

Loosely laid natural stone panel floor

The invention relates to a natural stone panel floor, whereby the floor panels thereof are laid at a distance
5 from each other on an essentially flat base.

It is well-known to loosely lay natural stone floor coverings on an essentially flat base for meetings, shift
fairs etc. for later further use. As a compensation for
10 variations, narrow gaps are formed between the panels, employing for example cross-shaped plastic spacers, which are commonly used for laying fixed panels. In this case however, the result is not an immovable composite structure
15 of the panels, and any height differences of the ground cause the panels to tilt and/or form steps at the joints, which makes the floor more difficult to walk on and possibly brings about a risk of falling. Also the free edges of the panels can be damaged, which in particular impairs their re-use.

20 It is the aim of the invention to create a loosely laid natural stone panel floor which exhibits a mostly flat, joint-free surface and which is easy to lay and to take up again.

25 The solution is attained in such a way that that the floor panels comprise, respectively, a groove which is arranged on the lateral surfaces thereof and respectively a plastic spacer which is arranged between adjacent floor panels,
30 said spacer supporting a clamping crosspiece on both sides thereof, which is maintained in a clamped manner in the groove.

35 Favourable embodiments are indicated in the subclaims.

The clamping crosspieces preferably exhibit a horizontal boundary surface and clamping lamellas in opposite orientation, which are held in the groove in a clamping
40 fit. The boundary surface gives an exact reference to the adjacent groove surface. Favourably, the spacer extends upward from the clamping crosspieces in the joint up to the level of the stone panel, distancing the plates, so that a smooth, well-closed surface is formed above the joint.

45 Furthermore, it proves to be favourable, to use a relatively firm plastic such as PP, PE or ABS for the clamping crosspieces and the intermediate region and to use a softer component for the upper joint region which is moulded on by injection.

Preferably the upper edges of the soft region extend laterally above the joints, far enough to fill the respective chamfer of the stone, which is bevelled of approximately 1 mm.

- 5 This way no dirty or washing water etc can penetrate. Also small variations of the joint remain invisible, which by can occur due to the cutting of the stone and/or misalignments during use.

- 10 Fig.1 shows favourable embodiments.

Fig.1 shows a cross section of a joint region with a stone panel attached.

- 15 The side surfaces of the stone panels 1 are provided with a groove 11, which is preferably situated in the middle at half the height of the plate.

- 20 A joint spacer 2 extends between the stone panels 1, extending respective clamping crosspieces 20, 21 into the corresponding grooves 11 on both sides. Preferably the clamping crosspiece 20, 21 exhibits an essentially smooth reference surface 22 at the top, defining the height at which it is situated in relation to the upper surface of the groove. The soft plastic knobs (24B) attached by means of injection-moulding, increase the clamping effect and ensure a sealing against moisture.

- 30 Retaining lamellas 23 of conical and/or knob shape extend downward from the continuous clamping crosspiece region in a flexible manner providing a clamping fit in the groove 11. A joint region 24 of the spacer 2 extends upward from the reference surface 22 in the joint, where the upper joint region 24A is made from a substantially more flexible material.

- 35 The flexible joint region 24A projects from the vertical joint with diverging edge regions 25 into the respective chamfer 12 bevelled on the stones 10 and fills it in a sealing manner.

- 40 The grooves are for example 3.0 mm wide and 7 mm deep.

- Accordingly, before the installation, the lateral crosspieces of the connecting element are about 3.2 mm high and 6.8 mm wide. The joint region 24 of the connecting element is for example 7 mm high, which corresponds to the interval between the reference level 22 and the surface of the stone. The chamfer 12 on the stone 10 is about 1 mm wide; the projecting region 25 of the joint connector and
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spacer 2 is shaped accordingly. The stone panels and the joint connectors/spacers are also a separate commodity.

Reference symbols

1	stone panel
11	grooves
12	chamfers
2	plastic spacers
20, 21	clamping crosspieces
22	reference surface
23	lamellas
24	joint region
24A	upper, soft joint region
24B	sealing and clamping knobs (soft)
25	covering edge regions

Claims

1. Natural stone panel floor, the floor panels (1) of which are laid at a distance from each other on an essentially flat base, characterized in that the floor panels (1) comprise, respectively, a groove (11) which is arranged on the lateral surfaces thereof (10) and respectively a plastic spacer (2) which is arranged between adjacent floor panels (1), said spacer supporting a clamping crosspiece (20, 21) on both sides thereof, which is maintained in a clamped manner in the groove (11).
2. Natural stone panel floor according to claim 1, characterized in that the grooves (11) are formed in the sides of the stone panel (1) at a symmetrical height.
3. Natural stone panel floor according to claim 1 or 2, characterized in that the grooves (11) are 3 mm high and more than 6 mm deep.
4. Natural stone panel floor according to one of the above claims, characterized in that the clamping crosspieces (20, 21) present, towards the top, an essentially flat reference surface (22) with short soft plastic knobs (24B) formed by injection and, at the bottom, have retaining lamellas (23) of a conical shape.
5. Natural stone panel floor according to claim 4, characterized in that the joint spacer (2) extends from the reference surface (22) and to a surface of the stone, with which it is aligned.
6. Natural stone panel floor according to claim 5, characterized in that the top part of the spacer (2), located in the upper region of the joint (24A) is made of a softer flexible material than the rest of the spacer.
7. Natural stone panel floor according to claim 6, characterized in that the stone panel (1) exhibit a chamfer (12) at their upper edges which is filled-in by the spacer (2).
8. Natural stone panel (1) for the construction of a natural stone panel floor in accordance with one of the above claims.
9. Joint spacer (2) for the construction of a natural stone panel floor in accordance with one of the claims 1 to 7.