CLAIMS

1. An arrangement for controlling the temperature of, in particular for cooling or heating, a room (1) in a building, with

   - a ceiling forming a supporting element (2),

   - at least one calcium silicate panel (3) arranged on the supporting element (2), which has a rear side (R) facing the supporting element (2) and a front side (V) facing away from the supporting element (2) and facing the room (1) and

   - at least one piping system, through which a temperature-control medium, e.g., water, can flow and is formed as capillary tube mat(4),

   wherein the capillary tube mat (4) is arranged on the rear side of the calcium silicate panel (3) between the supporting element (2) and the calcium silicate panel (3),

   whereas the calcium silicate panel (3) is fastened to the supporting element (2) or to a substructure by interconnecting the capillary tube mat (4), which is loosely placed onto the panel.

2. The arrangement according to claim 1, wherein the calcium silicate panel (3) has a thickness (D) of 1 cm to 5 cm, e.g., 1 cm to 4 cm, preferably 2 cm to 3 cm.

3. The arrangement according to claim 1 or 2, wherein the calcium silicate panel (3) is provided on its front side (V) with at least one cladding layer (7), e.g., with a (permeable) plaster layer and/or with a (permeable) paint layer.

4. The arrangement according to claim 3, wherein the calcium silicate panel (3) is plastered with a plaster layer of a calcium silicate plaster, wherein the plaster layer has a thickness of, e.g., 0.5 mm to 5 mm, preferably 1 mm to 3 mm.

5. The arrangement according to one of claims 1 to 4, wherein the capillary tube mat (4) is made of plastic, e.g., of polypropylene (PP) or on the basis of polypropylene (PP).

6. The arrangement according to one of claims 1 to 5, wherein an insulating material or an insulating material layer, respectively, is arranged between the capillary tube mat(4) and the supporting element (2).

7. The arrangement according to one of claims 1 to 6, wherein the calcium silicate panel (3) is fastened, e.g., screwed, to the supporting element (2) or to a substructure by interconnecting an insulating material.

8. The arrangement according to one of claims 1 to 7, wherein the capillary tube mat (4) is pre-fixed to the supporting element (2) or a substructure.

9. The arrangement according to one of claims 1 to 8, characterized by a moistening device for moistening the calcium silicate panel or calcium silicate panels, by means of which a moistening medium, e.g., water, can be applied or is applied, respectively, to the calcium silicate panel(s).

10. The arrangement according to claim 9, wherein the moistening device has one or several dispensing devices, e.g., nozzles, spray devices, splashing devices or dripping devices, which are arranged, e.g., above the calcium silicate panel.

11. The arrangement according to claim 9 or 10, wherein the moistening device has one or several measuring devices for determining the moisture content of the calcium silicate panel, e.g., moisture sensors, which are arranged in or on the calcium silicate panel.

12. The arrangement according to one of claims 10 to 11, wherein the moistening device has a control for a metered release of the moistening medium to the calcium silicate panel, wherein the control is preferably connected to the dispensing device and/or to the measuring device.

13. A method for the installation of a temperature-control arrangement according to one of claims 1 to 12, wherein one or several calcium silicate panels (3) are arranged to the supporting element (2) by interconnecting at least one capillary tube mat (4), so that the capillary tube mat (4) is arranged on the rear side of the calcium silicate panels (3) between the supporting element (2) and the calcium silicate panels (3) and the calcium silicate panels (3) face the room (1),

    whereas the calcium silicate panels (3) are fastened to the supporting element or to a substructure (8) by interconnecting the capillary tube mat (4), which is placed loosely onto the panel (3), and the piping system (6) is fixed thereby.

14. The method according to claim 13, wherein the capillary tube mat (4) is initially prefixed, e.g., tensioned, to the supporting element (2), i.e., to the ceiling or to the substructure (8) prior to fastening the calcium silicate panel (3) to the supporting element (2) or the substructure.

15. A method for controlling the temperature of a room (1), in particular for cooling or heating a room (1), by means of a temperature-control arrangement according to one of claims 1 to 12, which is arranged in the region of at least a ceiling, wherein a temperature-control medium flows through the capillary tube mat (4) and the temperature of the calcium silicate panel (3) is controlled thereby.

16. The method according to claim 15 for cooling the room (1), wherein the calcium silicate panel (3) is cooled via the capillary tube mat (4), through which a cooling medium flows and releases the cold to the room (1), e.g., as evaporation cooling, inter alia.

17. The method according to claim 15 or 16, for cooling the room (1), wherein the cooling, e.g., a cooling generator, is optionally activated and deactivated at time intervals, wherein the calcium silicate panel (3) is cooled to below the dew point when the cooling is activated (e.g. activated cooling generator) and the calcium silicate panel (3) absorbs the condensate created thereby and wherein the calcium silicate panel (3) releases the absorbed moisture to the room (1) when the cooling is deactivated (e.g., deactivated cooling generator).

18. The method according to claim 15 or 16, for heating the room (1), wherein the heating (e.g., a heat generator) is activated and deactivated at time intervals, wherein the calcium silicate panel (3) is heated up when the heating is activated.

19. The method according to one of claims 15 to 18, wherein the calcium silicate panel is moistened with a moistening medium, e.g., with water.

20. The method according to claim 19, wherein the moistening medium is applied to the calcium silicate panel as a function of the moisture content of the calcium silicate panel.

21. The method according to claim 19 or 20, wherein the calcium silicate panel is moistened with the proviso that the saturation level of the calcium silicate panel is at least 10%, preferably at least 20%, e.g., at least 30% and/or that the saturation level of the calcium silicate panel is 10% to 50%, e.g., 25% to 35%, for example approximately 30%.

22. The method according to one of claims 15 to 18, wherein the room to be cooled or to be heated is heated or cooled, respectively, by means of the supplied moistening medium when the heating/cooling is activated (e.g. activated heat pump) by means of radiant heat or radiant cooling, respectively, and by means of evaporation heat or evaporation cooling, respectively, when the heating/cooling is deactivated (e.g., deactivated heat pump).