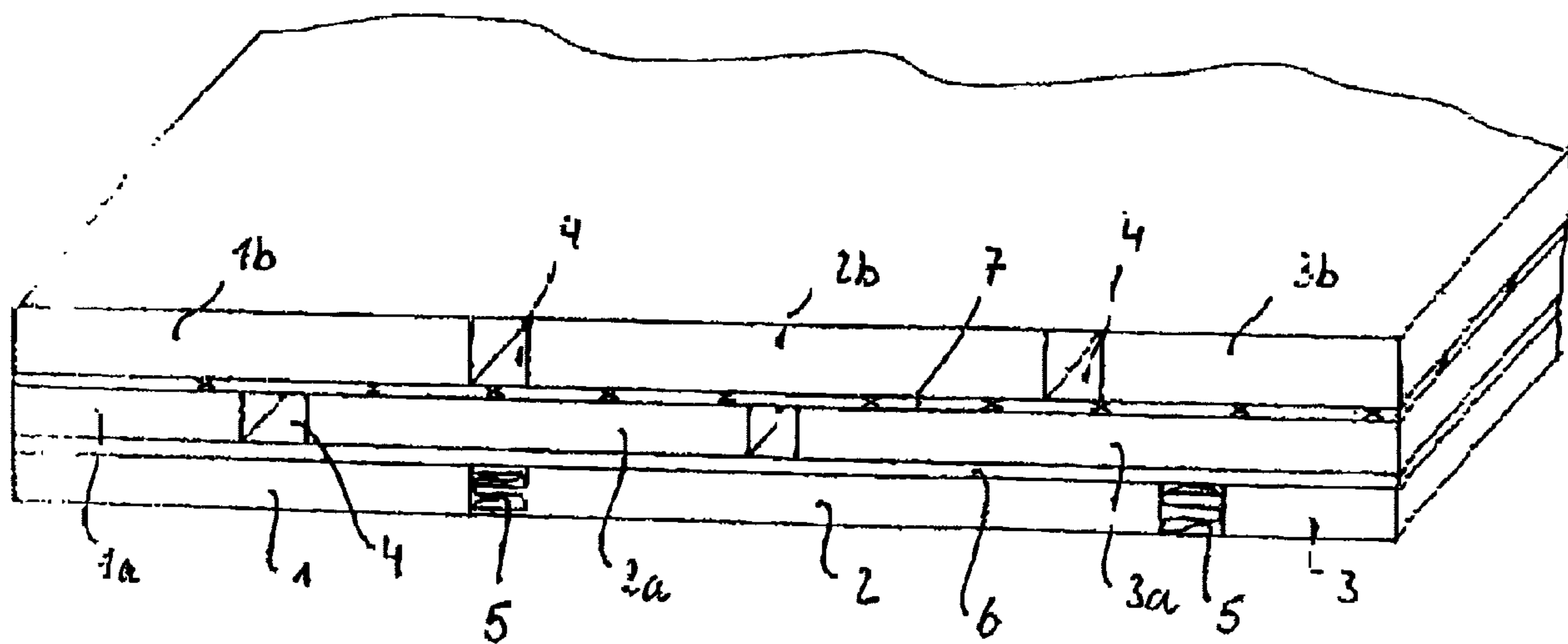




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(57) Abrégé/Abstract:

A building board for use as a ceiling or wall element in house building is characterized by a plurality of OSBs which are disposed side by side and are bonded together in multiple layers.

Abstract

A building board for use as a ceiling or wall element in house building is characterized by a plurality of OSBs
5 which are disposed side by side and are bonded together in multiple layers.

Building board

The invention relates to a building board for use as a ceiling or wall element in house building.

5

Intermediate ceilings are employed in houses as stacked board ceilings, as boarded floors which are laid and fastened onto exposed and unexposed joists, and as concrete solid ceilings. These ceilings have to be prepared on the spot, so they take a correspondingly long time to make. In prefabricated house building, prefabricated stacked board elements are used.

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Unless they are brick-built or cast from concrete, walls are made in post-and-beam construction, i.e. a trussing is erected, which is lined with timber-based material or plaster boards.

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The object of the invention is to provide a building board for use as a ceiling or wall element in house building, which can be used as a prefabricated element, has good heat-insulating and sound-insulating properties and is cheap to produce.

20

To achieve the object, the building board is distinguished by a plurality of OSBs which are disposed side by side and are bonded together in multiple layers.

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The connection of a plurality of boards to form a number of mutually offset layers creates a highly stable building board, which is nevertheless light. OSB (orientated strand board) has good mechanical properties.

30

In order to increase the stability of the building board, the layers of a plurality of boards are preferably additionally connected by mechanical

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connecting means (nails, screws, clamps). Manufacture is simplified if, between the individual layers, nail plates are employed for additional fastening.

- 5 In order to increase the sound-insulation and heat-insulation, a plastics mat can be provided between the layers.

10 The impact sound properties can be improved if interspaces are provided between the boards of a layer. These interspaces can also be filled with an insulating material.

15 The building board has a length of 2 to 20 m, especially 2 to 10 m or 4 to 6 m. The thickness measures 50 to 900 mm, especially 100 to 400 mm or 100 to 250 mm.

20 An illustrative embodiment of the invention shall be described below with the aid of the drawing, which shows a perspective representation of a building board.

25 The building board consists of a plurality of OSBs 1, 2, 3; 1a, 2a, 3a; 1b, 2b, 3b, which are bonded together one on top of the other to form multiple layers. As the adhesive, amino resins, especially melamine-reinforced urea resins, MUF, phenolic and resorcinol resins, or polyurethane-based and cyanate-based adhesives, as well as vinyl acetate-based, especially PVAc-based
30 adhesives, may be used. The surface of the OSBs can be ground or non-ground. The individual boards 1, 2, 3,... can have a thickness between 8 and 60 mm. Between individual boards 1a, 2a, 3a,... of a layer, interspaces 4 might be provided. These interspaces 4 can be filled
35 with an insulating material 5. The interspaces 4 improve the sound-insulating properties, which can be improved still further if the interspaces 4 are filled with insulating material 5. The interspaces 4 are about 20 mm wide. The heat-insulating and sound-insulating

- 3 -

properties can be further enhanced if plastics mats 6 are provided between the individual layers.

In order to support the bonding of the individual 5 layers, nail plates 7 can be provided. In addition, the individual layers can also be nailed, screwed or clamped together.

10 With the building board, spans of 4 to 10 m, preferably between 4 and 6 m, can be achieved in ceilings. In the case of walls, a span of 2 to 20 m and a width of 2 to 10 m can be achieved. The thickness of the building board for use as a ceiling element measures between 5 and 90 cm, preferably between 10 and 40 cm. The 15 thickness of a wall element measures between 5 and 30 cm, preferably between 10 and 25 cm.

Claims

1. A building board for use as a ceiling or wall
element in house building, comprising a plurality of
5 orientated strand boards (OSBs) which are disposed side
by side and are bonded together in multiple layers,
further comprising some interspaces filled with an
insulating material and other interspaces devoid of the
insulating material, at least one nail plate disposed
10 between respectively two layers lying one on top of the
other, and at least one plastic mat disposed between two
layers lying one on top of the other.

2. The building board as claimed in claim 1, wherein
15 the layers of a plurality of boards are additionally
connected to one another by mechanical connecting means.

3. The building board as claimed in claim 2, wherein
the at least one plastic mat is structured and arranged
20 to increase the sound-insulation and heat insulation of
the building board.

4. The building board as claimed in claim 3, wherein:
the plurality of OSBs have a thickness of 100 mm to
25 250 mm,
the plurality of OSBs have a length of 4 m to 6 m,
and the interspaces are about 20 mm wide.

5. The building board as claimed in claim 1, wherein
30 the plurality of OSBs have a length of 2-20 m.

6. The building board as claimed in claim 5, wherein
the plurality of OSBs have a length of one of 2-10 m or
4-6 m.

7. The building board as claimed in claim 5, wherein the plurality of OSBs have a thickness of one of 100-400 mm or 100-250 mm.

5 8. The building board of claim 1, wherein:

the some interspaces filled with an insulating material are provided in a first layer of the plurality of boards, and

10 the other interspaces devoid of the insulating material are provided in a second layer of the plurality of boards.

9. The building board as claimed in claim 1, wherein:

15 the interspaces filled with insulating material are disposed in an outermost layer of the plurality of orientated strand boards, and

the interspaces devoid of insulating material are disposed in a second layer adjacent the outermost layer.

20 10. The building board as claimed in claim 9, wherein the at least one plastic mat is structured and arranged to increase the sound-insulation and heat insulation of the building board,

25 wherein the at least one plastic mat is disposed between the outermost layer and the second layer, and

the at least one nail plate is disposed between the second layer and a third layer of the plurality of orientated strand boards.

