

PANEL STRUCTURE, PARTICULARLY FOR THE ASSEMBLAGE OF ELEVATED FLOOR.

Technical field

The present invention has as its object the structure of a
5 panel particularly for the assemblage of an elevated floor.

Background art

As currently used, the elevated floors are characterized by their feature of being built substantially through an amount of panels hanged over at a certain distance from the soil or being held by a
10 fixture of support.

These floors are particularly indicated to be used in thermo electrical or electrical plants where the maintenance shall be easily provided or shall suffer constant modifications.

Besides that, the elevated pavements are particularly
15 indicated to the situations where ventilation to the environment shall apply and also where certain types of machinery are installed.

Currently, the panels that constitute the elevated pavements above-mentioned are substantially made of a body covered by a layer that is normally an anodized metallic strip.

20 Particularly, the external frame acts as a fixture element, assuring the rigidity of the set.

The panel with the structure above cited, although accomplishing the proposed assignment, is not immune to inconveniences.

25 Particularly, it must be taken into consideration the evident anti-esthetic situation generated by the inevitable joints existing there due to the coating, such joints that in another way, when assembled to the side surface, can make an unpleasant and noisy effect of friction.

Besides that, the array or set of the known art is not able to combine lightness and rigidity to the complex, which functional effect is determined by the thickness necessary to avoid the undesirable deformation that is related to the load applied to the set or array (as example, the sensation of instability).

Summary

In accordance with one aspect of the present invention, there is a panel structure, particularly for the assemblage of elevated floor, formed of a panel specially designed for building an elevated floor, comprehending a body in the shape of a plate, a profile drawn from the surface turned to the side of stepping and to the surface counter-placed turned to the soil, covered by a metallic coating made of strips joined through clamping, said strip containing at least one fold to fit the related joint by clamping, characterized by the fact that said covering is obtained by two half-shells, coupled one to the other by a clamed joint.

One embodiment provides constructing a panel containing a structure that grants a solution to the inconveniences brought up by the panels known in the art, particularly assuring a very high rigidity to the array related to its weight, and in this way, able to achieve a very limited deformation and being absolutely acceptable to the use for which it has been destined.

Another embodiment provides making a panel with a structure able to eliminate almost totally the friction problem between the adjacent panels, assuring a high resistance in use besides producing a very low noise when it is stepped over.

Another embodiment provides a panel in such structure that could be very flexible and could be defined in a wide range of profiles enabling the creation of different stiles.

Another embodiment provides a panel with a structure that can be manufactured either in an automatic line of production or at least a semi-automatic line of production, saving time and money in the process.

Another embodiment provides making a panel containing a structure that is manufacturable with technologies and installations of determined characteristics.

Another embodiment provides a panel structure to build elevated floors characterized by the fact that it contains the shape of a plate with a profile drawn from the turned surface up to the stepping side and up to the counter-side surface turned to the soil, covered by a metallic coating obtained by a cladding strip joined by clamping, said strip being provided with at least one fold to fit the related joint by clamping it inside the correspondent recess, defined in correspondence to the bottom edge of the said body, the external surface of said joint remaining at the same level as the surface of the surrounding coating.

Other characteristics and advantages of the present invention, will be better perceived from the description of the preferred embodiments illustrated by the figures that are part integrant of this patent application, assuring that the whole conception of this invention is not restricted to the embodiments hereinafter shown by the drawings below.

Brief description of the drawings

Fig. 1 shows an axonometric section of a panel with the structure according to the invention;

Fig. 2 shows in axonometry one part of the panel shown in Fig. 1;

Fig. 3 shows an axonometric section of one part of a constructive variation of the panel shown in Fig 1; and

Fig. 4 shows an axonometric section of a further constructive variation of the panel shown in fig 1.

Best way to carry out the invention

Particularly referring to Figs. 1 and 2, a panel used particularly in building elevated floors, with the structure according to

the invention, is indicated as number 10.

Particularly, the panel 10 comprehends a body in the shape of a plate 11, a profile drawn from the surface 12 up to the stepping side, up to the counter-side surface 13, turned to the soil, covered by a
5 metallic coating 14 made of claded strips 15, in this case anodized, joined by clamping.

The claded strips 15 are provided with a covering fold 16 to fit the related joint, here numbered as 17, through clamping inside the correspondent place 18 defined in the body 11 corresponding to the
10 bottom edge.

The external surface of the joint 17 remains at the same level as the surface of the surrounding covering fold 16.

In this case the joint 17 is defined corresponding to the side surface of the panel 10 e more precisely to the adjacency of the
15 surface 13 turned to the soil.

The covering fold 16 is, in this embodiment, obtained by two half-shells, respectively 19 and 20, one of them, 19, so-called in the sector "cup" is placed in the bottom part and clamped to another part 20 placed in the top and so-called in that spot as "lid".

20 With a particular reference to Fig. 3, an alternative embodiment of the panel above described comes in the set/array numbered as 100.

Particularly the panel 100 is also provided with a body 101 as previously described in panel 10, comprehends besides the coating, here numbered as 102, a frame constituted by a set of ribs profiles 103
25 made of plastic material joined together by glue/sticking material corresponding to the side surface of the same panel 100.

With special reference to Fig. 4, a further embodiment

variation 200 provides also a body 201 containing a coating 202 made of anodized metallic strips and clamped in the same way as described in panel 10, but in this case differs due to the presence of a side border constituted by a set of ribs profiles 203 each one of them
5 presenting a protuberance 204 to insert a coupling inside a counter-profile as a shell 205 carved in the body 201 and corresponding to the coating 202.

In practice, it is shown that the present invention has brought the solution to what was proposed in the beginning, to the scope and to
10 what was stated.

It shall be noted how the panel with its structure according to the present invention, in all its embodiments, achieves a high equalization between the rigidity of the complex and its lightness, assuring in this way a very low deformation and high functionality in
15 any situation where it applies.

By carving the clamping method, there is no possibility of dotting it with a plastic material covering, assuring a further increment in rigidity of the structure complex according to the invention, rendering itself this way fit even in a situation of high stepping over.

20 Besides that, it must be observed how the panel profile, according to the structure of the invention, is conjugated to the positioning of the joints. It works in a way where each panel does not produce any friction with the other adjacent panels, what grants an optimum resistance to use but also the possibility of combining a high
25 level of silence with its work capability.

Still, it must be observed how the panel, according to the invention, can be coupled and associated to the widest range of pavements.

The present invention is open to a number of modifications, never leaving the scope of the inventive act, nor the invention itself.

All technical details are replaceable for other elements technically equivalent.

- 5 The material and the dimensions can be of any other kind according to the demand at any specific place and time.

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CLAIMS

1. **PANEL STRUCTURE, PARTICULARLY FOR THE ASSEMBLAGE OF ELEVATED FLOOR**, formed of a panel

5 specially designed for building an elevated floor, comprehending a body in the shape of a plate, a profile drawn from the surface turned to the side of stepping and to the surface counter-placed turned to the soil, covered by a metallic coating made of strips joined through clamping, said strip containing at least one fold to fit the related joint by clamping, characterized by the fact that
10 said covering is obtained by two half-shells, coupled one to the other by a clamped joint.

2. **PANEL STRUCTURE, PARTICULARLY FOR THE ASSEMBLAGE OF ELEVATED FLOOR**, according to claim 1,

15 characterized by the fact that each of the said ribs profiles are doted of a protuberance to insert a coupling inside a counter-profile as a shell carved in the said body and corresponding to the said body.