A roof pass-through and method for the production of same. The abstract of the disclosure is submitted herewith as required by 37 C.F.R. §1.72(b). As stated in 37 C.F.R. §1.72(b): A brief abstract of the technical disclosure in the specification must commence on a separate sheet, preferably following the claims, under the heading “Abstract of the Disclosure.” The purpose of the abstract is to enable the Patent and Trademark Office and the public generally to determine quickly from a cursory inspection the nature and gist of the technical disclosure. The abstract shall not be used for interpreting the scope of the claims. Therefore, any statements made relating to the abstract are not intended to limit the claims in any manner and should not be interpreted as limiting the claims in any manner.
ROOF PASS-THROUGH AND METHOD FOR THE PRODUCTION OF SAME

BACKGROUND

1. Technical Field

This application relates to a roof pass-through and method for its production according to a roof pass-through with a roof tile having an insert opening and an adapter ring for the installation of standardized top attachments, the adapter ring including a lead-through collar which can at least be partially introduced into the insert opening, and a method for the production of a roof pass-through.

2. Background Information

A roof is sometimes covered with roof tiles, the roof tiles adjacent in a row parallel to the roof ridge being connected via their cover- and water beadings with one another, while the roof tiles laid out in a ridge-drip line cover each other in the form of scales. In this manner, a closed rain-tight roof skin is formed, which, however must be punctured through for guiding so-called riser structures, such as for example vent pipes, antennas, fume lines or the like, through it. To keep the risk of leakages to a minimum, so-called roof pass-throughs are utilized, which have at their two longitudinal margins one cover- and one water beading each and are provided at their head- or foot-side margin with hook-in noses or overlay ribs. In this way the roof pass-throughs can be optimally integrated when covering the roof with tiles.

A roof pass-through may be provided in its central region with a pass-through opening, through which the riser structure is guided to the outside. The roof pass-through additionally has in its center a top attachment which, on the one hand, guides the riser structure and, on the other hand, shields the pass-through opening such that it is rain-tight.

Known is a roof sealing plate for the installation of antennas and roof uprights comprised of an elastic synthetic material (German Patent No. 1779171 U). This synthetic material, possibly polyethylene or polyvinyl chloride, is injection-formed and provided with a cone. The tip of the cone can be separated such that antennas of different diameters can be guided through it.

A ventilation top attachment is also known, which includes a tube provided in the proximity of its upper end with outlet slots (German Patent No. 18 46 788 U). Standardized top attachments often cannot be disposed on the ventilation top attachment.

A vent pipe ventilation arrangement for sloping building roofs is furthermore known (German Patent No. 90 04 653 U1). This ventilation arrangement is often also not suitable for the disposition of top attachments.

A further known arrangement comprises an outlet pipe, a sealing ring and a connection pipe (German Patent No. 198 06 712 C1). This arrangement does not include an adapter ring.

Further known is a venting arrangement for a sloping roof, which comprises a base plate with an outlet fitting disposed on its top side and a cover hood covering the outlet fitting (German Patent No. 39 14 025 A1). The base plate is here flat and has a greater width than a roof tile.

In the case of a further ventilation element for use of building roofs a vent pipe is provided, which comprises a pipe piece forming at an upper end a ventilation opening protected by a covering cap and open at the other end (German Patent No. 20 2004 009 255 U1). Between the covering cap and the other end of the pipe piece a flange projecting from the latter is provided.

A roof pass-through integrable between the roof tiles is disclosed in International Publication No. WO 93/02262. The roof pass-through is produced of synthetic material in an injection molding process and implemented such that it corresponds to the form of a roof tile. It is comprised of two shells, the lower shell including a connection fitting for a venting pipe and the upper shell being provided with a top attachment formed as a calotte for a vent pipe.

German Patent No. 101 32 934 A1 describes a further roof pass-through, which comprises a base plate implemented as a roof tile with a lead-through collar on which a bellows-like hood collar can be fastened, through which a venting pipe is guided to the outside. The base plate may be comprised of synthetic material or concrete.

Further roof pass-throughs with top attachments adaptable to the pitch of the roof are described in German Patent No. 7411996 U and German Patent No. 7412053 U. The roof pass-throughs include a roof tile provided with an insert opening, in which the insert opening is encompassed by a lead-through collar. The top attachment has the shape of a venting pipe or antenna pass-through and covers over the lead-through collar of the roof tile.

The production of roof pass-throughs in injection molding processes is relatively cost-intensive, due, on the one hand, to the high material costs and, on the other hand, due to the large-format injection molding forms. If, in contrast, the roof pass-throughs are produced of concrete, the application of a lead-through collar represents considerable fabrication and working expenditures.

OBJECT OR OBJECTS

An object of at least one possible embodiment of the present application is to accomplish a roof pass-through optimally integrable in the roof edge, which is cost-effective and simple in production and furthermore is suitable for the application of different top attachments.

SUMMARY

An object of at least one possible embodiment of the present application may be achieved according to the characteristics of a roof pass-through, wherein the lead-through collar is provided with an outer ring adapted to the surface contour of the roof tile, and that the lead-through collar includes a lower section which can be introduced into the insert opening, which section is provided with fixing elements for the positioning of the adapter ring on the roof tile and/or a method for the production of a roof pass-through, wherein a roof tile is provided with an insert opening, on one side of an outer ring of an adapter ring a connection means is applied, the adapter ring comprising a lead-through collar is introduced with this lead-through collar into the insert opening, the adapter ring provided with fixing elements is positioned by means of these fixing
elements relative to the roof tile and the side provided with the connection means of the outer ring is pressed against the surface of the roof tile.

[0018] At least one possible embodiment of the present application consequently relates to a roof pass-through and a method for its production. The roof pass-through has or may have a roof tile, which, for example, is or can be provided with a hole by means of a water jet. The lead-through collar of an adapter ring is or can be slid through this hole. The lead-through collar has or may have a ring, whose contour is or could be adapted to the contour of the roof tile. In addition, fixing elements are or may be provided on it, with which it can be positioned on the roof tile. Standardized top attachments can be connected with the adapter ring.

[0019] In the case of one embodiment of the roof pass-through a conventional roof tile of concrete or clay is or can be utilized, into which the insert opening is or may be subsequently introduced. This can take place for example with an angle grinder or even possibly with a high-pressure water jet. Expensive injection molding forms for the production of a base plate integratable into a roofage—as are required in the known roof pass-throughs—are therewith not necessary. The lead-through collar is or can be located on the adapter ring, and the adapter ring can be placed with its outer ring adapted to the surface contour of the roof tile flat onto the upper side of the roof tile. In this way the manual production of roof tiles with a lead-through collar encompassing the insert opening becomes superfluous.

[0020] In order to effect an impermeable or substantially impermeable connection between the adapter ring and the roof tile, a connection means, for example a single-component adhesive or butyl adhesive, is or may be applied onto the outer ring. After the introduction of the adapter ring into the insert opening, it is no longer required to wait for the connection means to cure, for the adapter ring is held in position by the fixing elements, such that in the production no waiting times and additional working expenditures accrue. On the adapter ring the desired top attachment can be mounted immediately or essentially immediately and the completely assembled roof pass-through can be transferred for packaging.

[0021] The top attachments utilized for the production of the roof pass-through can be implemented for example as antenna pass-through, sanitary vents, fume pipe pass-through or the like. However, with respect to the region connectable with the adapter ring, the different top attachments are or can be standardized, such that the different top attachments are always compatible or generally always or generally compatible with the adapter ring. In this way the roof pass-through can be formed in any manner or a manner or manners desired according to the demands of the market.

[0022] The assembly of the roof pass-through is facilitated thereby that the adapter ring includes or may include snap-in elements, with which the top attachments can be firmly fixed on the adapter ring.

[0023] An especially reliable or substantially reliable or a connection is obtained if the snap-in elements of the adapter ring cooperate with counterelements on the standardized top attachments. The counterelements can therein be implemented in the form of tabs or eyes.

[0024] The above-discussed embodiments of the present invention will be described further hereinbelow. When the word "invention" or "embodiment of the invention" is used in this specification, the word "invention" or "embodiment of the invention" includes "inventions" or "embodiments of the invention", that is the plural of "invention" or "embodiment of the invention". By stating "invention" or "embodiment of the invention", the Applicant does not in any way admit that the present application does not include more than one patentably and non-obviously distinct invention, and maintains that this application may include more than one patentably and non-obviously distinct invention. The Applicant hereby asserts that the disclosure of this application may include more than one invention, and, in the event that there is more than one invention, that these inventions may be patentable and non-obvious one with respect to the other.

**BRIEF DESCRIPTION OF THE DRAWINGS**

[0025] At least one possible embodiment of the present application is explained in greater detail below and is illustrated in the accompanying figures. In the drawings:

[0026] FIG. 1 is a perspective side view of an adapter ring for a roof pass-through;

[0027] FIG. 2 is view of the adapter ring according to FIG. 1 with view in direction A according to FIG. 1;

[0028] FIG. 3 is a view of the underside of the adapter ring according to FIG. 1;

[0029] FIG. 4 is a perspective view of the adapter ring inserted into a roof tile;

[0030] FIG. 5 shows a section through the adapter ring set into the roof tile according to FIG. 4 along B-B; and

[0031] FIG. 6 is an exploded drawing of the roof pass-through with the adapter ring according to FIG. 4 as well as a standardized top attachment.

**DESCRIPTION OF EMBODIMENT OR EMBODIMENTS**

[0032] FIG. 1 depicts a perspective side view of an adapter ring 1 for the application of standardized top attachments on a roof tile, a standardized top attachment not being shown.

[0033] In at least one possible embodiment of the present application, the adapter ring 1 includes a lead-through collar 3 encompassing a lead-through opening 2, on whose outer side 4 an outer ring 5 is disposed. On the section 6 of the lead-through collar 3 disposed beneath the outer ring 5 several fixing elements 7, 8, 9 are located. The lead-through collar 3 can have the cross-sectional shape of an ellipse, however, it may also be circular or n-gonal or polygonal.

[0034] On the inside 10 of the lead-through collar 3 is disposed an inner ring 11, and beneath this inner ring 11 several snap-in elements are located, of which only the snap-in elements 12, 13 are visible.

[0035] FIG. 2 shows a front view of the adapter ring 1 according to FIG. 1 with view in direction A according to FIG. 1. Again, the lead-through collar 3 can be seen with the outer ring 5, which divides the lead-through collar 3 into an upper section 15 and a lower section 6.

[0036] At the sides of the lower section 6 the adapter ring 1 has several opposing fixing elements 9, 14. These fixing elements 9, 14 serve for fixing the adapter ring 1 on a roof
tile not shown here, with the adapter ring 1 introduced into an insert opening worked into the roof tile, such that the roof tile is at least partially disposed in region 16, 17, i.e. between the fixing elements 9, 14 and the outer ring 5.

[0037] FIG. 3 shows the underside of the adapter ring 1 depicted in FIG. 1. The inner ring 11 disposed on the lead-through collar 3 can be seen as well as the outer ring 5. Above the inner ring 11 are visible four snap-in elements 12, 13, 20, 21 on the lead-through collar 3. These snap-in elements 12, 13, 20, 21 serve for forming a firm connection with counterelements especially provided for this purpose on a standardized top attachment. Slipping of the top attachment, not shown here, is consequently no longer possible.

[0038] These snap-in elements 12, 13, 20, 21 are disposed symmetrically or essentially symmetrically on the lead-through collar 3. An odd number of the snap-in elements disposed on lead-through collar 3 is also conceivable.

[0039] Furthermore, the fixing elements 7 to 9, 14, 18, 19 attached on the lower section 6 of lead-through collar 3 can be seen, which are disposed symmetrically or essentially symmetrically with respect to one another.

[0040] The side 22 shown here of outer ring 5 is provided with an adhesive agent 32. Since the adapter ring 1 rests with side 22 of the outer ring 5 on the top side of the roof tile, the adapter ring 1 is not only firmly connected with the roof tile via the fixing elements 7 to 9, 14, 18, 19, but also by means of the adhesive agent. The adhesive agent moreover effects a water-tight connection between the adapter ring 1 and the roof tile.

[0041] Thereby that the adapter ring 1 is fastened on the roof tile via the fixing elements 7 to 9, 14, 18, 19, it is not necessary to store the roof tile with the adapter ring 1 fastened thereon in an indestructible in order for the adhesive agent 32 to cure, but rather the roof tile with the adapter ring 1 can be employed directly for the roofing. The adhesive agent 32 can thus also cure after the installation of the roof tile in the roof.

[0042] The fixing elements 7 to 9, 14, 18, 19 therewith fulfill two functions. For one, they stabilize the adapter ring 1 with a standardized top attachment fastened thereon and, for another, they relieve the adhesive agent 32 of load.

[0043] FIG. 4 is a perspective view of the adapter ring 1 set into an insert opening of a roof tile 23. Before the adapter ring 1 can be set into the roof tile 23, an insert opening is cut into the roof tile 23, for example, with a high-pressure water jet. This insert opening is of a size which ensures or essentially ensures that the adapter ring 1, for one, rests at least partially with the outer ring 5 on the roof tile 23 and that, for another, the adapter ring 1 is fixed in the roof tile 23 via the fixing elements 7 to 9, 14, 18, 19.

[0044] The adapter ring 1 rests in such a manner that the entire side 22 of the outer ring 5 is in contact or substantially in contact over a large area with the roof tile 23.

[0045] As depicted in FIG. 4, the adapter ring 1 has for this purpose a shape adapted to the surface contour of roof tile 23, which ensures or substantially ensures that the outer ring 5 at each site is in contact with the roof tile 23.

[0046] FIG. 5 shows a section B-B through the adapter ring 1 according to FIG. 4 set into the roof tile 23. The inner ring 11 with the snap-in elements 13, 20 disposed below it can be seen with the snap-in elements 13, 20 being located opposite or substantially opposite one another.

[0047] As can here be seen again, the lead-through collar 3 has a form adapted to the surface contour of roof tile 23. The roof tile, of which only a segment is shown here, is enclosed between outer ring 5 and the fixing elements and only the fixing elements 8, 18 are visible here. The distance between the side 22 of outer ring 5 and the fixing elements 8, 18 corresponds approximately to the thickness of roof tile 23.

[0048] Between the outer ring 5 resting in contact on the upper side of roof tile 23 and the roof tile, is shown a water-tight adhesive connection 32.

[0049] The adapter ring 1 is comprised of a material, for example synthetic material, which has a certain flexibility. The flexibility in the lower section 6 of the lead-through collar 3 should be of such extent that the fixing elements 8, 18 of this lower section 6 do not break off when the lead-through collar 3 is set into the insert opening of roof tile 23. Consequently, it must be ensured that the fixing elements 8, 18 can be pressed in the direction of the lead-through opening 2 when the lower section 6 of lead-through collar 3 is slid in, and then move outwardly again in order to enclose the roof tile 23 together with the outer ring 5.

[0050] FIG. 6 depicts an exploded view of a roof pass-through, which is comprised of a roof tile 23 and the adapter ring 1 according to the FIG. 4 and which can be assembled with a standardized top attachment 25. Shown are the roof tile 23 with the insert opening 24 cut in as well as the adapter ring 1.

[0051] The lead-through collar 3 of the adapter ring 1 includes in the lower section 6 the fixing elements 7 to 9, 14, 18, 19. Shown is additionally the outer ring 5, which is provided at its underside with an adhesive agent and is placed onto the roof tile 23. The lower section 6 of the lead-through collar 3 is guided through the insert opening 24, such that the adapter ring 1 is fastened on the roof tile 23 by means of the fixing elements 7 to 9, 14, 18, 19.

[0052] Shown is also the inner ring 11 with the snap-in elements disposed beneath. Only the snap-in elements 20, 21 are shown.

[0053] Above the adapter ring 1 the standardized top attachment 25 is depicted, the top attachment 25 being a venting element with a hood 26 and a pipe 27 which can be guided through the lead-through opening 2 of lead-through collar 3.

[0054] In at least one possible embodiment of the present application, the standardized top attachment 25 includes a hood 26, covering the lead-through opening 2 of adapter ring 1, and counterelements 28, 29 for the locking with the adapter ring 1, which are comprised of a flexible material, for example synthetic material. By means of these counterelements 28, 29 the standardized top attachment 25 can be firmly connected with the snap-in elements 12, 13, 20, 21 disposed on adapter ring 1. In at least one possible embodiment of the present application, the counterelements 28, 29 include eye-form openings 30, 31, into which the snap-in elements 12, 13, 20, 21 can engage.
When the roof tile 23, the adapter ring 1 and the standardized top attachment 25 are to be joined together, the following approach is used:

First, into the roof tile 23 is cut an insert opening 24. On the side 22 of outer ring 5 subsequently an adhesive agent 32 is applied and the adapter ring 1 is subsequently with the lower section 6 of lead-through collar 3 introduced into the insert opening 24 until the outer ring 5 with its side 22 lies in contact on the roof tile 23 such that a large-area and water-tight adhesive connection is formed. The roof tile 23 is positioned between the outer ring 5 and the fixing elements 7 to 9, 14, 18, 19.

Lastly, the standardized top attachment 25 is placed onto the adapter ring 1. The top attachment 25 is only then disposed firmly on the adapter ring 1 when the snap-in elements 12, 13, 20, 21 have engaged into the counterelements 28, 29.

At least one possible embodiment of the present application relates to a roof pass-through and a method for its production. The roof pass-through comprises a roof tile, which is provided with a hole for example by means of a water jet. Through this hole is slid a lead-through collar of an adapter ring. The lead-through collar comprises a ring, whose contour is adapted to the contour of the roof tile. On it are additionally provided fixing elements, with which it can be positioned on the roof tile. Standardized top attachments can be connected with the adapter ring.

One feature or aspect of an embodiment is believed at the time of the filing of this patent application to possibly reside broadly in a roof pass-through with a roof tile 23 having an insert opening 24 and an adapter ring 1 for the installation of standardized top attachments 25, the adapter ring 1 including a lead-through collar 3 which can at least be partially introduced into the insert opening 24, wherein the lead-through collar 3 is provided with an outer ring 5 adapted to the surface contour of the roof tile 23, and that the lead-through collar 3 includes a lower section 6 which can be introduced into the insert opening 24, which section is provided with fixing elements 7-9, 14, 18, 19 for the positioning of the adapter ring 1 on the roof tile 23.

Another feature or aspect of an embodiment is believed at the time of the filing of this patent application to possibly reside broadly in the roof pass-through, wherein the fixing elements 7-9, 14, 18, 19 are disposed symmetrically with respect to one another.

Yet another feature or aspect of an embodiment is believed at the time of the filing of this patent application to possibly reside broadly in the roof pass-through, wherein the fixing elements 7-9, 14, 18, 19 are disposed beneath the outer ring 5.

Still another feature or aspect of an embodiment is believed at the time of the filing of this patent application to possibly reside broadly in the roof pass-through, wherein the fixing elements 7-9, 14, 18, 19 can be placed in contact on the wall of the insert opening 24 and hereby establish a clamping connection.

A further feature or aspect of an embodiment is believed at the time of the filing of this patent application to possibly reside broadly in the roof pass-through, wherein the lower section 6 of the lead-through collar 3 projects beyond the underside of the roof tile 23 and the fixing elements 7-9, 14, 18, 19 can be placed against the underside and consequently extend beneath them.

Another feature or aspect of an embodiment is believed at the time of the filing of this patent application to possibly reside broadly in the roof pass-through, wherein the outer ring 5 includes a side 22 at least partially in contact on the roof tile 23, which side is provided with an adhering and sealing connection means 32.

Yet another feature or aspect of an embodiment is believed at the time of the filing of this patent application to possibly reside broadly in the roof pass-through, wherein the lead-through collar 3 is implemented in the form of an ellipse.

Still another feature or aspect of an embodiment is believed at the time of the filing of this patent application to possibly reside broadly in the roof pass-through, wherein the snap-in elements 12, 13, 20, 21 are disposed opposite one another.

Another feature or aspect of an embodiment is believed at the time of the filing of this patent application to possibly reside broadly in the roof pass-through, wherein the snap-in elements 12, 13, 20, 21 are disposed symmetrically to one another beneath an inner ring 11 located on the lead-through collar 3.

Yet another feature or aspect of an embodiment is believed at the time of the filing of this patent application to possibly reside broadly in the roof pass-through, wherein the snap-in elements 12, 13, 20, 21 cooperate with counterelements 28, 29 disposed on the standardized top attachments 25.

Still another feature or aspect of an embodiment is believed at the time of the filing of this patent application to possibly reside broadly in a method for the production of a roof pass-through, wherein a roof tile 23 is provided with an insert opening 24, on one side 22 of an outer ring 5 of an adapter ring 1 a connection means 32 is applied, the adapter ring 1 comprising a lead-through collar 3 is introduced with this lead-through collar 3 into the insert opening 24, the adapter ring 1 provided with fixing elements 7-9, 14, 18, 19 is positioned by means of these fixing elements 7-9, 14, 18, 19 relative to the roof tile 23, the side 22 provided with the connection means 32 of the outer ring 5 is pressed against the surface of the roof tile 23.

A further feature or aspect of an embodiment is believed at the time of the filing of this patent application to possibly reside broadly in a method for the production of a roof pass-through, wherein the insert opening 24 is cut into the roof tile 23 by means of a high-pressure water jet.

Another feature or aspect of an embodiment is believed at the time of the filing of this patent application to possibly reside broadly in a method for the production of a roof pass-through, a standardized top attachment 25 is placed onto it.
The components disclosed in the various publications, disclosed or incorporated by reference herein, may possibly be used in possible embodiments of the present application, as well as equivalents thereof.

The purpose of the statements about the technical field is generally to enable the Patent and Trademark Office and the public to determine quickly, from a cursory inspection, the nature of this patent application. The description of the technical field is believed, at the time of the filing of this patent application, to adequately describe the technical field of this patent application. However, the description of the technical field may not be completely applicable to the claims as originally filed in this patent application, as amended during prosecution of this patent application, and as ultimately allowed in any patent issuing from this patent application. Therefore, any statements made relating to the technical field are not intended to limit the claims in any manner and should not be interpreted as limiting the claims in any manner.

At least one possible embodiment of the present application relates to a roof pass-through and a method for its production wherein a roof tile 23 is provided with an insert opening 24, on one side 22 of an outer ring 5 of an adapter ring 1 a connection means 32 is applied, the adapter ring 1 comprising a lead-through collar 3 is introduced with this lead-through collar 3 into the insert opening 24, the adapter ring 1 provided with fixing elements 7-9, 14, 18, 19 is positioned by means of these fixing elements 7-9, 14, 18, 19 relative to the roof tile 23, and the side 22 provided with the connection means 32 of the outer ring 5 is pressed against the surface of the roof tile 23.

The appended drawings in their entirety, including all dimensions, proportions and/or shapes in at least one embodiment of the present application, are accurate and are hereby included by reference into this specification.

An object of at least one possible embodiment of the present application may be achieved according to the characteristics of a roof pass-through with a roof tile 23 having an insert opening 24 and an adapter ring 1 for the installation of standardized top attachments 25, the adapter ring 1 including a lead-through collar 3 which can at least be partially introduced into the insert opening 24, wherein the lead-through collar 3 is provided with an outer ring 5 adapted to the surface contour of the roof tile 23, and that the lead-through collar 3 includes a lower section 6 which can be introduced into the insert opening 24, which section is provided with fixing elements 7-9, 14, 18, 19 for the positioning of the adapter ring 1 on the roof tile 23 and/or a method for the production of a roof pass-through, wherein a roof tile 23 is provided with an insert opening 24, on one side 22 of an outer ring 5 of an adapter ring 1 a connection means 32 is applied, the adapter ring 1 comprising a lead-through collar 3 is introduced with this lead-through collar 3 into the insert opening 24, the adapter ring 1 provided with fixing elements 7-9, 14, 18, 19 is positioned by means of these fixing elements 7-9, 14, 18, 19 relative to the roof tile 23, the side 22 provided with the connection means 32 of the outer ring 5 is pressed against the surface of the roof tile 23.

The background information is believed, at the time of the filing of this patent application, to adequately provide background information for this patent application. However, the background information may not be completely applicable to the claims as originally filed in this patent application, as amended during prosecution of this patent application, and as ultimately allowed in any patent issuing from this patent application. Therefore, any statements made relating to the background information are not intended to limit the claims in any manner and should not be interpreted as limiting the claims in any manner.

All, or substantially all, of the components and methods of the various embodiments may be used with at least one embodiment or all of the embodiments, if more than one embodiment is described herein.

The purpose of the statements about the object or objects is generally to enable the Patent and Trademark Office and the public to determine quickly, from a cursory inspection, the nature of this patent application. The description of the object or objects is believed, at the time of the filing of this patent application, to adequately describe the object or objects of this patent application. However, the description of the object or objects may not be completely applicable to the claims as originally filed in this patent application, as amended during prosecution of this patent application, and as ultimately allowed in any patent issuing from this patent application. Therefore, any statements made relating to the object or objects are not intended to limit the claims in any manner and should not be interpreted as limiting the claims in any manner.

All of the patents, patent applications and publications recited herein, and in the Declaration attached hereto, are hereby incorporated by reference as if set forth in their entirety herein.

The summary is believed, at the time of the filing of this patent application, to adequately summarize this patent application. However, portions or all of the information contained in the summary may not be completely applicable to the claims as originally filed in this patent application, as amended during prosecution of this patent application, and as ultimately allowed in any patent issuing from this patent application. Therefore, any statements made relating to the summary are not intended to limit the claims in any manner and should not be interpreted as limiting the claims in any manner.

It will be understood that the examples of patents, published patent applications, and other documents which are included in this application and which are referred to in paragraphs which state “Some examples of . . . which may possibly be used in at least one possible embodiment of the present application . . .” may possibly not be used or useable in any one or more embodiments of the application.

The sentence immediately above relates to patents, published patent applications and other documents either incorporated by reference or not incorporated by reference.

The corresponding foreign and international patent publication applications, namely, Federal Republic of Germany Patent Application No. 10 2006 003 478.3, filed on Jan. 25, 2006, having inventor(s) Michael NEUSCHÄFER, Dirk WILLEN, Gerrd HERDEL, Evan PARRY, and Wendelin WANNER, and DE-OS 10 2006 003 478.3 and DE-PS 10 2006 003 478.3, are hereby incorporated by reference as if set forth in their entirety herein for the purpose of correcting and explaining any possible misinterpretations of the
English translation thereof. In addition, the published equivalents of the above corresponding foreign and international patent publication applications, and other equivalents or corresponding applications, if any, in corresponding cases in the Federal Republic of Germany and elsewhere, and the references and documents cited in any of the documents cited herein, such as the patents, patent applications and publications, are hereby incorporated by reference as if set forth in their entirety herein.

All of the references and documents, cited in any of the documents cited herein, are hereby incorporated by reference as if set forth in their entirety herein. All of the documents cited herein, referred to in the immediately preceding sentence, include all of the patents, patent applications and publications cited anywhere in the present application.

The description of the embodiment or embodiments is believed, at the time of the filing of this patent application, to adequately describe the embodiment or embodiments of this patent application. However, portions of the description of the embodiment or embodiments may not be completely applicable to the claims as originally filed in this patent application, as amended during prosecution of this patent application, and as ultimately allowed in any patent issuing from this patent application. Therefore, any statements made relating to the embodiment or embodiments are not intended to limit the claims in any manner and should not be interpreted as limiting the claims in any manner.

The details in the patents, patent applications and publications may be considered to be incorporable, at applicant’s option, into the claims during prosecution as further limitations in the claims to patentably distinguish any amended claims from any applied prior art.

The purpose of the title of this patent application is generally to enable the Patent and Trademark Office and the public to determine quickly, from a cursory inspection, the nature of this patent application. The title is believed, at the time of the filing of this patent application, to adequately reflect the general nature of this patent application. However, the title may not be completely applicable to the technical field, the object or objects, the summary, the description of the embodiment or embodiments, and the claims as originally filed in this patent application, as amended during prosecution of this patent application, and as ultimately allowed in any patent issuing from this patent application. Therefore, the title is not intended to limit the claims in any manner and should not be interpreted as limiting the claims in any manner.

The abstract of the disclosure is submitted herewith as required by 37 C.F.R. §1.72(b). As stated in 37 C.F.R. §1.72(b):

A brief abstract of the technical disclosure in the specification must commence on a separate sheet, preferably following the claims, under the heading “Abstract of the Disclosure.” The purpose of the abstract is to enable the Patent and Trademark Office and the public generally to determine quickly from a cursory inspection the nature and gist of the technical disclosure. The abstract shall not be used for interpreting the scope of the claims.

Therefore, any statements made relating to the abstract are not intended to limit the claims in any manner and should not be interpreted as limiting the claims in any manner.

The embodiments of the present application described herein above in the context of the preferred embodiments are not to be taken as limiting the embodiments of the present application to all of the provided details thereof, since modifications and variations thereof may be made without departing from the spirit and scope of the embodiments of the present application.

1. Roof pass-through with a roof tile (23) having an insert opening (24) and an adapter ring (1) for the installation of standardized top attachments (25), the adapter ring (1) including a lead-through collar (3) which can at least be partially introduced into the insert opening (24), characterized in that the lead-through collar (3) is provided with an outer ring (5) adapted to the surface contour of the roof tile (23), and that the lead-through collar (3) includes a lower section (6) which can be introduced into the insert opening (24), which section is provided with fixing elements (7-9, 14, 18, 19) for the positioning of the adapter ring (1) on the roof tile (23).

2. Roof pass-through as claimed in claim 1, characterized in that the fixing elements (7-9, 14, 18, 19) are disposed symmetrically with respect to one another.

3. Roof pass-through as claimed in claim 1, characterized in that the fixing elements (7-9, 14, 18, 19) are disposed beneath the outer ring (5).

4. Roof pass-through as claimed in claim 2, characterized in that the fixing elements (7-9, 14, 18, 19) can be placed in contact on the wall of the insert opening (24) and thereby establish a clamping connection.

5. Roof pass-through as claimed in claim 4, characterized in that the lower section (6) of the lead-through collar (3) projects beyond the underside of the roof tile (23) and the fixing elements (7-9, 14, 18, 19) can be placed against the underside and consequently extend beneath them.

6. Roof pass-through as claimed in claim 5, characterized in that the outer ring (5) includes a side (22) at least partially in contact on the roof tile (23), which side is provided with an adhering and sealing connection means (32).

7. Roof pass-through as claimed in claim 6, characterized in that the lead-through collar (3) is implemented in the form of an ellipse.

8. Roof pass-through as claimed in claim 7, characterized in that the lead-through collar (3) is provided with snap-in elements (12, 13, 20, 21) for fixing the standardized top attachments (25).

9. Roof pass-through as claimed in claim 8, characterized in that the snap-in elements (12, 13, 20, 21) are disposed opposite one another.

10. Roof pass-through as claimed in claim 9, characterized in that the snap-in elements (12, 13, 20, 21) are disposed symmetrically to one another beneath an inner ring (11) located on the lead-through collar (3) and the snap-in elements (1213: 2021) cooperate with counterelements (2829) disposed on the standardized top attachments (25).

11. (canceled)
12. Method for the production of a roof pass-through, characterized by the following steps:
   a) a roof tile (23) is provided with an insert opening (24),
   b) on one side (22) of an outer ring (5) of an adapter ring (1) a connection means (32) is applied,
   c) the adapter ring (1) comprising a lead-through collar (3) is introduced with this lead-through collar (3) into the insert opening (24),
   d) the adapter ring (1) provided with fixing elements (7-9, 14, 18, 19) is positioned by means of these fixing elements (7-9, 14, 18, 19) relative to the roof tile (23),
   e) the side (22) provided with the connection means (32) of the outer ring (5) is pressed against the surface of the roof tile (23).
13. Method as claimed in claim 12, characterized in that the insert opening (24) is cut into the roof tile (23) by means of a high-pressure water jet.
14. Method as claimed in claim 12, characterized in that, after the production of the roof pass-through, a standardized top attachment (25) is placed onto it.
15. Roof pass-through as claimed in claim 3, characterized in that the fixing elements (7-9, 14, 18, 19) can be placed in contact on the wall of the insert opening (24) and thereby establish a clamping connection.
16. Roof pass-through as claimed in claim 15, characterized in that the lower section (6) of the lead-through collar (3) projects beyond the underside of the roof tile (23) and the fixing elements (7-9, 14, 18, 19) can be placed against the underside and consequently extend beneath them.
17. Roof pass-through as claimed in claim 16, characterized in that the outer ring (5) includes a side (22) at least partially in contact on the roof tile (23), which side is provided with an adhering and sealing connection means (32).
18. Roof pass-through as claimed in claim 17, characterized in that the lead-through collar (3) is implemented in the form of an ellipse.
19. Roof pass-through as claimed in claim 18, characterized in that the lead-through collar (3) is provided with snap-in elements (12, 13, 20, 21) for fixing the standardized top attachments (25).
20. Roof pass-through as claimed in claim 19, characterized in that the snap-in elements (12, 13, 20, 21) are disposed opposite one another.
21. Roof pass-through as claimed in claim 20, characterized in that the snap-in elements (12, 13, 20, 21) are disposed symmetrically to one another beneath an inner ring (11) located on the lead-through collar (3), and the snap-in elements (12, 13, 20, 21) cooperate with counterelements (28, 29) disposed on the standardized top attachments (25).