Heat insulating board for pillars or beams of buildings, provided with grooves allowing the separation of portions of the board having adequate dimensions so as to panel one side of the above-mentioned pillars or beams

Wärmeschutzplatte für Säulen oder Balken von Gebäuden, mit Schlitzen zum massgerechtem Abtrennen von Teilen der Platte für das Verkleiden einer ganzen Seite der genannten Säulen oder Balken

Panneau isolant thermique pour poteaux ou poutres de bâtiments comprenant des rainures permettant la séparation de portions de panneau correspondant aux dimensions des faces des poteaux ou poutres précités

Dow Italia S.p.A.
20151 Milano (IT)

Vitturi, Carlo
30010 S. Elena Venezia (IT)

Fleischer, Holm Herbert, Dr. et al
Sternagel, Fleischer, Godemeyer & Partner
Patentanwälte
Braunsberger Feld 29
51429 Bergisch Gladbach (DE)

US-A- 3 908 327
DE-U- 8 912 003

Note: Within nine months from the publication of the mention of the grant of the European patent, any person may give notice to the European Patent Office of opposition to the European patent granted. Notice of opposition shall be filed in a written reasoned statement. It shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).
Description

[0001] This invention relates to a heat insulating board for a pillar or a beam of a building as described in the preamble of the main claim.

[0002] As is widely known, in a building, the pillars and beams placed along with the outer walls may operate as thermal or single bridges through which the indoor heat of the building dissipates in the surrounding outdoor environment. Such dissipation clearly influences the indoor temperature of the building and the operating costs of its heating plant. Moreover, damp stains leading to alarming inconveniences, especially from the aesthetic point of view, may emerge in areas corresponding to such pillars or beams.

[0003] Usually such pillars or beams are insulated by means of insulating boards which normally are made of foams, such as extruded or expanded polystyrene foam, polyurethanes foam or chipboard. Such boards allow a proper insulation of the above-mentioned pillars and beams, however they create a problem insofar as they are not easily shaped with the same dimensions of the faces or sides of the pillars or beams to be paneled. As a consequence, portions of oversized insulating boards are often used (with all the waste of insulating material ensuing therefrom), or the above-mentioned shaping operations frequently lead to breaks in the insulating board, which consequently may no longer be used.

[0004] Insulating boards are widely known, which are provided with numerous mutually equidistant grooves on at least one of their faces, but preferably on opposite faces one of which is meant to come directly into contact with the pillar or beam to be paneled. The function of such grooves is to increase the surface on which mortar (or similar material) is laid, thus acting as a "bonding agent" to fix the insulating board to the pillar or beam. Nevertheless, although they reduce the thickness of the above-mentioned board, such grooves do not allow an easy separation of the latter into two parts (being adjacent and separated by a groove), either manually or by means of a dedicated tool as a cutter. This happens because the width of such grooves is much superior to that of the above-mentioned cutter, thus being unfit to provide a track for a sufficiently straight cutting movement on the insulating board which would lead to ensuing portions to be provided with a sufficiently smooth and even separation surface. At the same time, the excessive width of each groove does not allow a manual breaking of the board along the grooves; such operation generally produces microfractures in the board itself, thus leading to the detachment of numerous small fragments which may not be used to panel the pillar or the beam. Moreover, the manual breaking of the board along the groove is not sufficiently smooth and even so as to allow the creation of sufficiently smooth and even separation surfaces.

[0005] From DE-U-89 12 003 it is known to provide an L-shaped insulating board formed to be fixed on perpendicular joining walls of buildings with slots on its opposite surfaces. At least one of the legs of the L-profile of the insulating board is provided with at least one slot parallel to and spaced apart from the surface of the leg of the L-profile, wherein the depth of the slot is smaller than the thickness of the leg of the L-profile in the area of the slot. Thus, that part of the leg of the L-profile provided between the slot and the surface of the leg is dividable by breaking along the slot or cuttable - guided by the slot - by means of a cutter, such that the leg can be shortened.

[0006] The object of this invention is to provide a heat insulating board for the paneling of pillars or beams of buildings that may be easily divided into portions whose dimensions correspond to those of the surfaces to be paneled and insulating, with particular reference to the usual and standardized faces of pillar and/or beams.

[0007] A further object is to provide a board of the above-mentioned type which may be divided into ad-hoc sized units modules, both by means of the usual cutting tools and manually.

[0008] A further object is to provide for a board of the above-mentioned type which may be used to panel pillars or beams whose dimensions exceed the usual or standardized measures.

[0009] A further object is to provide a heat insulating board for pillars and beams which may be mass-produced at reduced costs.

[0010] These and other objects which will immediately be apparent to the experts of such sector are achieved by a heat insulating board for the paneling of pillars and beams of buildings according to the herein annexed claims.

[0011] More precisely, this invention relates to an insulating board which is meant to be used in particular for the paneling of at least one side of the pillars and beams of buildings, so as to insulate the paneled face or side of such pillars or beams, wherein such board comprises a main body provided with two opposite surfaces, one of which is meant to be fixed to the above-mentioned face or side, and four perimetric sides; characterized in that at least one of the above-mentioned opposite surfaces is provided with at least one first groove parallel to at least one pair of perimetric sides of the insulating board, such first groove being placed at a predetermined distance from one of such perimetric sides equal to the distance between the opposite extremities of the side of the pillar or beam to be paneled; the groove being sufficiently deep to allow the separation of two adjacent portions along it, manually or by means of a cutter, and being narrow to create a substantially even separation surface, and in that the board comprises at least one additional groove that is orthogonal to any groove and is placed within at least one surface of the insulating board, said additional groove being placed at a predetermined distance from one of the shorter sides of such board and parallel to such side.

[0012] A better understanding of this invention may
be achieved with reference to the following drawings attached hereto by way of information, but not limitation:  

[0013] Figure 1 is an exploded view of a possible application of this invention with reference to pillars.

[0014] Figure 2 is a perspective view of a phase of the application of this invention.

[0015] Figure 3 is a zoomed-in view in direction of arrow K of Figure 2 of this invention.

[0016] Figure 4 is a top view of a different embodiment of this invention.

[0017] Figure 5 is a top view of a further aspect of this invention.

[0018] With reference to the above-mentioned drawings, a heat insulating board is generically marked 1 and is meant to be fixed to at least one face 2 of a pillar 3 or of a beam 4 of a building. Preferably and usually such face is the external one, that is, that facing the external surface of the building itself. Pillar 3 or beam 4 have standardized known measures (l, H, W); for example the following measures are usually found in a pillar:

\[ L = 50-60 \text{ cm and } H = 2-2.50 \text{ m} \]

[0019] Board 1 is made of materials usually employed for insulation, such as foams (extruded polystyrene or expanded polystyrene foam, polyurethane foam) or chipboard. Moreover it is fixed to face 2 according to the usual methods by means of mortar or other building material. The above-mentioned board comprises a main body 5 being modular provided with wide opposite surfaces 6 and 7 and four perimetric sides 8, 9, 10 and 11. Surfaces 6 and 7, one of which is meant to come directly into contact with the pillar or beam (for example, number 6 in Figure 1), may be even (as in Figure 4) provided with wide grooves 13 parallel to sides 8 and 10 and following each other in an orderly way. In the case under discussion, such grooves have a width x amounting to about 1 cm and an average depth of about 2 mm.

[0020] In accordance with this invention, board 1 comprises (in the embodiment shown in the drawings) numerous continuous grooves 15 which are meant to be mutually opposite on both surfaces 6 and 7 or they may be present only on one of such surfaces, but they are consecutive and mutually equidistant in any case. Each of such grooves has such dimensions so as to allow an easy manual separation of two parts 1A and 1B from board 1, thus creating sufficiently even separation surfaces.

[0021] Moreover, such dimensions allow a tool or cutter to be operated along surface 6 and 7 with sufficient precision so as to achieve straight cuts and sufficiently even separation surfaces.

[0022] In particular, the last terms means substantially even surfaces that at most bear projections having a very limited height - within a range of few millimeters - which do not influence the use of board 1 as an insulator of a pillar or beam anyhow.

[0023] More precisely, the grooves 15 are mutually parallel and are also parallel to the longer sides 8 and 10 of board 1 (that is, parallel to the any grooves 13 envisaged on surfaces 6 and 7 of the board itself). They are mutually equidistant, preferably with a mutual distance B amounting to a value equal to a submultiple of the dimensions of the pillar. Usually the grooves are preferably placed at mutual distance of 5 cm, so that multiples of such figure may be calculated, thus reaching values equal to the usual dimensions of a pillar or beam.

[0024] As may be inferred from the statements above, each groove 15 determines a cutting line on board 1 and its width A ranges from 1 to 2 mm (that is, a width similar to that of a cutter so as to provide a sufficiently precise track for the latter across surfaces 6 and 7). At the same time, width A, which has the above-mentioned measures, allows the separation of portions 1A and 1B of board 1 by means of the simple manual bending of the latter (arrow z Figure 2) along one of the grooves 15.

[0025] To allow the manual separation of portions 1A and 1B, each groove 15 has a sufficient depth D which is related to the thickness S of board 1 and to the type of material that is used. For example, in the case of boards of extruded polystyrene or expanded polystyrene foam or of polyurethane foam having a thickness S amounting to 20 mm, the total depth of grooves 15 envisaged on the above-mentioned board (that is, the sum of depths D of two opposite grooves such as, for example, in Figure 3, or the depth of a single groove envisaged on only one of surface 6 or 7) ranges from 6 to 14 mm. If S=30 mm, such total depth range from 8 to 24 mm and if S=40 such depth ranges from 10 to 32 mm. This allows to maintain a "core" C within thickness S (for example, that of Figure 3 between two opposite grooves 15) such as not to weaken board 1 excessively, that is, such as the latter may not casually break into two or more parts when it is handled. To guarantee simplicity of handling and treatment, the two opposite grooves should preferably have the same dimensions both as regards their widths and their depths.

[0026] For example, if board 1 is to be employed as described hereinbefore to panel faces 2 of several pillars having a predefine width L=50 cm. Said board has an initial transversal dimension (that is, measured in a parallel way to sides 9 and 11 of portions 1A, 1B illustrated in Figures 1 and 2) superior to L, for example twice as much. To achieve portions 1A and 1B that are fit to panel the pillars, ten grooves 15 starting from the free border (marked 10 in Figure 2) of board 1 are to be skipped. After a portion (for example 1A) measuring 50 cm was thus determined, board 1 is to be bent (arrow z in Figure 2) along the last groove, thus achieving the separation of the above-mentioned portion from the rest of said board. As an alternative, such separation may be achieved by means of a cutter operated along the selected groove 15.

[0027] If the dimensions of the pillar (or beam) are
slightly superior to the standardized ones and they are not multiples of five, insulating boards 1 of any preselected size may be easily created thanks to this invention, since the possibility emerges - according to an approximation to the nearest greater or smaller whole number - of calculating the size of face 2 of the pillar (or beam) to be paneled, or an adequately similar value, between two consecutive and adjacent grooves 15 on board 1. Along the line thus determined on surface 6 or 7 of said board, the separation of a portion of the selected size may be easily carried out by means of a cutter. This is very easily done with board 1 of Figure 4. Between each groove 15 and the adjacent grooves 13 there is an even area 20 with a width F amounting to 2 cm. A point is determined on the latter, at a predefined distance from the groove amounting to the closest possible value to the selected measure \(L\), so that the portion of the board meant to be fixed to face 2 of the pillar is as long as the latter; then board 1 may be divided by means of a cutter. This cutter moves across board 1 in a parallel direction to grooves 15 so as to separate portion 1A or 1B, it measuring the requested length \(L\), from such board.

According to an aspect of this invention illustrated in Figure 5, board 1 comprises numerous grooves 30 that are orthogonal to first grooves 15, placed at a distance \(H_1, H_2, H_3\) and \(H_4\) (in the example) from side 9 of the main body 5 (that is, a shorter side) and equal to different standardized heights of a pillar (or lengths of a beam). Such grooves have the same characteristics and dimensions as the above-mentioned first grooves 15. For simplicity's sake, such characteristics will not be dealt with again. The application of the aspect under discussion is simple; after length \(L\) of the pillar (or \(W\) of the beam) has been determined, the portion of board 1 that is sufficient to panel face 2 of said board (or beam) may be separated following the procedures described hereinbefore. After the height (or length) of this latter has been calculated, a sufficient part of such portion is separated along one of the above-mentioned grooves 30, so as to achieve the requested length (for example \(H_1\) or \(H_3\)) and so as to adequately board face 2 of the pillar.

The whole procedure may be carried out easily even without resorting to any tools. Moreover, if height \(H\) of the pillar is not standardized, the possibility emerges of separating a portion of board 1 having equal or sufficiently similar height to the value \(H\). Such outcome is achieved in a swift and easy way, following procedures similar to those described hereinbefore in the case of the cutting of a portion of 1A or 1B to be fixed to face 2 of a pillar measuring a non-standardized length \(L\).

Several different alternative embodiments of this invention were described. Further alternatives may be envisaged without exceeding the scope of the claims. For example, opposite first grooves 15 measuring different depths \(D\) may be envisaged on surfaces 6 and 7 of board 1; however this may be done while maintaining the total depth of such grooved areas within values which do not jeopardize the mechanical resistance of board 1 in the adjacent parts to such grooved areas.

In accordance with an alternative embodiment of this invention, first grooves 15 as illustrated by way of information in Figures 1, 2, 3, and 4 may be placed at a distance equal to a multiple or submultiple of 5 cm, for example, 2.5 cm or 10 cm. Distance selection depends on employment conditions and on the most common measures referred to during the manufacturing of pillars and/or beams for buildings.

With reference to such dimensions, the usually preferred measure is 5 cm.

Moreover, in accordance with a further alternative embodiment, the length of board 1 may measure twice the width \(L\) of pillar 3; consequently, said board may be provided with one groove 15 only placed, for example, at a distance (equal to a multiple of 5) equal to 50 cm from sides 8 and 10, that is, at such a distance so as to allow the separation of two portions 1A and 1B measuring length \(L\) equal to that of the relating pillars.

Also such alternative embodiments are to be considered as included in the scope of the present description.

With all the above-mentioned materials (extruded polystyrene, expanded polystyrene form, polyurethane foam, chipboard etc.) grooves may be mechanically crated by removing material by means of milling cutters normally used for wood and other similar materials, whereas only in the case of polyurethane and polystyrene foam, grooves may be achieved through molding procedures, that is, through expansion of the materials inside predefine molds having the same (negative) measures of the board to be manufactured.

Claims

1. An insulating board (1) meant to be used in particular, to panel at last one side (2) of pillars (3) or beams (4) of buildings, so as to thermally insulate the paneled side or face (2) of such pillars or beams wherein said board (1) comprises a main body (5) having two opposite surfaces (6, 7) of which one is meant to be fixed to the aforementioned face or side (2) and four perimetric sides (8, 9, 10, 11), wherein at least one of said opposite surfaces (6, 7) is provided with at least one first groove (15) parallel to at least one pair of the perimetric sides (8, 10) of the insulating board (1), such first groove (15) being placed at a predefined distance from one of said perimetric sides (8, 10) equal to the distance between two opposite extremities of the side of the pillar or beam to be paneled, the depth (d) of such first groove being sufficient to allow the separation, either manually or by means of a cutter, of two matching parts (1A, 1B) along it, and the width (A) of said first groove being narrow to create a substantially
even separation surface, characterized in that the board (1) comprises at least one additional groove (30) that is orthogonal to any first groove (15) and is placed within at least one surface (6, 7) of the insulating board, said additional groove being placed at a predetermined distance from one (9) of the shorter sides (9, 11) of such board and parallel to such side.

2. An insulating board as in Claim 1, characterized by the fact that all first grooves (15) are continuous.

3. An insulating board as in any of the Claims 1, 2, 3 made of foam such as extruded polystyrene or polyurethane foam, polyurethane foam or chipboard, provided with numerous mutually equidistant and mutually parallel first grooves (15), said first grooves being parallel to the perimetric sides (8, 10) within which they are placed.

4. An insulating board as in any of the Claims 1, 2 and 3 characterized by the fact that the first grooves (15) are parallel to the longer perimetric sides (8, 10) of the insulating board (1).

5. An insulating board as in any of the Claims 1, 2, 3 and 4 characterized by the fact that the distance (B) between the first grooves (15) is equivalent to a sub-multiple of the standardized dimension of the pillars (3) or the beams (4) to which the board (1) is fixed.

6. An insulating board as in any of the Claims 1, 2, 3, 4 and 5, characterized by the fact that all the first grooves (15) have a width (A) ranging from 1 to 2 mm.

7. An insulating board as in any of the Claims 1, 2, 3, 4, 5 and 6, characterized by the fact that said board is made of extruded polystyrene or expanded polystyrene foam or of polyurethane foam and that each groove has a depth (D) ranging from 6 to 32 mm.

8. An insulating board as in Claim 7, comprising opposite first grooves (15) on its surfaces (6, 7), said grooves having a total depth ranging from 6 to 32 mm and a mutual distance ranging from 2.5 to 10 cm.

9. An insulating board as in Claim 8 further characterized by the fact that the mutual distance between the first grooves (15) amounts to 5 cm, the thickness of the board amounts to 20, 30 or 40 mm and the total depth of the opposite first grooves (15) ranges from 6 to 14 mm, from 8 to 24 mm and from 10 to 32 mm, respectively.

10. An insulating board as in Claim 1, characterized by the fact that the additional groove (30) that is parallel to the short perimetric side (9) shows similar characteristics to those of any first groove (15) that is parallel to the longer perimetric sides (8, 10).

Patentansprüche

1. Isolierplatte (1) zur Verwendung insbesondere zum Verkleiden von zumindest einer Seite (2) von Pfeilern (3) oder Balken (4) von Gebäuden, um die verkleidete Seite oder Fläche (2) solcher Pfeiler oder Balken thermisch zu isolieren, wobei die Platte (1) einen Hauptkörper (5) mit zwei einander gegenüberliegenden Oberflächen (6, 7), von denen eine zum Befestigen an der vorgenannten Fläche oder Seite (2) vorgesehen ist, und vier Umfangsseiten (8, 9, 10, 11) aufweist, wobei zumindest eine der einander gegenüberliegenden Seiten (6, 7) mit zumindest einer ersten Nut (15) versehen ist, die parallel zu zumindest einem Umfangsseitenpaar (8, 10) der Isolierplatte (1) liegt, wobei diese erste Nut (15) in einem vordefinierten Abstand von einer der Umfangsseiten (8, 10) positioniert ist, der gleich dem Abstand zwischen zwei einander gegenüberliegenden Enden der zu verkleidenden Pfeiler- oder Balkenseite ist, dadurch gekennzeichnet, daß die Tiefe (d) einer solchen ersten Nut ausreicht, um das Trennen entweder manuell oder mit Hilfe einer Schneideeinrichtung von zwei zusammenpassenden Teilen (1A, 1B) entlang dieser zu ermöglichen, und die Breite (A) der ersten Nut gering ist, um eine im wesentlichen ebene Trennfläche zu erzeugen, dadurch, daß die Platte (1) zumindest eine zusätzliche Nut (30) aufweist, die orthogonal zu jeder beliebigen ersten Nut (15) und innerhalb von zumindest einer Oberfläche (6, 7) der Isolierplatte angeordnet ist, wobei die zusätzliche Nut in einem vorbestimmten Abstand von einer (9) der kürzeren Seiten (9, 11) der Platte und parallel zu einer solchen Seite angeordnet ist.

2. Isolierplatte nach Anspruch 1, dadurch gekennzeichnet, daß alle ersten Nuten (15) durchgängig sind.

3. Isolierplatte nach einem der Ansprüche 1, 2, hergestellt aus Schaum, wie extrudiertem Polystyrol oder Polystyrolschaum, Polyurethanschaum oder Spanplatte, versehen mit zahlreichen wechselseitig gleichbeabstandeten und wechselseitig parallelen ersten Nuten (15), wobei die ersten Nuten parallel zu den Umfangsseiten (8, 10) verlaufen, innerhalb derer sie angeordnet sind.

4. Isolierplatte nach einem der Ansprüche 1, 2 und 3, dadurch gekennzeichnet, daß die ersten Nuten (15) parallel zu den längeren Umfangsseiten (8, 10) der Isolierplatte (1) verlaufen.
5. Isolierplatte nach einem der Ansprüche 1, 2, 3 und 4, dadurch gekennzeichnet, daß der Abstand (B) zwischen den ersten Nuten (15) gleich einem echten Teiler der standardisierten Abmessungen der Pfeiler (3) oder der Balken (4) ist, an denen die Platte (1) befestigt ist.

6. Isolierplatte nach einem der Ansprüche 1, 2, 3, 4 und 5, dadurch gekennzeichnet, daß alle ersten Nuten (15) eine Breite (A) im Bereich von 1 bis 2 mm aufweisen.

7. Isolierplatte nach einem der Ansprüche 1, 2, 3, 4, 5, und 6, dadurch gekennzeichnet, daß jede Nut eine Tiefe (D) im Bereich von 6 bis 32 mm aufweist.

8. Isolierplatte nach Anspruch 7, die einander gegenüberliegende erste Nuten (15) auf ihren Oberflächen (6, 7) aufweist, wobei die Dicke der Platte 20, 30 oder 40 mm beträgt und die Gesamttiefe der einander gegenüberliegenden ersten Nuten (15) im Bereich von 6 bis 14 mm, bzw. von 8 bis 24 mm, bzw. von 10 bis 32 mm liegt.

9. Isolierplatte nach Anspruch 8, weiter dadurch gekennzeichnet, daß die zusätzliche Nut (30), die parallel zu der kurzen Umfangsseite (9) ist, ähnliche Eigenschaften aufweist wie jede beliebige erste Nut (15), die parallel zu den längeren Umfangsseiten (8, 10) ist.

Revendications

1. Panneau isolant (1) destiné à être utilisé en particulier pour revêtir au moins un côté (2) de poteaux (3) ou de poutres (4) de bâtiments, de manière à isoler thermiquement le côté ou face (2) revêtue de ces poteaux ou de ces poutres, ledit panneau (1) comprenant un corps principal (5) qui présente deux surfaces opposées (6, 7) dont l'une est destinée à être fixée au côté ou face (2) précédemment mentionné et quatre chants (8, 9, 10, 11), dans lequel au moins l'une desdites surfaces opposées (6, 7) est dotée d'au moins une première rainure (15) parallèle à au moins deux chants (8, 10) du panneau isolant (1), cette première rainure (15) étant placée à une distance prédéterminée de l'un des dits chants (8,10), qui est égale à la distance entre deux bords opposés d'un côté du poteau ou de la poutre à revêtir, la profondeur (D) de cette première rainure étant suffisante pour permettre une séparation, soit manuellement, soit au moyen d'une lame, de deux parties correspondantes (1A, 1B) le long de cette dernière, et la largeur (A) de ladite première rainure étant étroite pour créer une surface de séparation pratiquement plane, caractérisé en ce que le panneau (1) comprend au moins une rainure (30) supplémentaire qui est orthogonale à une quelconque première rainure (15) et qui est placée dans au moins une surface (6, 7) du panneau d'isolation, ladite rainure supplémentaire étant placée à une distance prédéterminée de l'un (9) des plus petits chants (9, 11) d'un tel panneau et parallèle à ce chant.

2. Panneau d'isolation selon la revendication 1, caractérisé en ce que toutes les premières rainures (15) sont continues.

3. Panneau d'isolation selon l'une quelconque des revendications 1 et 2, fait de mousse telle que du polystyrène extrudé, du polystyrène expansé, du polyuréthane expansé ou un panneau de copeaux, et doté de nombreuses premières rainures (15) équidistantes les unes par rapport aux autres et parallèles entre elles, lesdites premières rainures étant parallèles aux chants (8, 10) au sein desquels elles sont placées.

4. Panneau d'isolation selon l'une quelconque des revendications 1, 2 et 3, caractérisé en ce que les premières rainures (15) sont parallèles aux plus longs chants (8, 10) du panneau d'isolation (1).

5. Panneau d'isolation selon l'une quelconque des revendications 1, 2, 3 et 4, caractérisé en ce que la distance (B) entre les premières rainures (15) est équivalente à un sous-multiple de la dimension normalisée des poteaux (3) ou des poutres (4) auxquels le panneau (1) est fixé.

6. Panneau d'isolation selon l'une quelconque des revendications 1, 2, 3, 4 et 5, caractérisé en ce que toutes les premières rainures (15) présentent une largeur (A) se situant dans l'intervalle qui va de 1 à 2 mm.

7. Panneau d'isolation selon l'une quelconque des revendications 1, 2, 3, 4, 5 et 6, caractérisé en ce que ledit panneau est fait de polystyrène extrudé, de polystyrène expansé ou de polyuréthane expansé, et en ce que chaque rainure présente une profondeur (D) se situant dans l'intervalle allant de 6 à 32 mm.

8. Panneau d'isolation selon la revendication 7, com-
prenant des premières rainures (15) opposées sur ses surfaces (6, 7), lesdites rainures présentant une profondeur totale se situant dans l'intervalle qui va de 6 à 32 mm et une distance entre elles se situant dans l'intervalle qui va de 2,5 à 10 cm.

9. Panneau d'isolation selon la revendication 8, caractérisé en outre en ce que la distance mutuelle entre les premières rainures (15) est égale à 5 cm, l'épaisseur du panneau est égale à 20, 30 ou 40 mm et la profondeur totale des premières rainures (15) opposées se situe respectivement dans l'intervalle allant de 6 à 14 mm, de 8 à 24 mm et de 10 à 32 mm.

10. Panneau d'isolation selon la revendication 1, caractérisé en ce que la rainure supplémentaire (30) qui est parallèle au petit chant (9) présente des caractéristiques similaires à celles d'une quelconque première rainure (15) qui est parallèle aux plus longs chants (8, 10).