling piece 25 is again inserted to prevent the passage of air into the rabbet base of the facade, while still allowing condensation liquid to pass through into the seepage water region of the post.

[0107] Sealing adapter 1240 is preferably made of the same material as the seals themselves in order to ensure sealing against the glass in the region of the condensation passage. As with filling piece 1250 in FIG. 25, filling piece 1025 functions to prevent the exchange of air and the passage of condensation.

[0108] FIG. 25 shows filling piece 1250, the shape of which is adapted to match the condensation opening to be sealed.

[0109] Filling piece 25 in FIG. 27a comprises parallel joined fibers 1251 which are aligned in the longitudinally parallel axis of the condensation gutter. Capillary openings are formed between the fibers which cause the liquid condensation to move along the fiber surfaces due to capillary action and adhesion.

[0110] Alternatively, hollow fibers 1252 may also form the body of the filling piece, the capillaries being provided both by the space between fibers and by the hollow fibers themselves.

[0111] FIG. 27b shows a filling piece 1025 made of chaotically joined fibers into which individual fibers have been interwoven or felted. Here again, the liquid condensation moves by adhesion to the fibers, and also by capillary action, into the drainage level. The fibers may preferably consist of fiberglass, polyamide fibers, or the like.

[0112] Use of these filling pieces is appropriate for all facade designs in which condensation is combined with the seepage water.

[0113] In the event filling pieces 25, 1025 do not have sufficient elasticity to allow them to be appropriately adapted to the sealing pressures of the glass mounting seal, provision is made to locate a sealing pad or sealing strip 1253 on the side of the filling piece facing the glass pane.

REFERENCE NUMERALS

[0114] 1 post section
[0115] 2 beam section
[0116] 5 sealing groove
[0117] 6 sealing groove
[0118] 7 cavity
[0119] 8 collection grooves
[0120] 9 sealing pad
[0121] 10 sealing strips
[0122] 11 condensation gutter
[0123] 12 groove wall
[0124] 13 sealing strips
[0125] 13.1 sealing strips
[0126] 14 sealing corner piece
[0127] 15 extension
[0128] 16 outlet
[0129] 18 condensation gutter
[0130] 19 extension
[0131] 20 sealing corner piece
[0132] 21 sealing strip
[0133] 22 drainage extension
[0134] 23 drainage channel
[0135] 24 drainage channel
[0136] 25 filling piece
[0137] 26 sealing end piece
[0138] 27 drainage channel
[0139] 28 sealing end piece
[0140] 29 centering toes
[0141] 30 centering toes
[0142] 31 centering toes
[0143] 102 insulation glass panes
[0144] 130 groove base
[0145] 1200 groove wall
[0146] 1220 rabbit reduction section
[0147] 1230 sealing molding
[0148] 1240 sealing molding
[0149] 1250 filling piece
[0150] 1255 integral hinge
[0151] 1256 slot-and-key joint
[0152] 1251 fibers
[0153] 1252 fibers
[0154] 1253 sealing strips
[0155] 1500 channel
[0156] 1001 steel post section
[0157] 1002 steel beam section
[0158] 1003 cover sections
[0159] 1004 post cover seal
[0160] 1005 beam cover seal
[0161] 1006,7 seepage water grooves
What is claimed is:

1. Facade and/or light roof including a device for drainage, especially of inclined and roof glazing in post and beam construction, and including a seepage water gutter or seepage water groove within the beam section and post section, and at least one condensation gutter or condensation groove on the beam section, characterized in that the condensation gutter or condensation groove of the beam section (2) is guided directly into the seepage water groove of the post section (1), and in that this region is sealed by a filling piece (25, 1025, 1250).

2. Facade and/or light roof according to claim 1, characterized in that the filling piece (25, 1025, 1250) is designed to prevent an exchange of air, yet permit the passage of condensation.

3. Facade and/or light roof according to claim 2, characterized in that the filling piece (25, 1025, 1250) is made of fibers (251, 252).

4. Facade and/or light roof according to claim 3, characterized in that the fibers (251, 252) are aligned in the direction of flow.

5. Facade and/or light roof according to claim 4, characterized in that the fibers are chaotically intertwined or felted.

6. Facade and/or light roof according to claim 5, characterized in that the fibers are made of fiberglass or plastic, especially polyamide, and/or that the fibers are wood fibers.

7. Facade and/or light roof according to claim 6, characterized in that the filling piece is located in a sealing adapter.

8. Facade and/or light roof according to claim 7, characterized in that the filling piece facing the pane is overlaid with an elastic scaling pad (9) to support the pane.

9. Facade and/or light roof according to claim 8, characterized in that the facade and/or light roof is provided with a metal framework, the frame bays of which may be preferably provided with insulating glass panes, wherein the metal framework has post sections (1) and beam sections (2) that are at an angle relative to the post sections;

the post sections and beam sections have scaling grooves (5, 6, 9) for sealing strips (10, 13, 13.1) on which the insulating glass panes may rest;

in addition, the post sections and beam sections have collection grooves (8) for seepage water;

the bases of the scaling grooves (5) for the scaling strips (10), and preferably the bases of the collection grooves (8) for the seepage water of the beam sections (2), rest on the sealing grooves (6, 9) of the scaling strips (13, 13.1) of the post sections (1); and

the one-piece or multi-piece scaling strips (13, 13.1) of the post sections have a greater overall height than the scaling strips (10) of the beam sections so that the scaling strips (10, 13, 13.1) of the beam-and-post sections terminate at a common level;

at least one or several of the scaling strips (10, 13, 13.1) of the beam sections (1) and/or of the post sections (2) has or have a drainage channel, preferably, a condensation gutter (11, 18).

10. Facade and/or roof according to claim 9, characterized in that the condensation gutter (11) is connected to the seepage water gutter (8) of the post-section, the filling piece being inserted as a filter insert (25) into the connecting region.

11. Facade or roof according to claim 10, characterized in that the condensation gutter is molded onto the sealing strip (10, 13, 13.1) as a single piece.

12. Facade or roof according to claim 11, characterized in that the condensation gutter (11) of the sealing strip (10) of the beam section extends directly or indirectly into the glass mounting region of the post section, and is designed to drain into grooves of the post section.

13. Facade or roof according to claim 12, characterized in that drainage occurs into the condensation drainage grooves or seepage water drainage grooves or cavities of the post sections (2).

14. Facade or roof according to claim 13, characterized in that the sealing groove (6) is located above a cavity (7), or is integrated in one piece with this cavity.

15. Facade or roof according to claim 14, characterized in that the condensation gutter (11, 18) has an angular, preferably, rectangular, especially U-shaped cross-section, or a round or prismatic cross-section.

16. Facade or roof according to claim 1, characterized in that the facade and/or roof is provided with a metal frame-
work, the frame bays of which may preferably be provided with insulating glass panes, wherein

a) the metal framework has post sections and beam sections that are at an angle to the post sections;

b) cover seals are mounted on the post sections and beam sections;

c) the cover seals for the post sections and beam sections each have:

at least one sealing base and at least one glass mounting region;

seepage water grooves in the pane rabbet;

and a common separation level between the sealing base and the glass mounting region so as to allow a mutual notching of the cover seals, and an overlapping of the glass mounting regions of the beam sections on the sealing base of the post sections;

characterized in that
d) at least one glass mounting region (1013) of the cover seals (1005) of the beam sections (1002) is provided with at least one condensation gutter (1017).

17. Facade or roof according to claim 1, characterized in that the condensation gutter (1017) is molded onto the glass mounting region (1013) as a single piece.

18. Facade or roof according to claim 2, characterized in that the condensation gutter (1017) has a groove base (1017b) which is aligned with the separation level (1011).

19. Facade or roof according to claim 1, characterized in that a sealing adapter (1024) is located in the overlap region with the post cover seal (1064), which adapter has a channel in which a filter insert (1025) is inserted which is designed to prevent an exchange of air between the seepage water region and the interior region, and which discharges the condensation fluid into the seepage water region.

20. Facade or roof according to claim 1, characterized in that the sealing adapter and filter insert (1025) is designed as a single piece.

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