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(54) **PREFAB BUILDING PART, IN PARTICULAR A PREFAB CHIMNEY, AS WELL AS METHOD FOR MANUFACTURING THE PREFAB BUILDING PART**

(57) A prefab chimney is constructed from a load-bearing construction part 3 against which brick slips can be fitted. A foot 7 is mounted against the underside 3a of the construction part, with which the chimney can be mounted on a roof. Holes 9 are provided in the construction part 3, which extend in horizontal direction. Auxiliary elements 11 are inserted into these holes. These auxiliary elements are there to provide support for screws

13 and 15 with which parts are fixed to the construction part. The screws 13 passing through the foot 7 are screwed with the threaded ends 13a into the auxiliary elements 11, so that the foot 7 is firmly attached to the construction part 3. The Screws 15 provided with a lifting eye 15b at an end are also screwed into the auxiliary elements 11 with a threaded end 15a. These screws are only present during the installation of the chimney.

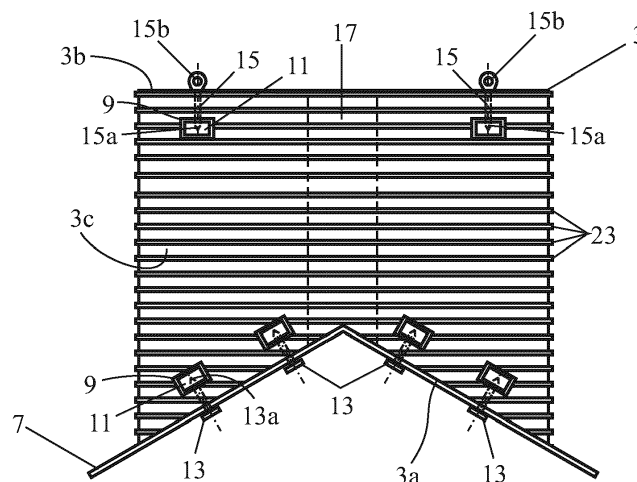


FIG. 3

Description

Technical field of the invention

[0001] The invention relates to a prefab building part, comprising a load-bearing construction part with a bottom side, a top side and at least one side wall, as well as a cladding mounted against the side wall of the load-bearing construction part.

[0002] Here with a load-bearing construction part is meant a structurally supporting frame that offers strength to the whole of which it forms part and to which other, non-load-bearing parts, such as the cladding and insulation material, can be attached. The stiffness and strength of the prefab construction part is therefore mainly or almost entirely determined by the stiffness and strength of the load-bearing construction part.

Background of the invention

[0003] Such a prefab building part is known from NL 8702873 A in the design of a prefab chimney. In this known prefab chimney, the load-bearing construction part is formed by a metal tube in which channels (pipes) are present and against which outer wall plates are attached, that are covered with, for example, brick slips. The metal tube is composed of two parts that are attached to each other via bolts. This makes it possible to compensate for any dimensional deviations by connecting the parts at a short distance from each other. The disadvantage of this is that the duct is not completely watertight and water can leak in, which can then seep in through holes in the roof on which the chimney is fitted.

[0004] GB2551611A discloses a prefab building part, inter alia in the form of a chimney, in which the supporting structure is composed of several supporting structural parts (preferably of wood). This supporting construction is covered with a plastic cover plate. Furthermore, this known prefab building part is provided with insulation material.

Summary of the invention

[0005] An object of the invention is to provide a prefab building part of the type described in the preamble in which the load-bearing construction part is completely watertight and in which there is no risk of water leaking through. To this end, the building part according to the invention is characterized in that the load-bearing construction part is made of plastic and is integral. Due to a load-bearing construction part of one whole, there are no interconnected parts where the connection could leak. The load-bearing construction part is preferably manufactured from a solid block of plastic, preferably EPS.

[0006] The prefab building part is preferably provided with a foot that is attached to the underside of the load-bearing construction part for mounting the building part on a subsurface, for instance a (pitched) roof of a house.

[0007] The load-bearing construction part of the building part, which is made from a plastic block, offers insufficient grip for a screw screwed into it to firmly fix a part (for example the foot) to the load-bearing construction part. In order to still be able to fix a part firmly to the load-bearing construction part by means of screws, an embodiment of the prefab building part according to the invention is characterized in that at least one hole is present in the plastic block in which an auxiliary element (for example a wooden slat) is located, into which at least one screw having a threaded end is screwed so that a part is securely attached to the load-bearing construction part.

[0008] The screw preferably protrudes through the foot of the chimney and is screwed with the threaded end into the auxiliary element, so that the foot is firmly attached to the load-bearing structural member. The screw can also be provided with a lifting eye and protrude through the top of the load-bearing construction part and again be screwed with the screw-threaded end into the at least one auxiliary element, so that a lifting eye can be firmly attached to the load-bearing construction part.

[0009] In a favorable embodiment, the prefab building part is designed as a prefab chimney for placement on a sloping roof of a house, wherein the shape of the load-bearing construction part is equal to the shape of a chimney with a chamfered underside at one or more angles equal to the angle of inclination or angles of inclination of the roof. Particularly for chimneys, there is a need for a prefab part because a lot of time can be saved during the construction and renovation of a house.

[0010] If desired, one or more vertical channels can be arranged in the load-bearing construction part and through the foot to allow passage of one or more chimney pipes and/or ventilation pipes.

[0011] The invention also relates to a method for manufacturing a prefab building part. With regard to this method, the invention is characterized in that the load-bearing construction part of the building part is manufactured from a solid plastic block by cutting away parts of the plastic block with a hot wire cutting machine. By manufacturing the load-bearing construction part of a building part from a solid block of plastic, a load-bearing construction part consisting of one whole is obtained with no seams through which water could seep. Because it consists of a whole, no fastening materials or fastening techniques need to be used to connect parts to each other.

[0012] An embodiment of the method is characterized in that a through hole is cut in the plastic block by moving the heated wire, while cutting from one side of the plastic block, in a meandering manner to the place where the through hole is to be formed and there cutting out the through hole and then moving the heated wire back through the same meandering cut. In a hot wire cutting machine, the ends of the cutting wire are held in the machine. It is not desirable to first drill a hole in the plastic block and then run a wire through it and fix it with the ends in the machine. This is way too time consuming. Therefore, the cutting wire cuts into the block from one

side of the plastic block to the point where a hole is to be made. To maintain the strength of the block, not a straight cut is made, but a meander-shaped cut, which is preferably such that the parts on either side of the cut interlock and hold each other so that they cannot be moved apart.

Brief description of the drawings

[0013] The invention will be explained in more detail below on the basis of an exemplary embodiment of the building part according to the invention shown in the drawings. Hereby shows:

Figure 1 the building part designed as a chimney on the ridge of a roof;

Figure 2 a top view of the building part shown in figure 1;

Figure 3 the load-bearing construction part with the foot of the construction part shown in figure 1; and

Figure 4 a detail of the supporting construction part shown in figure 3 at the location of a through hole with an auxiliary element present therein.

Detailed description of the drawings

[0014] Figure 1 shows an embodiment of the building part according to the invention. In this embodiment the building part is designed as a chimney 1. In the figure, the chimney is arranged on the ridge of a roof. The chimney 1 is constructed from a load-bearing construction part 3, the side wall 3c of which is clad with brick slips 5. The space between the brick slips is filled so that the appearance of the prefab chimney does not differ from that of a conventional chimney. The top side 3b of the load-bearing construction part 3 can be covered with a cover plate, for instance a concrete plate.

[0015] The bottom side 3a of the load-bearing construction part is chamfered so that the shape fits on the ridge of the roof 25. A foot 7 is fixed against the bottom side 3a of the load-bearing construction part, with which the chimney is fixed to the roof 25. The foot 7 in this embodiment is formed by wooden plates and protrudes outside the chimney. At the location of these protruding parts, the base is fixed to the roof 25 with bolts 21. This can clearly be seen in figure 2, in which the chimney present on the roof is shown in top view. In this top view it can also be clearly seen that the load-bearing construction part 3 is manufactured from a solid plastic block. A channel 17 is arranged in this plastic block, through which a chimney pipe 18 is inserted.

[0016] Figure 3 shows the load-bearing construction part 3 with the foot 7 of the chimney attached thereto. The load-bearing construction part 3 forms a whole and, except for the holes made in it, is completely solid. In this embodiment, the load-bearing construction part 3 is made of EPS and is provided with ribs 23 between which the brick slips can be glued.

[0017] Holes 9 extending in horizontal direction are

provided in the load-bearing construction part 3. Auxiliary elements 11 are inserted into these holes 9. These auxiliary elements are there to provide support for screws 13 and 15 with which parts are fixed to the load-bearing construction part. In this embodiment the auxiliary elements 11 are formed by wooden slats/blocks. The screws 13 protruding through the foot 7 are screwed with the threaded ends 13a into these wooden slats/blocks so that the foot 7 is firmly attached to the bearing construction part 3. The screws 15 on the top side 3b of the load-bearing construction part are also screwed into the wooden slats/blocks with a threaded end 15a and are provided with a lifting eye 15b at the other end. These screws 15 are only present when the chimney is being placed on the roof and are removed from the chimney when things have been done.

[0018] In figure 4 the top right corner of the load-bearing construction part shown in figure 3 is enlarged. A through hole 9 has been made in the load-bearing construction part 3, into which an auxiliary element 11 has been inserted. In order to be able to make the hole 9 in the solid block with a hot wire cutting machine, a meander-shaped saw cut 19 is made in the block from one side, for example the top side 3b, up to the contours of the hole 9 to be formed and then the hole 9 is cut into the block. The hot wire is then displaced again via the meandering cut 19 from the supporting construction part 3. By cutting loops in the block that extend over more than 180 degrees, the parts on either side of the cut 19 interlock and cannot be bent away from each other.

[0019] Although the invention has been elucidated in the foregoing with reference to the drawings, it should be noted that the invention is by no means limited to the embodiment shown in the drawings. The invention also extends to all embodiments deviating from the embodiment shown in the drawings within the scope defined by the claims. For example, the prefab building component can also be a building component other than a chimney, for example a pillar next to the driveway in which a letterbox may or may not be integrated. The foot can then be designed as a concrete slab.

Claims

1. Prefab building part (1), comprising a load-bearing construction part (3) with a bottom side (3a), a top side (3b) and at least one side wall (3c), as well as a cladding (5) mounted against the side wall (3c) of the load-bearing construction part (3), **characterized in that** the load-bearing construction part (3) is made of plastic and is integral.
2. Prefab building part according to claim 1, **characterized in that** the prefab building part (1) comprises a foot (7) which is attached to the underside (3a) of the load-bearing construction part (3) for mounting the building part (1) on a subsurface.

3. Prefab building part according to claim 1 or 2, **characterized in that** the load-bearing construction part (3) is manufactured from a solid block of plastic. through hole (9) is to be formed, and cut out the through hole (9) there and then move the heated wire back through the same meandering cut (19).
4. Prefab building part according to claim 3, **characterized in that** the load-bearing construction part (3) is made of EPS. 5
5. Prefab building part according to claim 3 or 4, **characterized in that** the plastic block contains at least one hole (9) in which there is an auxiliary element (11) in which at least one screw (13, 15) with an end (13a, 15a) provided with a screw thread is screwed so that a component is firmly attached to the load-bearing construction part (3). 10 15
6. Prefab building part according to claims 2 and 5, **characterized in that** the at least one screw (13) protrudes through the foot (7) and is screwed with the threaded end (13a) into the auxiliary element (11) so that the foot (7) is firmly attached to the load-bearing construction part (3). 20
7. Prefab building part according to claim 2 and 5 or 6, **characterized in that** at least one screw (15) with a head designed as a lifting eye (15b) protrudes through the top (3b) of the load-bearing construction part (3) and with the threaded end (3a) is screwed into the at least one auxiliary element (11) so that the lifting eye (15b) is firmly connected to the load-bearing construction part (3). 25 30
8. Prefab building part according to any one of the preceding claims, **characterized in that** the prefab building part (1) is a prefab chimney for placement on a pitched roof (25) of a house, the shape of the load-bearing construction part (3) being equal to the shape of a chimney with a chamfered underside at one or more angles equal to the angle of inclination or angles of inclination of the roof. 35 40
9. Prefab building part according to claim 8, **characterized in that** at least one vertical channel (17) is present in the load-bearing construction part (3) and through the foot (7) for the passage of a chimney pipe. 45
10. Method for manufacturing a prefab building part (1) according to any one of the preceding claims, **characterized in that** the load-bearing construction part (3) of the building part (1) is manufactured from a solid plastic block by cutting away parts of the plastic block with a hot wire cutting machine. 50
11. Method according to claim 10, **characterized in that** a through hole (9) is cut in the plastic block by the heated wire cutting from one side (3a, 3b, 3c) of the plastic block meandering to the place where the 55

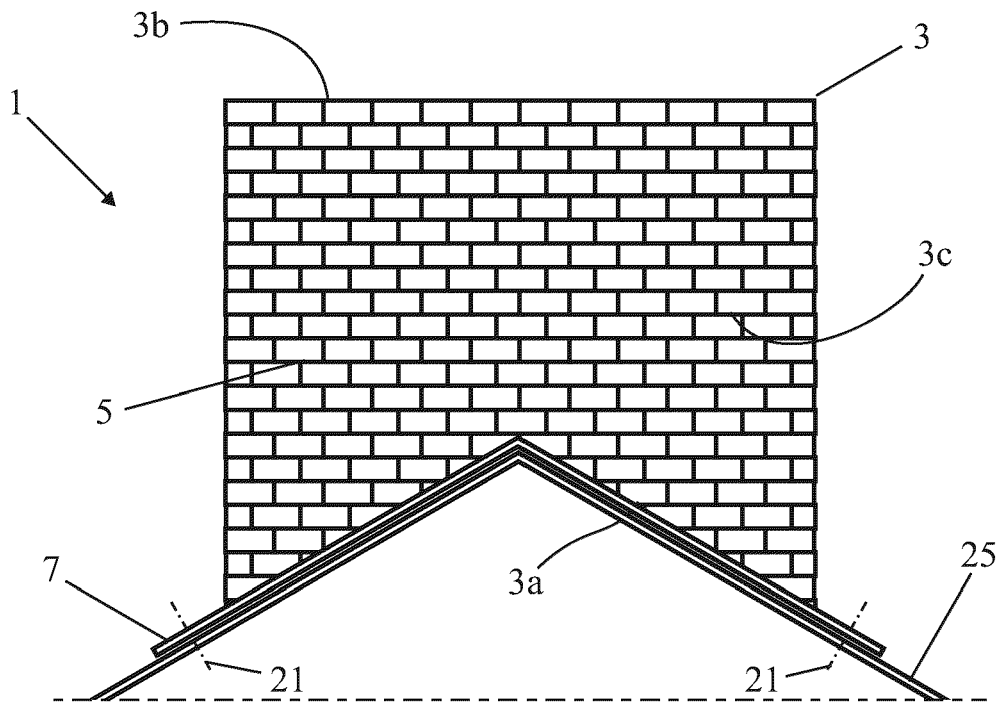


FIG. 1

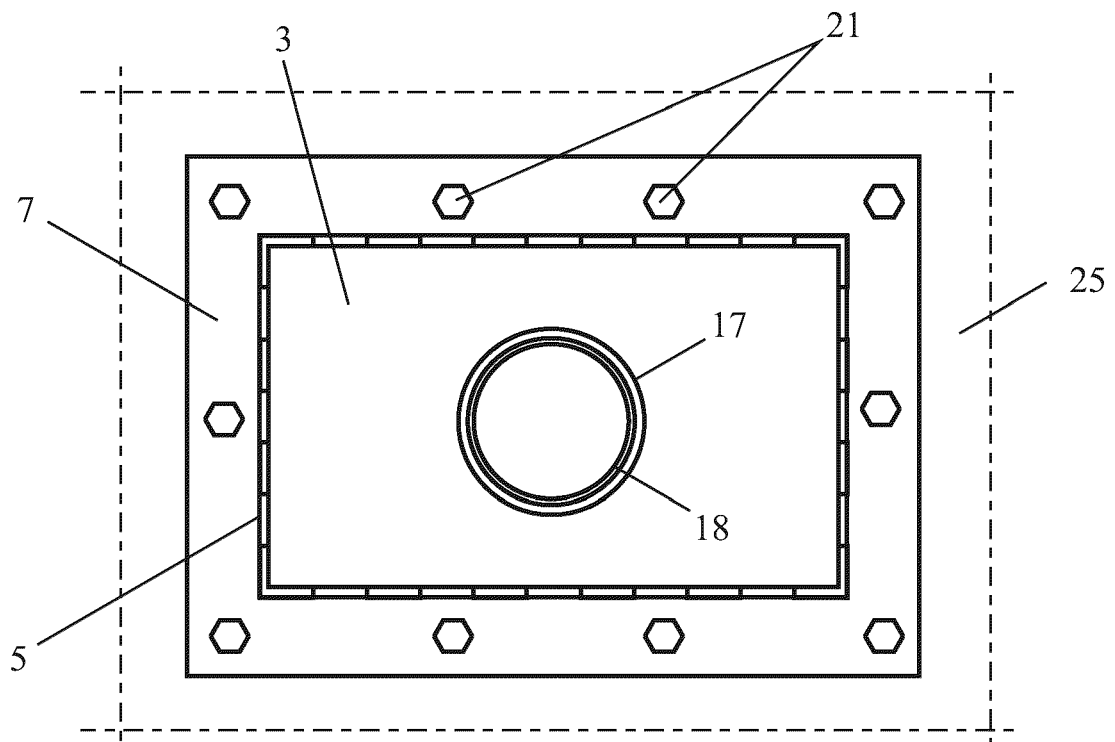


FIG. 2

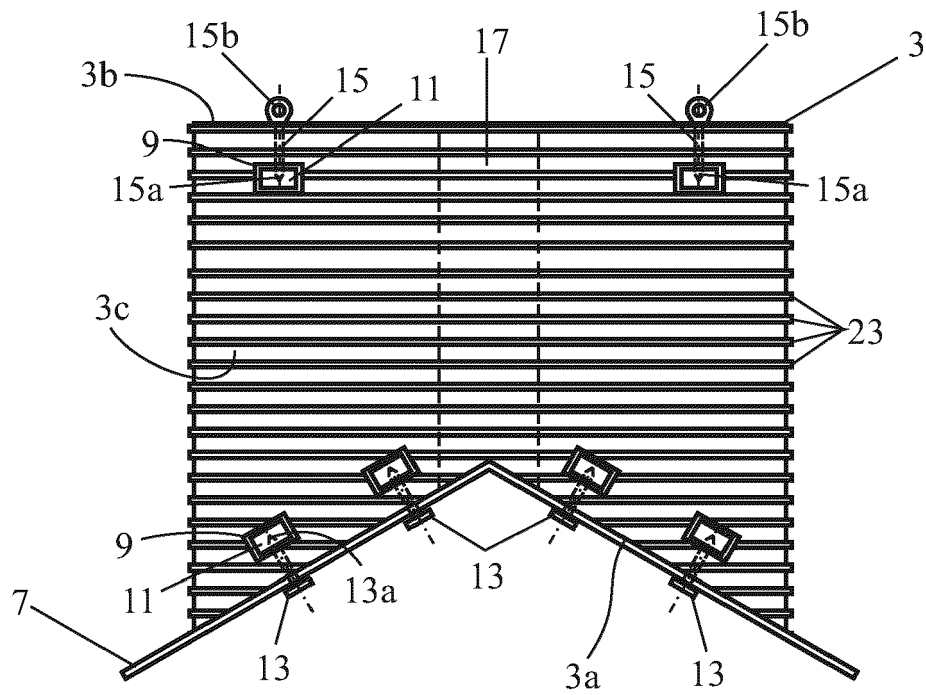


FIG. 3

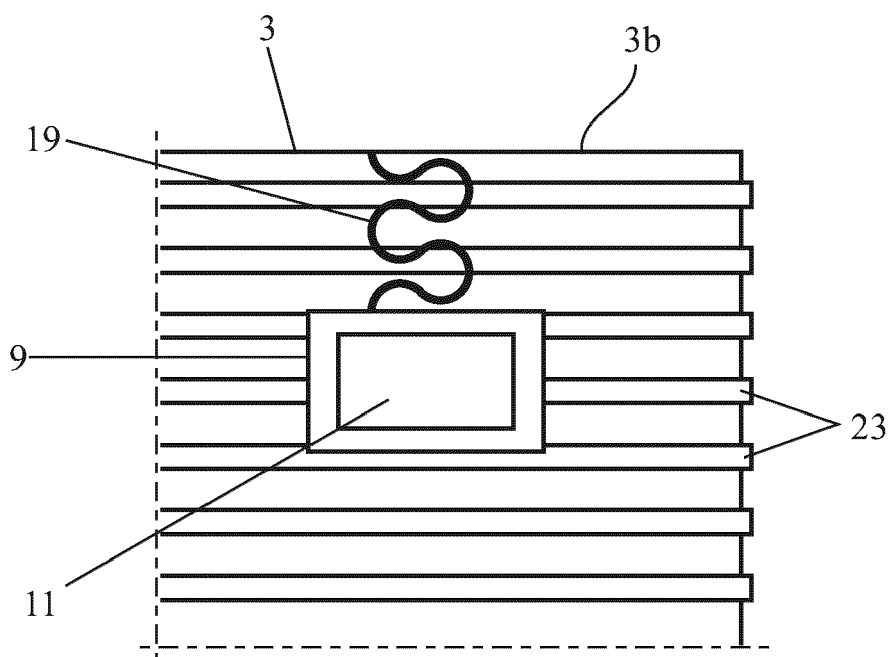


FIG. 4



EUROPEAN SEARCH REPORT

Application Number

EP 22 21 1504

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EPO FORM 1503 03.82 (P04C01)

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			TECHNICAL FIELDS SEARCHED (IPC)
			E04F B26F B26D B29L
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 24 March 2023	Examiner Fournier, Thomas
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**ANNEX TO THE EUROPEAN SEARCH REPORT
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24-03-2023

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