CLAIMS

1. A light slab (100) able to be integrated into a trafficable pavement, comprising in succession:

- a first protective film (101), arranged on the front face of the device, made of a first material,

- a first external encapsulating film (102), made of a second material,

- an internal encapsulating film (103), made of a third material,

- a second external encapsulating film (105), made of a fourth material,

- a second protective film (106), arranged on the rear face of the device, made of a fifth material,

one of the films, chosen among the first external encapsulating film (102), the internal encapsulating film (103) and the second external encapsulating film (105), coating at least one active element adapted to emit light (104),

each active element adapted to emit light (104) comprising at least one light element on a support allowing it to be powered,

the first material, the second material, the third material, the fourth material and the fifth material having Young's moduli E_1, E_2, E_3, E_4 and E_5, respectively, and coefficients of thermal expansion CTE_1, CTE_2, CTE_3, CTE_4 and CTE_5, respectively,

E_1 and E_5 being similar or identical in the sense that their values differ by no more than 30 %, E_2 and E_4 being similar or identical in the sense that their values differ by no more than 30 %,

$E_1 > E_2$ and $E_4 < E_5$,

CTE_1 and CTE_5 being similar or identical in the sense that their values differ by no more than 30 %, CTE_2 and CTE_4 being similar or identical in the sense that their values differ by no more than 30 %,

$CTE_1 < CTE_2$ and $CTE_4 > CTE_5$.

2. The light slab (100) according to claim 1, wherein an active element adapted to emit light (104) comprises at least two light elements connected in parallel.

3. The light slab (100) according to claim 1 or 2, wherein at least one among the first protective film (101), the second protective film (106) and the at least one active element (104) or a part of the latter is coloured.

4. The light slab (100) according to any one of claims 1 to 3, wherein at

least one active element (104) comprises a printed circuit on which at least one light-emitting diode is mounted.

5. The light slab (100) according to claim 4, wherein the printed circuit is in the form of a comb comprising a base and at least two substantially parallel fingers.

6. The light slab (100) according to any one of claims 1 to 5, wherein the first material and/or the fifth material is a composite comprising glass fibres and an epoxy resin.

7. The light slab (100) according to any one of claims 1 to 6, wherein the second material and/or the fourth material is a ionomer.

8. The light slab (100) according to any one of claims 1 to 7, wherein the third material is a thermoplastic polyolefin or a (meth)acrylic resin.

9. The light slab (100) according to any one of claims 1 to 8, wherein the thickness of the first protective film (101) and/or the second protective film (106) is comprised between 0.1 mm and 5.0 mm.

10. The light slab (100) according to any one of claims 1 to 9, wherein the thickness of the first external encapsulating film (102) and/or the second external encapsulating film (105) is comprised between 0.25 and 2.0 mm.

11. The light slab (100) according to any one of claims 1 to 10, wherein the thickness of the internal encapsulating film (103) is comprised between 0.4 and 2.0 mm.

12. A method for manufacturing a light slab (100) comprising successively:

- a first protective film (101), arranged on the front face of the device, made of a first material,
- a first external encapsulating film (102), made of a second material,
- an internal encapsulating film (103), made of a third material,
- a second external encapsulating film (105), made of a fourth material,
- a second protective film (106), arranged on the rear face of the device, made of a fifth material,

one of the films, chosen among the first external encapsulating film (102), the internal encapsulating film (103) and the second external encapsulating film (105), coating at least one active element adapted to emit light (104),

each active element adapted to emit light (104) comprising at least one light element on a support allowing it to be powered,

the method comprising the following steps:

(a) providing at least one active element adapted to emit light (104) comprising at least one light element on a support allowing it to be powered,

(b) positioning the at least one active element adapted to emit light (104) on a stack comprising the second protective film (106) and the second external encapsulating film (105),

(c) laminating the internal encapsulating film (103) on the at least one active element (104) in such a way as to fill at least in part the spaces between the active elements with the material of the internal encapsulating film (103), and to cover at least partially the at least one active element (104) with the material of the internal encapsulating film (103), and

(d) laminating on the internal encapsulating film (103) a stack comprising the first external encapsulating film (102) and the first protective film (101).

13. The method for manufacturing a slab according to claim 12, wherein the at least one active element (104) provided at step (a) is obtained by cutting according to a desired pattern a cuttable support on which at least one light element is mounted.

14. The method for manufacturing a slab according to claim 12 or 13, wherein step (b) comprises the fastening of at least one active element (104) to the second protective film (106) through the second external encapsulating film (105).

15. A functionalized trafficable pavement, comprising a trafficable pavement on which is fastened at least one light slab (100) according to any one of claims 1 to 11, using a fastening layer (109), the first protective film (101) of the light slab being covered with a coating layer (107), to allow the passage of pedestrians and/or vehicles, the coating layer (107) letting through all or part of the light emitted by the light slab (100) and having a textured external surface.