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Remarks:

Claims 16-40 are deemed to be abandoned due to non-payment of the claims fees (Rule 45(3) EPC).

(54) **System wall and section for use in a system wall**

(57) Section for partition walls built up from sections and plates, which section comprises a bottom wall, wherein the bottom wall is provided with a first tape having a layer of adhesive for adhesion to a permanent con-

struction part, such as a ceiling or a floor, characterised in that the bottom wall of the section in a margin adjacent to the first tape is provided with a second tape with a layer of material having fire-resistant properties, that is adhered to the bottom wall of the section.

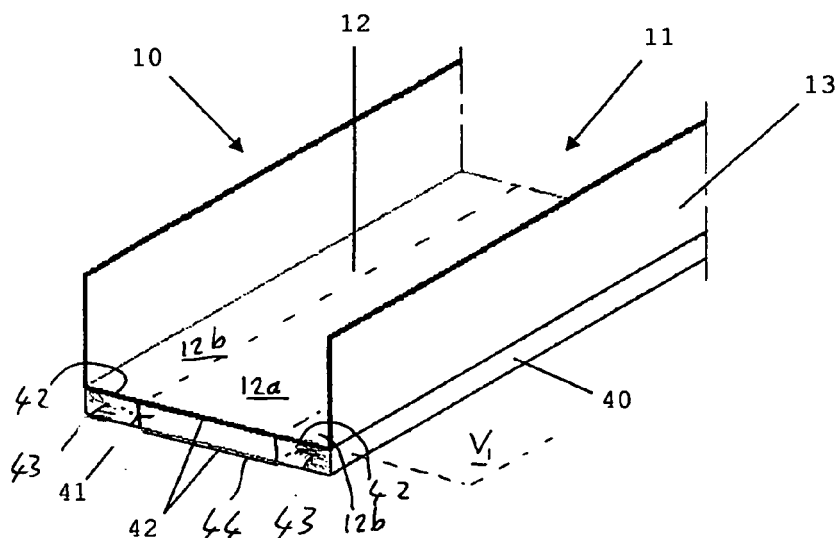


Fig. 1

Description

BACKGROUND OF THE INVENTION

[0001] It is known to build partition walls between interior rooms from standard elements as a system wall, in a first embodiment from pre-assembled, finished wall assemblies, that form ready-made partitioning walls and which are placed with their vertical edges connecting to each other in order to form the wall. The wall assemblies or wall units have been pre-assembled from a frame of usually metal sections, in particular U-shaped sections, namely vertical sections, an upper section and a lower section, a layer of insulation and on both sides a cladding of plaster panels. The wall units are placed in a so-called upper tray and lower tray, that have been attached beforehand to ceiling and floor by means of screws. In a second embodiment the wall is built up entirely in situ, as a so-called metal stud wall, wherein upper sections and lower sections are first attached against the floor and against the ceiling, respectively, usually also by screws. Furthermore end sections are screwed to the vertical edges of the opening in which the wall is to be realised, and subsequently verticals, in the form of U-shaped sections are placed between the upper and lower sections and attached thereto by means of screws. The frame of the walls is then ready, and the panels can be attached by screws to the verticals and the end sections, which in fact are also verticals.

[0002] Building up a system wall thus requires a lot of effort and time. Building up a system wall may moreover be too big a burden for the installer. Usually two or more installers are needed to build the wall.

[0003] A point of concern in system walls is the fire-resistance: a fire that started in the one room should not penetrate the room at the other side of the system wall too soon. As regards the fields or span surfaces of the system wall, where usually the panels made of plaster board are situated, the inter spaces between the verticals are filled with glass wool blankets or glass wool plates to improve fire-resistance. At the location of the edges, after placing the system wall, fire-resistant putty, such as a fire-resistant acrylic putty, is applied, which requires care and time.

[0004] A further point of concern in system walls is limiting sound from passing through from one space bounded by the system wall. It is known to place an upper or lower section of a system wall on a layer of felt, which is then clamped between the section and the floor or ceiling by attaching the section by screws.

SUMMARY OF THE INVENTION

[0005] An object of the invention is a system wall that can be built up easily and in an ergonomically friendly manner. It is a further object of the invention to provide sections for that purpose.

[0006] It is an object of the invention to provide a sys-

tem wall that can be built up quickly. It is a further object of the invention to provide sections for that purpose.

[0007] It is an object of the invention to provide a sufficiently fire-resistant system wall and sections to be used therein.

[0008] It is an object of the invention to provide a system wall with which a sufficient level of soundproofing can be achieved. It is a further object of the invention to provide sections for that purpose.

[0009] For achieving at least one of these objects, according to one aspect, the invention provides a section, particularly individually manageable, intended for partition walls built up from sections and plates, which section comprises a bottom wall, wherein the bottom wall is provided with a first tape adhered thereto by a layer of adhesive, particularly a high tack acrylic glue, wherein at a main side facing away from the bottom wall and extending substantially parallel to the bottom wall the first tape is provided with a layer of adhesive, particularly a high tack acrylic glue, for adhesion to a permanent construction part, such as a ceiling or floor, characterised in that in a margin, adjacent to the first tape, the bottom wall of the section is provided with a second tape with a layer of material having fire-resistant properties, and preferably also in a margin that is situated at the other side of the first tape than the second tape is provided with a third tape with a layer of material having fire-resistant properties. The second and third tape can be identical, optionally be situated in a mirrored sense.

[0010] In that way when placing the separate individually manageable section, a fire-resistant part is also placed in the correct and effective place at the same time. Applying putty afterwards can be dispensed with to a large extent. By using the prefabricated tape the look along the section will be smooth, so that optional ornamental frames for covering a caterpillar of putty can also be dispensed with. The layer of adhesive on both main sides of the first tape enhances placing the section in the work, wherein mechanical fastening means, particularly screws/bolts, can be saved on. Particularly suitable as adhesive on both main sides of the first tape is a high tack acrylic glue. The section in question can then be/ remain attached to the ceiling, floor or permanent wall by the adhesive power only. This is also advantageous when the section is used as so-called upper tray for said pre-assembled system wall parts.

[0011] Preferably at a main side, preferably substantially parallel to the main plane of the bottom wall, the second tape and, if present, the third tape is adhered to the bottom wall by a layer of adhesive, so that it remains reliably connected to the section when handling it and in the work. Said adhesive may be similar to the adhesive on the first tape. Preferably the other main side of the second tape, and if present, the third tape is also provided with a layer of adhesive.

[0012] At at least one of the main sides, preferably at least the main side facing away from the bottom wall, particularly both, the layer of adhesive of the first tape

and/or the second tape/third tape may be provided with a reinforcement mesh, grid or gauze, particularly of glass fibres, preferably embedded in the adhesive. In that way the adhesive, in case of heating in case of fire will be stopped from running to such an extent that it will remain in place longer and the adhesive power to the ceiling, etcetera, can be kept intact as long as possible.

[0013] At at least one main side preferably extending substantially parallel to the main plane of the bottom wall, the first and the second tape and/or, if present, third tape can be directly connected to each other by a layer of adhesive continuing in transverse direction, which continuing layer of adhesive is situated at the main side of the first, second and optionally third tape facing away from the bottom wall, and/or is situated between the bottom wall and the first, second and optionally third tape.

[0014] The continuing layer enhances handling the tapes as one assembly, particularly when assembling a tape to be rolled up in manufacturing and further handled as one whole, and when arranging it on the bottom wall. This is even further enhanced when said reinforcement mesh is present and also extends through the adhesive layers on the second/third tape. Furthermore the continuing layer keeps the second and third tape in their places after removal of a cover sheet at said main side, in case the second and third tape are not adhered themselves to the bottom wall.

[0015] The first and the second tape and optionally the third tape can be arranged in situ, however preferably in a production area, such as a factory.

[0016] In a further development, at the main side facing away from the bottom wall and extending substantially parallel to the bottom wall, at least the first tape is covered by a cover sheet, preferably extending over the second and, if present, over the third tape. In that case the second and, if present, the third tape can be free of adhesive at the main side facing away from the bottom wall and extending substantially parallel to the bottom wall. The cover sheet makes supplying tapes on a roll possible and also ensures protection of the main side of the tapes which is exposed after attachment to the bottom wall of the section.

[0017] The first and second and optionally third tape may have a joint width that at least almost corresponds with the width of the bottom wall of the section. The second and/or third tape may extend up to the side edge of the bottom wall.

[0018] In a simple embodiment the main sides of the first, second and/or third tape, which main sides extend substantially parallel to the bottom wall and are situated at the bottom wall side, are at least almost situated in one plane. In that case the bottom wall is at least almost entirely flat. The section may in that case be almost perfectly U-shaped. The side edges may in that case remain as close to the floor or ceiling as possible.

[0019] When the first tape comprises a layer of elastically compressible material, placing is facilitated and passing through impact sound is further counteracted. It

is preferred here that the first tape comprises a layer of air sound-absorbing material. Preferably the first tape is made of a synthetic foam material with closed cells, such as a PE-foam.

[0020] For easy attachment of the panels the section may comprise two side walls, such as the said U-shape, that are substantially transverse to the bottom wall, wherein at the outside at least one side wall is provided with a layer of adhesive, particularly a high tack acrylic glue, for attaching panels thereon. The layer of adhesive preferably is part of a band which as regards structure corresponds with the above-mentioned first band, so that the advantages of the first tape can also be achieved on the attachment/transition panels-section. In that way the number of required screws/bolts can be saved on further. Such a section can also be designed with a bottom wall that is free and not provided with the above-mentioned first, second/third tape, for use as intermediate vertical or intermediate horizontal member. For the tapes adhered to the side walls the said reinforcement mesh is able to counteract the adhesive from sagging vertically in case of fire and thus provides prolonged attachment of the panels to the verticals.

[0021] The layer of adhesive on the side walls may extend up to at least near the outer ends of the section, so that adhesion to the inner surface of the side walls of a section that is perpendicular thereto is possible and screws and the like can be further saved on.

[0022] In one embodiment the layer of fire-resistant material may comprise a body of ceramic fibres. Such bodies are available per se as a tape.

[0023] Alternatively the second and, if present, third tape can be a body of synthetic foam material, particularly EPDM, which at least at the outside, preferably entirely, is provided with a flame-extinguishing agent.

[0024] The layer of material having fire-resistant properties may comprise a material that foams when exposed to heat. Said material may for instance be a PUR-containing foam material, such as known per se for fire-resistant applications.

[0025] In order to be able to longer prevent or stop fire penetration it is advantageous when the layer of material having fire-resistant properties is provided with means for directing the direction of foaming of the material that foams when exposed to heat, particularly in a direction away from the first tape.

[0026] In connection therewith at the side facing the first tape, the layer of material having fire-resistant properties may be provided with an upright layer of material that does not foam when exposed to heat, preferably in the form of an upright strip. The foaming material should then find its way in a direction away from the first tape, and when placing an upper section may possibly extend over the side wall of said upper section situated at the fire side and the upper edge area of the panel placed against it. In that way a deformation of the upper section caused by heat is counteracted longer. Expanding of the foaming or intumescent material may be an endothermic

process, as a result of which heat is extracted from the surroundings, as a result of which abutting parts, such as section and panel, are relatively cooled down. The same effect may, possibly to a lesser degree, may also occur at a lower section.

[0027] Directing the foaming material can be enhanced when the layer having fire-resistant properties comprises a number of layers of material that foams when exposed to heat, which are separated from each other by intermediate layers of material that does not foam when exposed to heat, particularly in the form of a fleece, film or foil, such as glass fibre fleece. According to a further aspect the invention provides a system wall, particularly a metal stud wall, comprising a number of panels, a number of vertical sections extending between a ceiling and a floor and an upper section attached against the ceiling and/or a lower section attached against the floor, wherein at least one of the vertical sections, upper section and lower section is designed like a section according to the invention and is attached to the vertical permanent wall edge, ceiling or floor, respectively, in particular only by the said adhesive.

[0028] According to a further aspect the invention provides a system wall assembly to be placed in a system wall, which system wall assembly has been assembled beforehand using a number of vertical panels, a number of vertical sections and an upper section and a lower section, wherein at least one of the vertical sections, upper section and lower section are designed like a section according to the invention.

[0029] According to a further aspect the invention provides a tape assembly to be used on a section according to the invention, comprising a carrier or cover layer and a first tape detachably attached thereto and an adjacently situated second tape, wherein the second tape comprises a layer of material having fire-resistant properties, preferably also provided with a third tape with a layer of material having fire-resistant properties, situated at the side of the first tape which side faces away from the second tape, wherein the first and the second tape and the third tape, if present, preferably connect to each other or are situated closely adjacent to each other. The first, second and third tape are designed in accordance with one of the embodiments described above as regards the section according to the invention.

[0030] In this tape assembly the first tape, the second tape and the third tape, if present, at least at one side, preferably both sides, may thus be provided with a layer of adhesive, preferably a layer of adhesive continuing in transverse direction, for adhesion to the bottom wall of the section. The adhesive preferably is the said high tack acrylic glue and preferably is provided with said reinforcement mesh, grid or gauze, particularly of glass fibres, preferably embedded in the adhesive.

[0031] The layer having fire-resistant properties preferably is designed as described above in the discussion of the section according to the invention.

[0032] According to a further aspect the invention pro-

vides a section, particularly individually manageable, intended for partition walls built up from sections and plates, which section is substantially U-shaped and has a bottom wall and two side walls, wherein at least one side wall at the outside is provided with a tape adhered thereto by a layer of adhesive, particularly a high tack acrylic glue, wherein at a main side facing away from the side wall and extending substantially parallel to the side wall, the tape is provided with a layer of adhesive, particularly a high tack acrylic glue, for adhesion thereon of a panel of a system wall, wherein at least one of the layers of adhesive, particularly at least the latter layer of adhesive, preferably is provided with a reinforcement mesh, grid or gauze, particularly of glass fibres, preferably embedded in the adhesive, wherein between the layers of adhesive the tape comprises a layer of elastically compressible material and/or air sound-absorbing material and/or comprises a layer of foam material with closed cells, such as PE-foam.

[0033] Such a section is suitable to be used as intermediate vertical in a metal stud system wall, particularly together with the section according to the invention described above. For an intermediate vertical however, adhesion to the bottom wall is generally not required. The said tape may as regards structure correspond with the above-mentioned first tape.

[0034] According to a further aspect the invention provides an assembly for building a metal stud system wall, comprising a number of sections having first and second/third tape on the bottom wall and a number of sections as described in the previous two paragraphs.

[0035] In an advantageous application for partition walls of rooms having sources of noise, such as a disco or an engine room, according to another aspect of the invention use can be made of a section for partition walls built up from sections and plates, which section comprises a bottom wall, wherein the bottom wall is provided with a first tape having a layer of adhesive for adhesion to a permanent construction part, such as a ceiling or floor wherein the first tape comprises at least one layer of felt material that is attached to the bottom wall by means of an adhesive. In that way both impact sound and air sound are dampened.

[0036] In one embodiment at least two layers of felt material situated above one another have been arranged on the bottom wall, which layers of felt material are attached one to the other by a layer of adhesive. The layers of felt material and adhesive can be joined together in the first tape beforehand, which tape may have been arranged as a unity beforehand either on the work or on the bottom wall.

[0037] The layer of felt material that is situated at a greater distance from the bottom wall may have a larger width than the layer of felt material situated closer to the bottom wall, in order to thus fill up the slit space between the panel edge and the permanent structure (such as floor or ceiling).

[0038] In a simple embodiment the adhesive is part of

a layer of double sided adhesive tape. In order to enhance sound insulation the layer of adhesive tape may comprise a layer of elastically compressible material. The layer of adhesive tape may comprises a layer of air sound-insulating material. The layer of adhesive tape may comprise a layer of synthetic foam material with closed cells. The material of said layer may combine these properties in one material.

[0039] From a further aspect the invention provides a system wall, particularly a metal stud wall, for separating two interior rooms, comprising a number of elongated panels, a number of vertical sections extending between a ceiling and a floor, wherein the panels are situated above one another with the longitudinal direction horizontal so that between them horizontal transitions or joints are formed.

[0040] In that connection the invention also provides a method for making a system wall, wherein elongated panels with their longitudinal direction horizontal are placed and attached on verticals.

[0041] Such a build-up in which the panels are not placed vertically but horizontally, is advantageous from an ergonomic point of view and counteracting physical complaints, as the panels, that usually have a length of over 2.5 m, have to be picked up and placed by two men. In case of vertical placement one tends sooner to place the panels by oneself, on ones own.

[0042] In one embodiment thereof a strip of plate material, such as metal, is arranged behind the transition defined between the situated above one another, at the side facing away from the space. In that way a protection is provided against falling through, when the wall for instance forms the separation between a room and a stairwell. The strip may for instance be made of Sendzimir galvanized steel. The strip moreover has a function in the fire-resistance in the transitional area of both panels.

[0043] In a simple and quick to build embodiment the strip is provided with a layer of adhesive for adhesion of the panels to the strip.

[0044] In a simple embodiment the panels are and the strip is attached to the verticals by a layer of adhesive.

[0045] According to a further aspect the invention provides a strip of plate material suitable and intended for use in said wall.

[0046] According to a further aspect the invention provides a tape assembly suitable and intended for a section or system wall according to the invention.

[0047] According to a further aspect the invention provides a section for system walls, having at least a bottom wall and preferably having at least one side wall, particularly two opposing side walls, wherein at least one of the said walls is provided with a tape adhered thereto by adhesive, which tape is of elastic foam material with closed cells, such as PE-foam, wherein the tape at the side facing away from the section wall in question is provided with a layer of adhesive, which preferably is covered by a removable cover sheet. The at least one wall may be the bottom wall and/or a side wall. The layers of

adhesive preferably comprise a high tack acrylic glue. At least one layer of adhesive can be provided with a reinforcement mesh, grid or gauze, particularly of glass fibres, preferably embedded in the adhesive.

[0048] According to a further aspect the invention provides a building having at least one system wall according to the invention.

[0049] The aspects and measures described in this description and the claims of the application and/or shown in the drawings of this application may where possible also be used individually. Said individual aspects may be the subject of divisional patent applications relating thereto. This particularly applies to the measures and aspects that are described per se in the sub claims.

SHORT DESCRIPTION OF THE DRAWINGS

[0050] The invention will be elucidated on the basis of a number of exemplary embodiments shown in the attached drawings, in which:

Figure 1 shows an isometric view of an embodiment of a section according to the invention to be used as an upper or lower section for a system wall according to the invention;

Figure 2 shows a isometric view of an embodiment of a section according to the invention to be used as a side section for a system wall according to the invention;

Figures 3 and 4 show isometric views of an embodiment of a section according to the invention to be used as a vertical for a system wall according to the invention;

Figures 5A-E show consecutive stages in building up a system wall using the sections of figures 1-4;

Figure 6A shows a cross-section of an exemplary embodiment of a composite tape according to the invention to be used in the section of figures 1 and 2;

Figure 6B shows a detail of the tape of figure 6A, in a possible embodiment thereof;

Figures 7A and 7B show a cross-section at the location of the connection of the system wall near a ceiling, in the regular condition and in case of a fire, respectively;

Figures 8A and 8B show a cross-section of a further embodiment of a composite tape according to the invention and a cross-section at the location of a connection of the system wall near the floor, respectively;

Figures 9A and 9B show a floor plan of a part of a

building having a system wall according to the invention between a room and a stairwell and a cross-section of said system wall, respectively; and

Figure 10 shows a cross-section of a double-sided adhesive tape according to the invention, to be used in the sections of the figures 2-4.

DETAILED DESCRIPTION OF THE DRAWINGS

[0051] The sections 10, 20 and 30 shown in figures 1-4 in this example are made of metal. They may also be made of another suitable material, such as a synthetic material.

[0052] The section 10 is U-shaped and symmetrical, having a level bottom wall 12 that extends at least in a wide middle strip 12a according to a main plane V1 and, at the location of the side edges, side walls 13 that connect thereto at right angles, which walls define a channel 11. The margins 12a,b are parallel to plane V1 and are preferably in one plane with strip 12a. On the bottom wall 12 at the outside thereof a composite tape 40 is adhered by means of adhesive. Said tape is further shown in figures 6A and 6B. The section 10 is intended to be attached against a ceiling and/or against a floor. The section 10 can have a width of 70 mm and a height of 43 mm.

[0053] The section 20 is U-shaped and symmetrical, having a level bottom wall 22 that extends at least in a wide middle strip 22a according to a main plane V2 and, at the location of side edges, side walls 23 that connect thereto at right angles, which walls define a channel 21. The margins 22a,b are parallel to plane V2 and preferably are in one plane with strip 22a. On the bottom wall 22 at the outside thereof a composite tape 40 is attached. At the outer sides of the side walls 23 a double-sided adhesive tape 70 is attached. The section 20 is intended to be attached against the vertical side edges of the opening to be closed off by a system wall. The section 20 may have a width of approximately 68 mm and a height of 43 mm.

[0054] The section 30 is symmetrical and actually also U-shaped, but so-called C-shaped due to the turned edges 34 at the side walls 33. The channel 31 is furthermore bounded by a level bottom wall 32. At the outside of the side walls 33 a double-sided adhesive tape 70 is attached. The section 30 is intended to be placed as a vertical in the system wall. The section 30 may have a width of 68 mm and a height of 43 mm.

[0055] The thickness of tape 40 may be 4 mm. The thickness of tape 70 may be 1.2 mm.

[0056] It is noted that the definition of U-shaped section also includes those sections that are substantially U-shaped yet of which a middle strip of the bottom wall is recessed a few millimetres with respect to the edge strips, which for that matter are indeed parallel to the middle strip, defining the main plane.

[0057] Building up a system wall using the sections 10, 20 and 30 can be done in the way as shown in figures

5A-E. In the factory the sections 10, 20 and 30 have already been provided with the composite tape 40 and/or double-sided adhesive tape 70 that come from rolls. Both tapes are covered by layer of cover paper or foil (release paper), as generally known, which cover paper previously kept the consecutive windings in the roll separated from each other. The installer removes the cover paper from the composite tape 40 of the sections 10 and presses said sections with the bottom wall 12 against the ceiling 53 and the floor 52, respectively, at the location of the passage 51 to be closed off. Subsequently the side sections 20 are pressed against the side edges 54 of the permanent wall, after removal of the cover paper from the adhesive tape 40. The section 20 has a slightly narrower bottom wall 22 so that the outer ends of the section 20 fit in the channel 11 of the section 10 and the ends of the adhesive tape 70 are able to adhere to the insides of the side walls 13 of the sections 10. The adhesive power of the tapes 40 is such that the sections 10, 20 remain in their places, including the upper section 10. The situation of figure 5A is then achieved. Subsequently a number of verticals 30 are placed in the passage 51, of which one is shown in this example. The section 30 has a slightly narrower bottom wall 32 so that the outer ends of the section 30 fit in the channel 11 of section 10 and the ends of the adhesive tape 70 are able to adhere to the insides of the side walls 13 of the sections 10. The situation of figure 5C is then achieved, after which the panels 61, made of plaster board, that may or may not be reinforced with (glass) fibres, of 12.5 mm or 15 mm can be placed in a single layer, see figures 5D,E. The panels can easily be arranged on the adhesive tapes 70 on the sections 20 and 30.

[0058] Then insulation plates or blankets (for instance glass wool) are placed between the sections 20, 30, and finally the panels 61 are placed at the other side of the system wall.

[0059] Thus a system wall is placed substantially without locally using screws and the like. In that way time is gained. Furthermore the sound-tamping properties are improved, due to the tapes 40 between the system wall and the permanent walls, which tapes surround the passage closed off by the system wall all round. The round going tape 40 furthermore has a function in sealing against air flows.

[0060] The adhesive tape 70, further shown in figure 10, can also be supplied on a roll, and may have the following structure: a layer of cover paper 71 (for instance silicon containing), a layer 72 of adhesive, preferably high tack acrylic glue, a layer 73 of one or several mm thick, for instance 1.2 to 4 mm thick, of a synthetic foam material with closed cells, for instance polyethylene foam, and another layer 72 of said adhesive. In the layers of adhesive 72 a reinforcement mesh of for instance glass fibre may be incorporated, having mesh widths of for instance a few mm.

[0061] The adhesive tape 40, also see figures 6A,B, comprises three tapes or strips, a middle first tape 41 of

material corresponding with the material of layer 73 of tape 70, only a little thicker. On either side of the first tape 41 second and third tapes 43 are arranged. Said tapes 43 serve to cooperate in rendering the structure with system wall sufficiently fire-resistant, in order to comply with the requirements regarding resistance to fire penetration and fire transfer, particularly for 60 minutes. The tape or strip 41 and tapes 43 are detachably attached to a cover sheet 44 by means of a continuous layer of adhesive 42a, preferably high tack acrylic glue. At the other side facing away from the cover sheet intended for adhesion to the section, all three tapes are provided with a layer of adhesive 42b running continuously transverse over the tapes 43, 41, 43. Both layers 42a,b, in which a reinforcement mesh of for instance glass fibres is incorporated, having mesh widths of for instance a few mm, thus form one manipulable whole prior to adhesion to the section. In storage as a roll they will be able to detachably adhere to the opposing side of the cover sheet 44 of the next winding in the roll. Arranging the tape 40 on the bottom wall is easy to do by unwinding the roll of tape 40 over the bottom wall 12, 22 of the section 10, 20. It will be understood that in the orientation shown in figure 6A the upper side of the tape 40 will be/is adhered against the bottom wall of the section, by pressing the tape 40 against the bottom wall. The tape 41 is then adhered to the strip 12a, 22a of the section 10, 20 the second and third tapes 43 with their main sides to the margins 12b, 22b. When placing against a wall after removing the cover sheet 44 both tapes 43 and the tape 41 are pressed with the layer 42b against the wall surface and adhered thereto.

[0062] In one embodiment the material of the tapes 43 is substantially formed by ceramic fibres, such as Fire-tape Ceramic available as a tape from Stokvis Tapes of Alblasserdam.

[0063] In another embodiment the material of the tapes 43 is substantially formed by a synthetic foam treated for flame-extinguishing, such as EPDM foam, for instance at at least the outside, preferably also internally provided with a flame-extinguishing agent, such as FireExit by Procede Group of Enschede.

[0064] In the alternative embodiment of the tape 43 shown in figure 6B, the material of the tapes 43 is substantially a material that foams when exposed to heat, in view of closing off a transition or passage. Such materials are generally known per se for fire-resistant structures. The material 43 may for instance be a PUR-based material. In figure 6B it can be seen that the tape 43 at the side of the tape 41 is provided with an upright strip 45 of material that does not foam when exposed to heat, which strip forms a kind of partition for the foaming material, as a result of which the foaming material cannot foam towards the first tape 41. The direction of foaming (preferably A) is further influenced because the tape 43 is built up from layers 43a-c of foaming material, separated from each other by thin layers of glass fibre fleece 46 that are parallel to the cover sheet 44. The layers 46, strip 45 and

layers 43a-c are connected to each other. The other tape 43 is situated mirrored with respect to the tape 43 shown, so that also at that location the strip 45 is situated near the edge of the first tape 41.

[0065] In figures 7A and 7B a detail of the upper section 10 adhered against the ceiling 53 is shown, wherein the section 10 via two adhesion layers 42 of high tack acrylic glue is adhered to the ceiling 53 and without other mechanical means, such as screws/bolts, remains attached thereto. The tapes 43 themselves do not adhere directly to the ceiling here. The panels 61 have been adhered against the adhesive tapes 70 on the verticals 30 and are kept in their places by the high tack acrylic glue.

[0066] In figure 7B there is a fire in the right-hand room or space, with a strongly increased temperature of T+. As a result the material 43, depending on the chosen material, started to foam, and expanded in the direction A, subsequently in direction B in order to extend over the upper edge of panel 61, which is better shielded in that way.

[0067] In figure 8A a composite tape 80 according to a further aspect of the invention to be supplied on a roll is shown, particularly suitable for improved sound-insulation of rooms where one or more sources of noise are situated or for rooms from which outside noise should be banned. The composite tape 80 comprises a number of layers of felt material 85a,b which are adhered to each other by means of a double-sided adhesive tape that corresponds with adhesive tape 70. The layers of felt material may for instance be 10 mm thick. The felt material may correspond with the material of underfelt. The layer 85b on either side extends to beyond the layer 85a.

[0068] When placing a system wall, the tape 80 has been adhered on a section 10 beforehand or on the work. The cover sheet 71 is removed and the section 10 is adhered to the floor with tape 80. This can be done without through-screws, as a result of which impact sound transfer is counteracted to an extensive degree. The section 10 is then also positioned electrically insulated from earth. The panels 61 can support on the projecting edges of the felt layer 85b. In that case the adhesive power of the adhesive of adhesive tape 70 need not be so high as for the upper section and for the verticals.

[0069] In figure 9A a part of a floor plan of a building 100, such as a hospital is shown. There are beds in the rooms K. Between both rooms there is a stairwell T. The rooms K are separated from the outside air by a bearing exterior wall 101, from the hallway G by system wall 102 and from the stairwell T by system walls 103. Safety standards require that it should be prevented that a person moving in the direction K should fall through the system wall 103 and end up in the stairwell T.

[0070] According to the invention this is provided for by, see figure 9B, placing the panels 61' in horizontal sense, with horizontal joints 62. On the verticals 30 a continuous metal plate 90 is adhered, by means of the adhesive tape 70 arranged on the side walls 33 of the sections 30. The plate is 0.6 mm thick here, made of

Sendzimir galvanised steel. At the front side the plate 90 is provided with one or more tapes 70, that are optionally just as wide as the plate 90. The plate 90 thus incorporated in the system wall 103 without screws forms an effective fall-through protection and has a function in the improvement of the fire-resistance in the area of the transition between both panels.

[0071] It is noted that the intermediate vertical sections may also have another cross-section than C-shaped, for instance H-shaped.

[0072] The above description is included to illustrate the operation of preferred embodiments of the invention and not to limit the scope of the invention. Starting from the above explanation many variations that fall within the spirit and scope of the present invention will be evident to an expert.

Claims

1. Section, particularly individually manageable, intended for partition walls built up from sections and plates, which section comprises a bottom wall, wherein the bottom wall is provided with a first tape adhered thereto by a layer of adhesive, particularly a high tack acrylic glue, wherein at a main side facing away from the bottom wall and extending substantially parallel to the bottom wall the first tape is provided with a layer of adhesive, particularly a high tack acrylic glue, for adhesion to a permanent construction part, such as a ceiling or floor, **characterised in that** in a margin, adjacent to the first tape, the bottom wall of the section is provided with a second tape with a layer of material having fire-resistant properties, and preferably also in a margin that is situated at the other side of the first tape than the second tape is provided with a third tape with a layer of material having fire-resistant properties.
2. Section according to claim 1, wherein at a main side, substantially parallel to the bottom wall, the second tape and, if present, the third tape is adhered to the bottom wall by a layer of adhesive and/or at the other main side is provided with a layer of adhesive.
3. Section according to claim 1 or 2, wherein at at least one of either main sides, preferably the main side facing away from the bottom wall, particularly both, the layer of adhesive of the first tape and/or the second tape/third tape is provided with a reinforcement mesh, grid or gauze, particularly of glass fibres, preferably embedded in the adhesive.
4. Section according to claim 2 or 3, wherein at at least one main side extending preferably substantially parallel to the main plane of the bottom wall, the first and the second tape and/or, if present, third tape are directly connected to each other by a layer of adhesive

sive continuing in transverse direction, which continuing layer of adhesive is situated at the main side of the first, second and optionally third tape, facing away from the bottom wall, and/or is situated between the bottom wall and the first, second and optionally third tape.

5. Section according to any one of the preceding claims, wherein at the main side facing away from the bottom wall and extending preferably substantially parallel to the main plane of the bottom wall, at least the first tape is covered by a cover sheet, preferably extending over the second and, if present, the third tape.
6. Section according to any one of the preceding claims, wherein the first and second and optionally third tape have a joint width that at least almost corresponds with the width of the bottom wall of the section, wherein in particular the second and/or third tape extend up to the side edge of the bottom wall.
7. Section according to any one of the preceding claims, wherein the main sides of the first, second and/or third tape, which main sides extend substantially parallel to the bottom wall and are situated at the bottom wall side, are at least situated almost in one plane.
8. Section according to any one of the preceding claims, wherein the first tape between the layers of adhesive comprises a layer of elastically compressible material and/or comprises air sound-absorbing material and/or a layer of foam material with closed cells, such as PE-foam.
9. Section according to any one of the preceding claims, comprising two side walls that are substantially transverse to the bottom wall, wherein at the outside at least one side wall is provided with a layer of adhesive, particularly a high tack acrylic glue, for attaching panels thereon, in particular is provided with a band which as regards structure corresponds with the first band, which preferably extends up to the outer ends of the section.
10. Section according to any one of the preceding claims, wherein the section has a U-shape with a bottom wall which has a surface situated in one plane extending from the one side edge connecting to a side wall to the other side edge connecting to the other side wall.
11. Section according to any one of the preceding claims, wherein the second and, if present, third tape comprises a body of ceramic fibres.
12. Section according to any one of the preceding

claims, wherein the second and, if present, third tape is a body of synthetic foam material, particularly EPDM, which at least at the outside, preferably entirely, is provided with a flame-extinguishing agent.

13. Section according to any one of the preceding claims, intended to be used as an upper tray for pre-assembled, finished system wall assemblies that form ready-made partitioning walls of the system wall.
14. System wall, particularly metal stud wall, comprising a number of vertical panels, a number of vertical sections extending between a ceiling and a floor and an upper section attached against the ceiling and/or a lower section attached against the floor, wherein at least one of the vertical sections, upper section and lower section is designed like a section according to any one of the claims 1-12 and is attached to the vertical permanent wall edge, ceiling or floor, respectively, in particular only by the said adhesive.
15. Tape assembly to be used on a section according to any one of the claim 1-13, comprising a carrier or cover layer and a first tape detachably attached thereto and an adjacently situated second tape, wherein the second tape comprises a layer of material having fire-resistant properties, preferably also provided with a third tape with a layer of material having fire-resistant properties, situated at the side of the first tape which side faces away from the second tape, wherein the first and the second tape and the third tape, if present, preferably connect to each other or are situated closely adjacent to each other.
16. Tape assembly according to claim 15, wherein the first tape, the second tape and the third tape, if present, at least at one side, preferably both sides, are provided with a layer of adhesive, preferably a layer of adhesive continuing in transverse direction, and/or preferably provided with a reinforcement mesh, grid or gauze, particularly of glass fibres, preferably embedded in the adhesive.
17. Tape assembly according to claim 15 or 16, wherein the layer having fire-resistant properties is designed as described in any one of the claims 11 or 12.
18. Section, particularly individually manageable, intended for partition walls built up from sections and plates, which section is substantially U-shaped and has a bottom wall and two side walls, wherein at least one side wall at the outside is provided with a tape adhered thereto by a layer of adhesive, particularly a high tack acrylic glue, wherein at a main side facing away from the side wall and extending substantially parallel to the side wall, the tape is provided with a layer of adhesive, particularly a high tack acrylic glue,

for adhesion thereon of a panel of a system wall, wherein at least one of the layers of adhesive, particularly at least the latter layer of adhesive, preferably is provided with a reinforcement mesh, grid or gauze, particularly of glass fibres, preferably embedded in the adhesive, wherein between the layers of adhesive the tape preferably comprises a layer of elastically compressible material and/or air sound-absorbing material and/or comprises a layer of foam material with closed cells, such as PE-foam.

19. Assembly for building a metal stud system wall, comprising a number of sections according to any one of the claims 1-12 and a number of sections according to claim 18.
20. Section according to any one of the claims 1-10, wherein the layer of material having fire resistant properties comprises a material that foams when exposed to heat, such as PUR, wherein preferably the layer of material having fire-resistant properties is provided with means for directing the direction of foaming of the material that foams when exposed to heat, particularly in a direction away from the first tape, wherein, preferably, at the side facing the first tape the layer of material having fire-resistant properties is provided with an upright layer of material that does not foam when exposed to heat, preferably in the form of an upright strip.
21. Section according to claim 20, wherein the layer of material having fire-resistant properties comprises a number of layers of material that foams when exposed to heat, which are separated from each other by intermediate layers of material that does not foam when exposed to heat, particularly in the form of a fleece, film or foil.
22. Section according to the preamble of claim 1, wherein the first tape is provided with at least one layer of felt material that is attached to the bottom wall by means of an adhesive.
23. Section according to claim 22, wherein at least two layers of felt material situated above one another have been arranged on the bottom wall, which layers of felt material are attached one to the other by a layer of adhesive.
24. Section according to claim 23, wherein the layer of felt material that is situated at a greater distance from the bottom wall has a larger width than the layer of felt material situated closer to the bottom wall.
25. Section according to claim 22, 23 or 24, wherein the adhesive is part of a layer of double sided adhesive tape.

26. Section according to claim 25, wherein the layer of adhesive tape comprises a layer of elastically compressible material and/or sound-insulating material.
27. Section according to claim 25 or 26, wherein the layer of adhesive tape comprises a foam material with closed cells. 5
28. System wall, particularly metal stud wall, for separating two interior rooms, comprising a number of elongated panels, a number of vertical sections extending between a ceiling and a floor, wherein the panels are situated above one another and between them form horizontal transitions or joints. 10
29. System wall according to claim 28, wherein at the location of the transition defined between them, at the side facing away from the room, a tape having fire-resistant material is adhered that seals off the transition. 15
30. Wall according to claim 29, wherein the sealing tape is arranged on a strip of plate material, such as a metal strip, which preferably is attached to the vertical sections by means of adhesive. 20
31. Wall according to claim 30, wherein the panels are also attached to the vertical sections by means of adhesive. 25
32. Strip of plate material suitable and intended for use in the wall according to claim 29, 30 or 31. 30
33. Section for system walls, having at least a bottom wall and preferably having at least one side wall, particularly two opposing side walls, wherein at least one of the said walls is provided with a tape adhered thereto by a layer of adhesive, which tape is of elastic foam material with closed cells, such as PE-foam, wherein the tape at the side facing away from the section wall in question is provided with a layer of adhesive, preferably covered by a removable cover sheet. 35
34. Section according to claim 33, wherein the at least one wall is the bottom wall. 40
35. Section according to claim 33, wherein the at least one wall is a side wall. 45
36. Section according to claim 33, 34 or 35, wherein both layers of adhesive comprise a high tack acrylic glue. 50
37. Section according to claim 36, wherein at least one layer of adhesive is provided with a reinforcement mesh, grid or gauze, particularly of glass fibres, preferably embedded in the adhesive. 55
38. System wall, particularly metal stud wall, comprising a number of vertical panels, a number of vertical sections extending between a ceiling and a floor and an upper section attached against the ceiling and/or a lower section attached against the floor, wherein at least one of the vertical sections, upper section and lower section is designed like a section according to any one of the claims 20-27 or 33-37.
39. Building having at least one system wall according to any one of the claims 14, 28-31 or 38.
40. Method for making a system wall, particularly a metal stud wall, wherein elongated panels with their longitudinal direction horizontal are placed and attached on verticals.

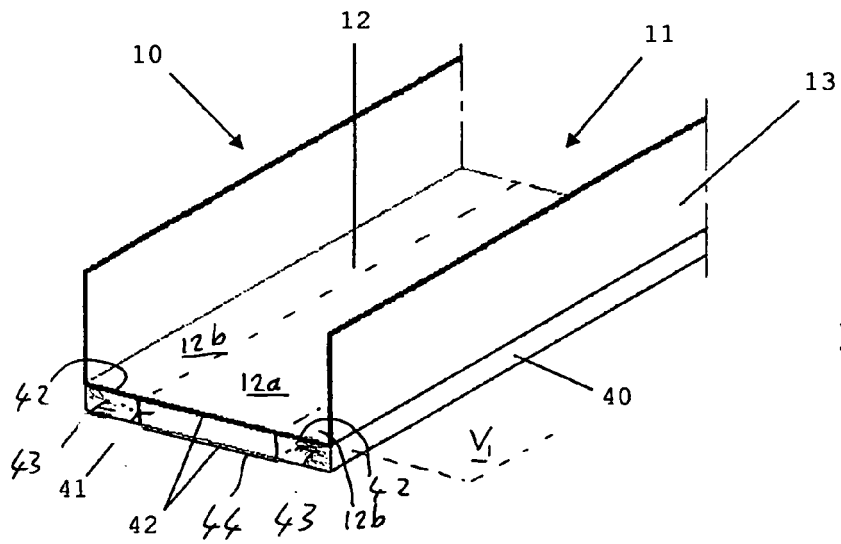


Fig. 1

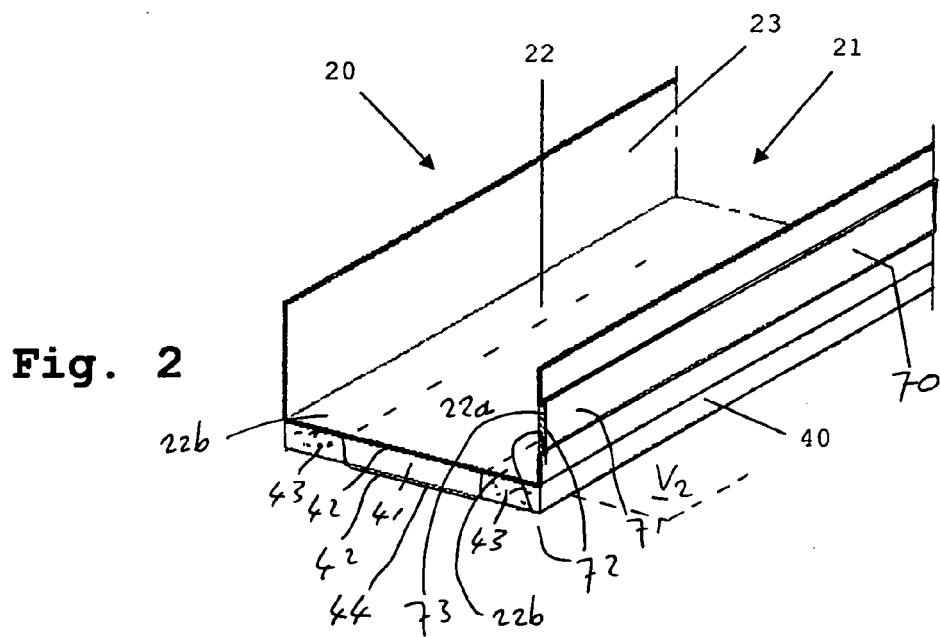


Fig. 2

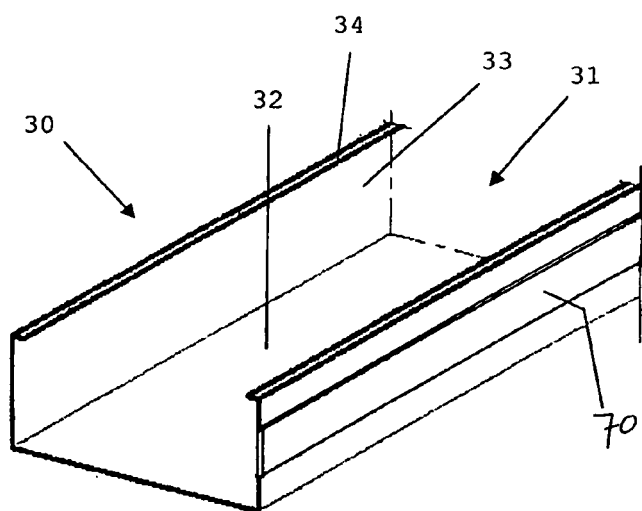


Fig. 3

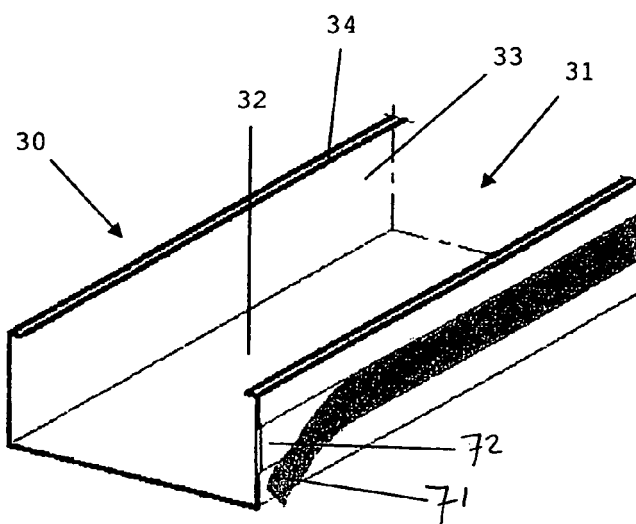
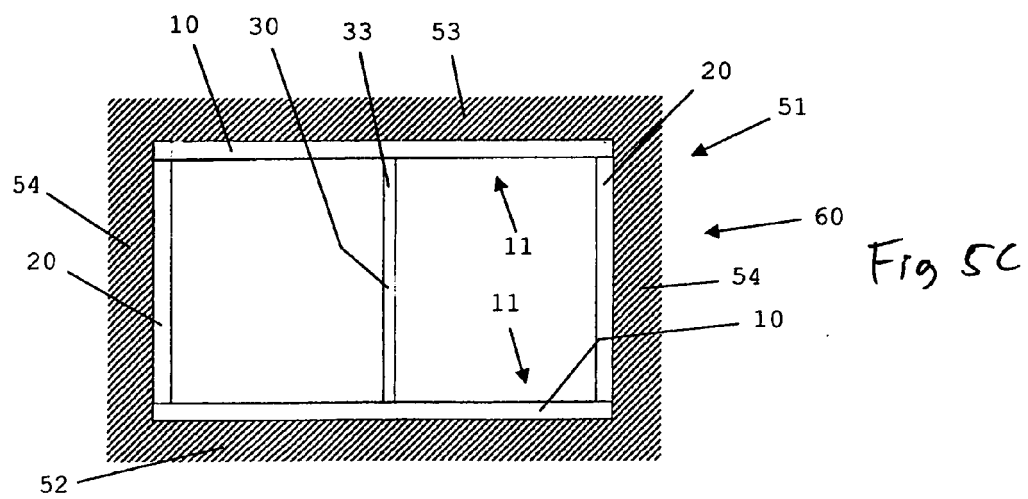
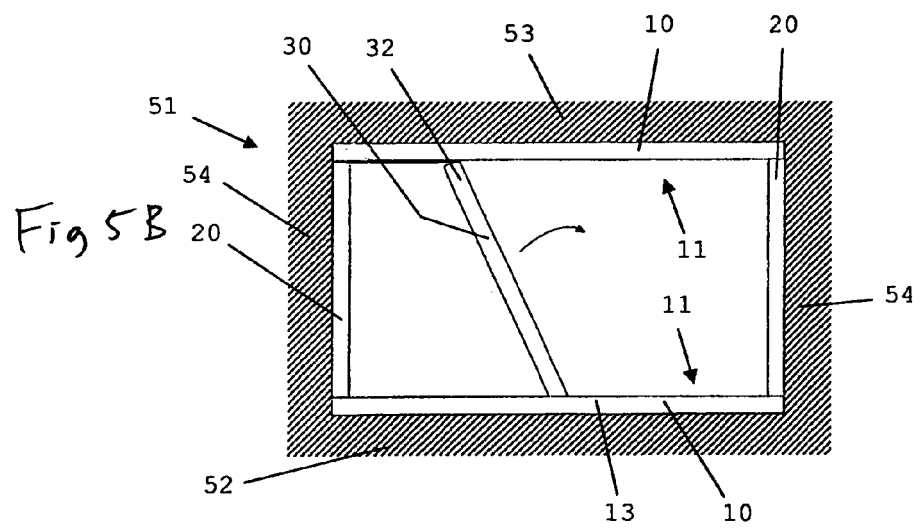
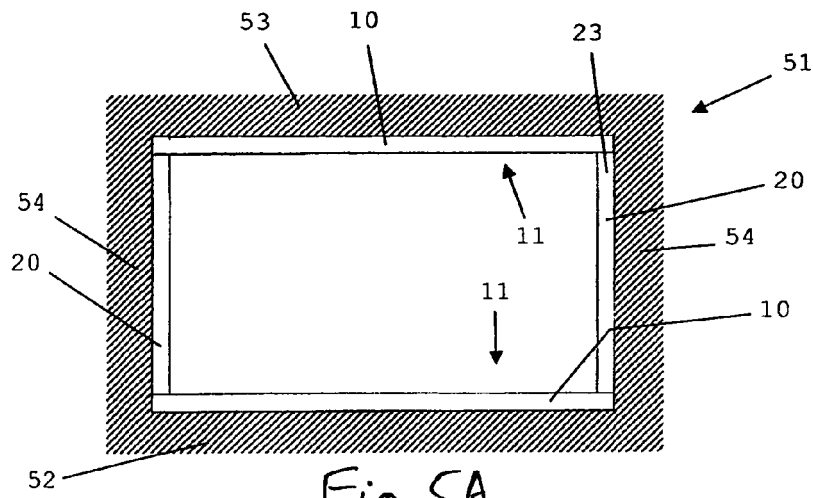
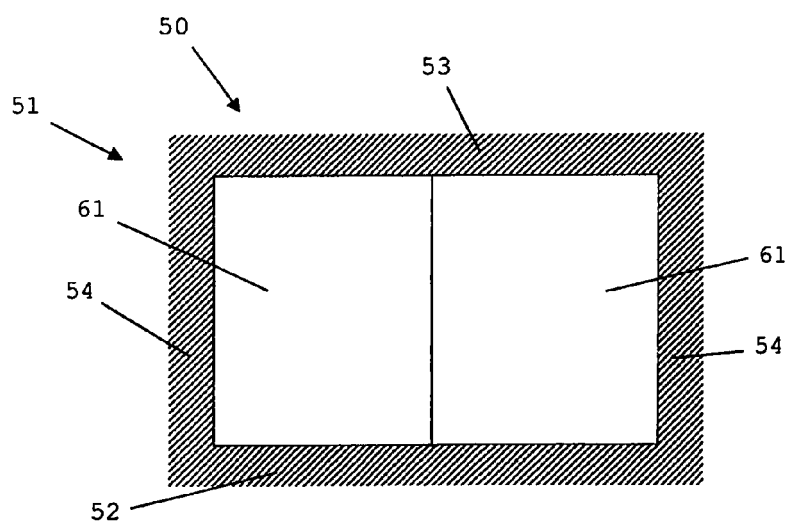
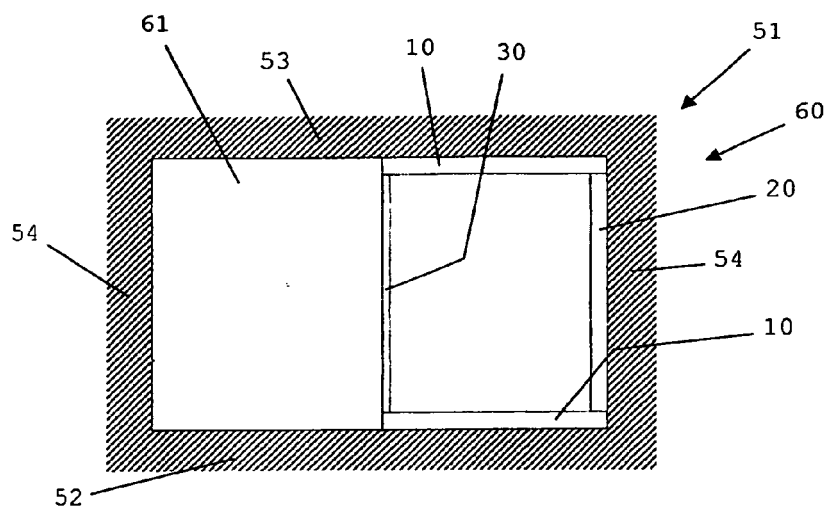
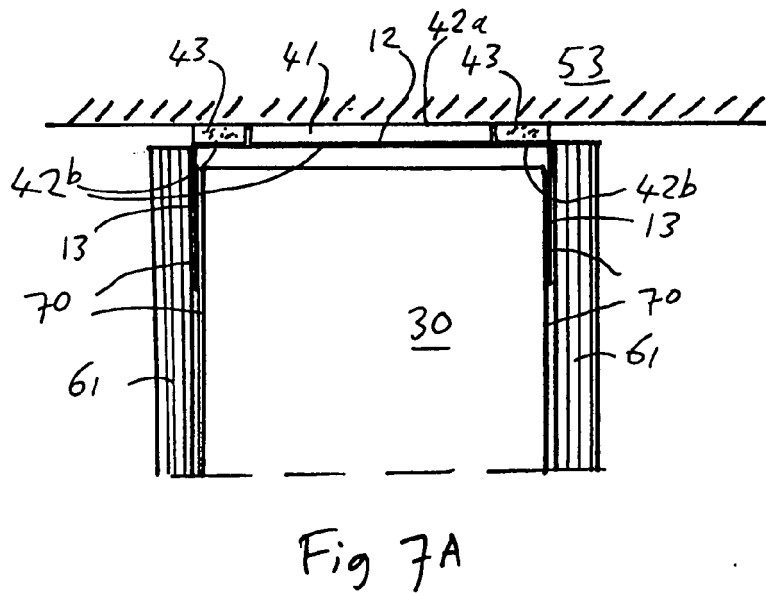
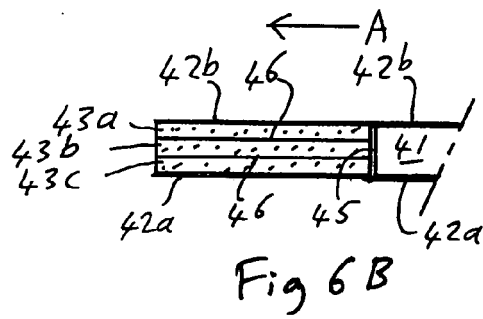
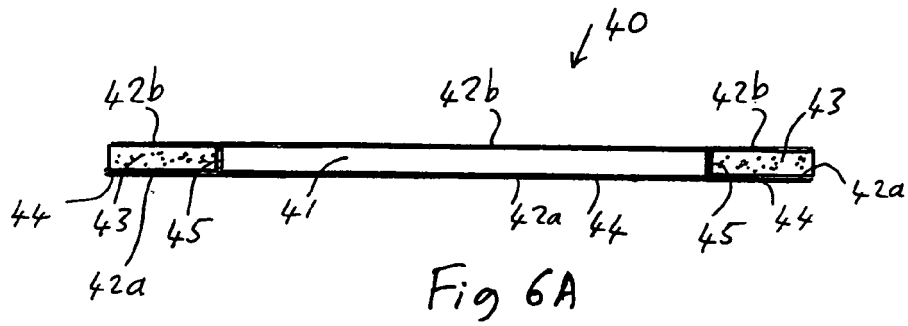


Fig. 4







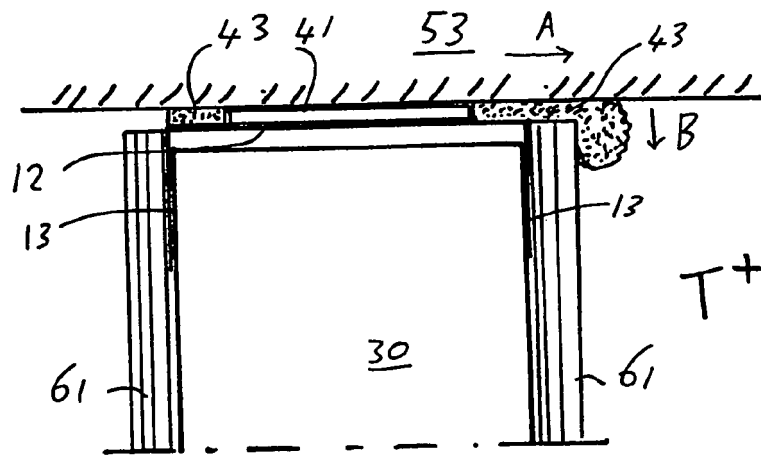


Fig 7B

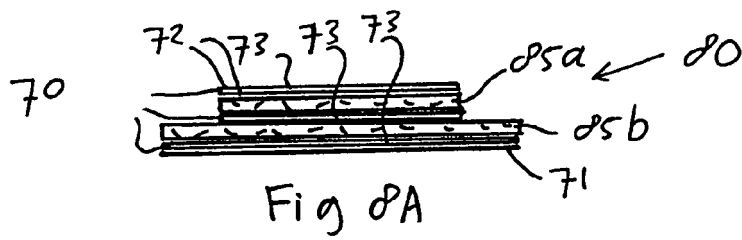


Fig 8A

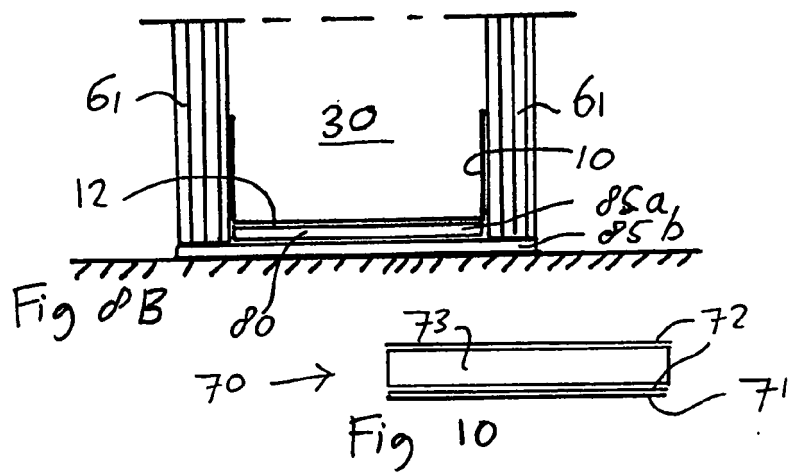


Fig 9B

Fig 10

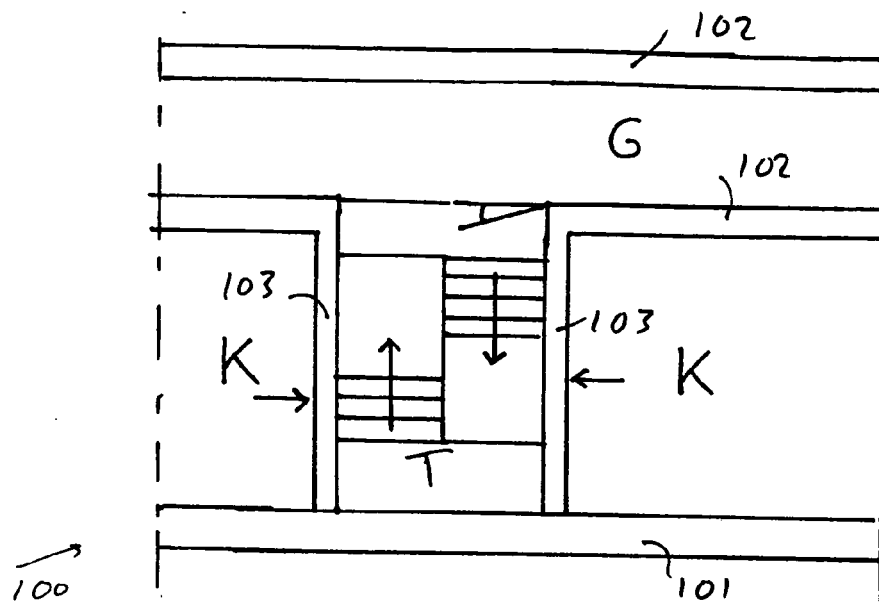


Fig 9A

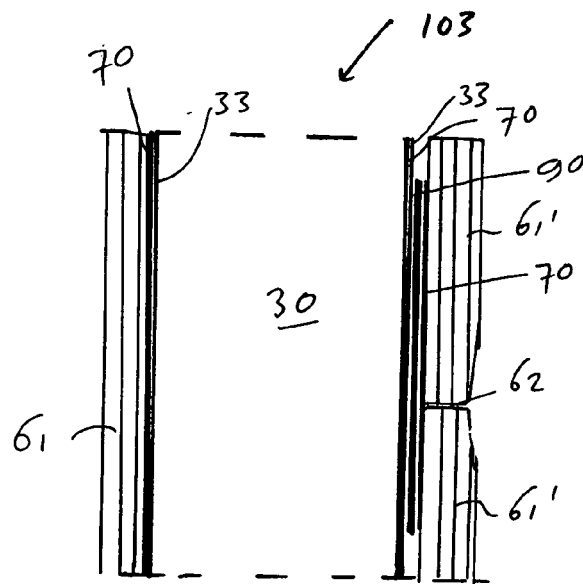


Fig 9B