

(51) Int Cl.: **E04C 2/34** (2006.01) **E04C 2/38** (2006.01)
E04B 2/74 (2006.01)

(22) Date of filing: 17.11.2006

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Remarks:
Amended claims in accordance with Rule 137(2)
EPC.

(57) The invention relates to a wall element (1), comprising at least one carrier profile (2) and at least one plane panel (3) made of an insulating material, wherein the profile (2) has a substantial C-shaped cross section with a base part (4) and two legs (5, 6) connected with the base part (4), wherein one side (7) of the panel (3) is located in a receiving space (8) formed by the C-shaped profile (2). To securely arrange the panel, which does not completely fill out the receiving space, the invention is characterized in that a fixation element (9) is arranged at the base part (4) for clamping the panel (3) between the fixation element (9) and one leg (5, 6).

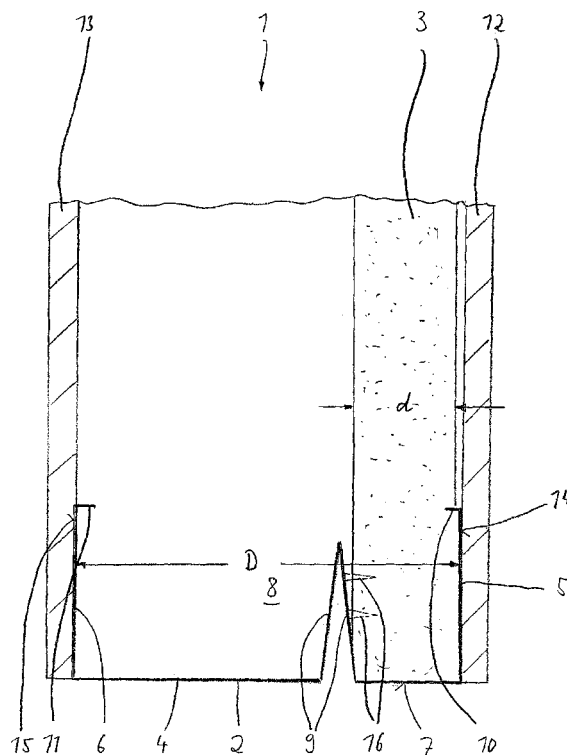


Fig. 2

Description

[0001] The invention relates to a wall element, comprising at least one carrier profile and at least one plane panel made of an insulating material, wherein the profile has a substantial C-shaped or U-shaped cross section with a base part and two legs connected with the base part, wherein one side of the panel is located in a receiving space formed by the C-shaped or U-shaped profile.

[0002] Wall elements of this kind are pre-known and used in the field of construction of buildings, especially in the field of dry mortarless construction.

[0003] DE 299 12 774 U1 discloses a carrier profile for such a wall element which has a substantial C-shaped cross section. Between the legs of the carrier profile an elevation is formed into the material of the base part so that the profile becomes a substantial M-shaped cross section. The elevation serves substantially for influencing the transversal stiffness of the profile, i. e. it is used as an elastic element. The receiving space which is defined by the C- or M-shaped configuration of the carrier profile is completely filled with an inserted panel made from insulation material.

[0004] Sometimes it is not necessary to fully fill the receiving space of the C-shaped profile to obtain a sufficient insulation effect with regard to heat/coldness and noise. Consequently, US 3,950,912 suggests to fill out only a certain height of the wall element with an insulating material. Also there, carrier profiles of the kind mentioned above are employed.

[0005] It has been found that the precise affixation of the insulation material is sometimes problematic if a panel of insulation material is used which has a thickness which is only a part of the distance between the legs of the C-shaped or U-shaped carrier profile.

[0006] Therefore, it is an object of the present invention to propose a wall element according to the above mentioned kind which allows to employ a panel of insulating material which has a thickness smaller than the distance between the legs of the profile.

[0007] The solution of this object according to the invention is characterized in that a fixation element is arranged at the base part for clamping the panel between the fixation element and one leg.

[0008] The fixation element is preferably arranged between the legs. It can be arranged in the middle between the legs or also eccentric from the middle between the legs.

[0009] Beneficially, the fixation element is formed from the material of the base part. In this case the fixation element can be formed as an elevation from the plane of the base part. Specifically, the carrier profile can have together with the fixation element a substantial M-shaped cross section.

[0010] At least one leg can have an end part extending inwardly into the C-shaped configuration in the direction of the plane of the base part.

[0011] The panel can consist of mineral wool. The co-

efficient of elasticity of the panel can be approximately between 10 and 250 N/mm².

[0012] The carrier profile is preferably made from a metallic material, especially from sheet metal. It can be produced by a folding process.

[0013] Beneficially, the carrier profile and the panel are covered at at least one side with a gypsum wall unit, preferably on both sides. In this case, the gypsum wall unit can be fixed with the plane of one of the legs.

[0014] With the proposed invention it becomes possible to save insulation material, i. e. to use a thinner panel from insulation material as the distance is between the legs of the profile, but to ensure that in spite of this a precise and stable affixation of the insulating material within the profile is given.

[0015] In the drawings an embodiment of the invention is depicted.

Fig. 1 shows a perspective view of a wall element and

Fig. 2 shows the view "A" according to fig 1 for a magnified part of the wall element.

[0016] In fig. 1 a perspective view is depicted of a wall element 1 which is used in a building to form a dry mortarless construction. The wall element 1 has two carrier profiles 2 which have a C-shaped or U-shaped cross section. The "open" sides of the "C" of both carrier profiles 2 are facing each other. For insulating against heat/coldness and/or noises a flat panel 3 made of a suitable insulation material is arranged in the receiving space 8 (see fig. 1) of the C-shaped carrier profiles 2. Both sides of the wall elements 1 are covered by gypsum wall units 12 and 13.

[0017] Details of the design are depicted in fig. 2.

[0018] As can be seen the panel 3 of insulation material has a certain thickness d which is substantial smaller than the distance D of the profile 2, i. e. the receiving space 8 of the C-shaped profile 2 - limited at the sides by two legs 5, 6 of the profile 2 - is bigger than it would be necessary to receive the panel 3. The thickness d can be e. g. between 20 % and 80 % of the distance D.

[0019] To ensure that the panel 3 from insulating material does not move inside the receiving space 8 but is securely arranged in the profile 2 the invention suggests the following concept:

[0020] The profile 2 consists of a base part 4, wherein legs 4, 5, are arranged at both ends of the base part 4. One side 7 of the panel 3 from insulating material is inserted into the receiving space 8 formed by the structure 4, 5, 6. To affix the panel 3 in the depicted position in the profile 2 a fixation element 9 is arranged at the base part 4 of the profile.

[0021] In the embodiment shown in figures 1 and 2 the fixation element 9 is formed by a folded section of the base part 4 of the profile 2. i. e. in the depicted solution the profile 2 has a M-shaped configuration. The folded sections 9 of the material of the profile 2 forms therefore

a side stop for one side of the panel 3.

[0022] It can be beneficial to form end parts 10, 11 at the end of the legs 5, 6 which lie in the plane of the base part 4. Those end parts 10, 11 can intrude into the material of the panel 3 to better hold it in position. Also it is possible to provide arbors or spikes 16 (shown with dotted lines in fig. 2) for securely holding the panel 3 in position.

As mentioned above, the whole wall element 1 is covered by gypsum wall units 12, 13 which are affixed at the planes 14 and 15 of the legs 5, 6 in a suitable manner.

Reference Numerals

[0023]

- 1 wall element
- 2 carrier profile
- 3 panel
- 4 base part
- 5 leg
- 6 leg
- 7 side of the panel
- 8 receiving space
- 9 fixation element
- 10 end part of the leg
- 11 end part of the leg
- 12 gypsum wall unit
- 13 gypsum wall unit
- 14 plane of the leg
- 15 plane of the leg
- 16 arbor

- d thickness of the panel
- D distance of the legs

Claims

1. Wall element (1), comprising at least one carrier profile (2) and at least one plane panel (3) made of an insulating material, wherein the profile (2) has a substantial C-shaped cross section with a base part (4) and two legs (5, 6) connected with the base part (4), wherein one side (7) of the panel (3) is located in a receiving space (8) formed by the C-shaped profile (2),
characterized in that
a fixation element (9) is arranged at the base part (4) for clamping the panel (3) between the fixation element (9) and one leg (5, 6).
2. Wall element according to claim 1, **characterized in that** the fixation element (9) is arranged between the legs (5, 6).
3. Wall element according to claim 2, **characterized in that** the fixation element (9) is arranged in the

middle between the legs (5, 6).

4. Wall element according to claim 2, **characterized in that** the fixation element (9) is arranged eccentric from the middle between the legs (5, 6).
5. Wall element according to at least one of claims 1 to 4, **characterized in that** the fixation element (9) is formed from the material of the base part (4).
6. Wall element according to claim 5, **characterized in that** the fixation element (9) is formed as an elevation from the plane of the base part (4).
7. Wall element according to claim 6, **characterized in that** the carrier profile (2) together with the fixation element (9) has a substantial M-shaped cross section.
8. Wall element according to at least one of claims 1 to 7, **characterized in that** at least one leg (5, 6) has an end part (10, 11) extending inwardly into the C-shaped configuration in the direction of the plane of the base part (4).
9. Wall element according to at least one of claims 1 to 8, **characterized in that** the panel (3) consist of mineral wool.
10. Wall element according to at least one of claims 1 to 9, **characterized in that** the coefficient of elasticity of the panel (3) is between 10 and 250 N/mm².
11. Wall element according to at least one of claims 1 to 10, **characterized in that** the carrier profile (2) is made from a metallic material.
12. Wall element according to claim 11, **characterized in that** the carrier profile (2) is made from sheet metal.
13. Wall element according to at least one of claims 1 to 12, **characterized in that** the carrier profile (2) is produced by a folding process.
14. Wall element according to at least one of claims 1 to 13, **characterized in that** the carrier profile (2) and the panel (3) are covered at at least one side with a gypsum wall unit (12, 13).
15. Wall element according to claim 14, **characterized in that** the gypsum wall unit (12, 13) is fixed with the plane (14, 15) of one of the legs (5, 6).

Amended claims in accordance with Rule 137(2) EPC.

1. Wall element (1), comprising at least one carrier profile (2) and at least one plane panel (3) made of an insulating material, wherein the profile (2) has a substantial C-shaped cross section with a base part (4) and two legs (5, 6) connected with the base part (4), wherein one side (7) of the panel (3) is located in a receiving space (8) formed by the C-shaped profile (2),
characterized in that
a fixation element (9) is arranged at the base part (4) for clamping the panel (3) between the fixation element (9) and one leg (5, 6). 5
2. Wall element according to claim 1, **characterized in that** the fixation element (9) is arranged between the legs (5, 6). 10
3. Wall element according to claim 2, **characterized in that** the fixation element (9) is arranged in the middle between the legs (5, 6). 15
4. Wall element according to claim 2, **characterized in that** the fixation element (9) is arranged eccentric from the middle between the legs (5, 6). 20
5. Wall element according to at least one of claims 1 to 4, **characterized in that** the fixation element (9) is formed from the material of the base part (4). 25
6. Wall element according to claim 5, **characterized in that** the fixation element (9) is formed as an elevation from the plane of the base part (4). 30
7. Wall element according to claim 6, **characterized in that** the carrier profile (2) together with the fixation element (9) has a substantial M-shaped cross section. 35
8. Wall element according to at least one of claims 1 to 7, **characterized in that** at least one leg (5, 6) has an end part (10, 11) extending inwardly into the C-shaped configuration in the direction of the plane of the base part (4). 40
9. Wall element according to at least one of claims 1 to 8, **characterized in that** the panel (3) consist of mineral wool. 45
10. Wall element according to at least one of claims 1 to 9, **characterized in that** the coefficient of elasticity of the panel (3) is between 10 and 250 N/mm². 50
11. Wall element according to at least one of claims 1 to 10, **characterized in that** the carrier profile (2) is made from a metallic material. 55

12. Wall element according to claim 11, **characterized in that** the carrier profile (2) is made from sheet metal.

13. Wall element according to at least one of claims 1 to 12, **characterized in that** the carrier profile (2) is produced by a folding process.

14. Wall element according to at least one of claims 1 to 13, **characterized in that** the carrier profile (2) and the panel (3) are covered at at least one side with a gypsum wall unit (12, 13).

15. Wall element according to claim 14, **characterized in that** the gypsum wall unit (12, 13) is fixed with the plane (14, 15) of one of the legs (5, 6).

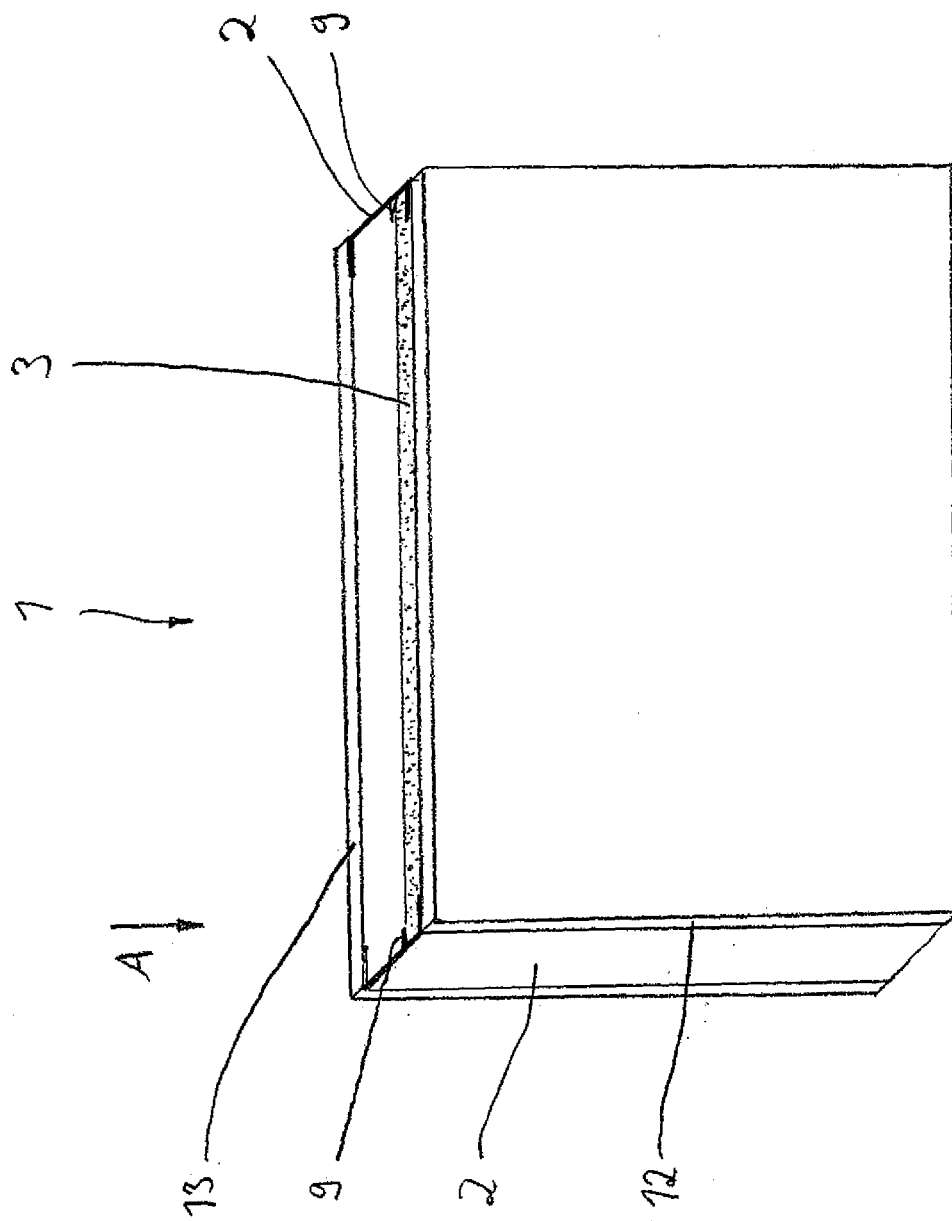


Fig. 1

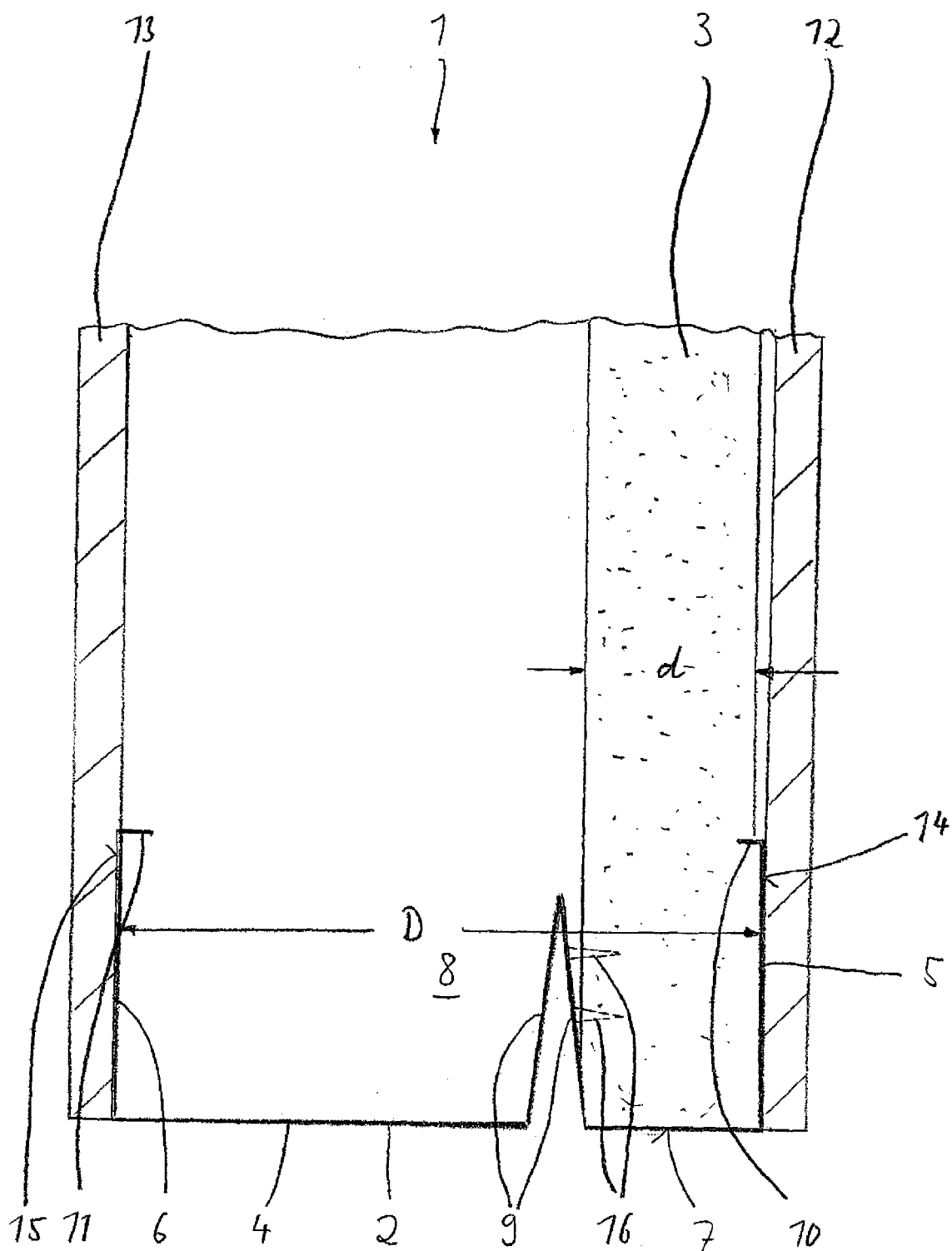


Fig. 2



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 06 12 4275

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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			TECHNICAL FIELDS SEARCHED (IPC)
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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 20 April 2007	Examiner Rosborough, John
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 06 12 4275

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