Patent claims

1. A silo (100) for the production of concrete comprising a main chamber (1) for storing a first, preferably powdery, component as well as at least one secondary chamber (2) for storing a second, preferably liquid, component, wherein

- the at least one secondary chamber (2) is located in the main chamber (1);
- the longitudinal axes (L1, L2) of the main chamber and the at least one secondary chamber are arranged parallel to one another;
- the main chamber (1) and the at least one secondary chamber (2) each have first openings which are designed in such a way that the main chamber (1) and the at least one secondary chamber (2) are to be filled independently of one another through these;
- the main chamber (1) and the at least one secondary chamber (2) each have second openings (which are designed in such a way that the main chamber (1) and the at least one secondary chamber (2) are to be emptied independently of one another through these;
- the main chamber (1) has a third opening which is designed in such a way that the main chamber (1) is to be vented;
- the at least one secondary chamber (2) each has at least one further opening which is designed in such a way that the secondary chamber (2) is to be ventilated and vented;

wherein these openings are configured to be opened and closed with correspondingly designed shut-off elements.

2. The silo (100) according to claim 1, characterized in that the first openings of the main chamber (1) and of the at least one secondary chamber (2), through which these are to be filled independently of one another, are in each case first lower openings; and/or

in that the second openings of the main chamber (1) and of the at least one secondary chamber (2), through which these are to be emptied independently of one another, are in each case second lower openings and/or

in that the third opening of the main chamber (1), which is designed in such a way that the main chamber (1) is to be vented, is a third lower opening (31).

3. The silo (100) according to claim 1 or 2, characterized in that the further opening of the secondary chamber (2), which is designed in such a way that the secondary chamber (2) are to be ventilated and vented, is a first upper opening (32).

4. The silo (100) according to any one of the preceding claims, characterized in that the silo (100) has a control device (30) by means of which the filling level (F1, F2) of the main chamber and/or the at least one secondary chamber and/or the temperature T1 of the first component in the main chamber (1) and/or the temperature T2 of the second component in the at least one secondary chamber (2) are to be controlled.

5. The silo (100) according to claim 4, characterized in that the main chamber (1) has a first upper opening (41) and/or the at least one secondary chamber (2) has a second upper opening (42), through which a measuring probe (40, 40') is to be inserted, with which the filling level (F1, F2) of the main chamber and/or of the at least one secondary chamber are to be determined, wherein these openings (41, 42) are to be opened and closed with correspondingly designed shut-off elements.

6. The silo (100) according to any one of claims 3 to 5, characterized in that the upper openings of the main chamber (41) and/or of the at least one secondary chamber (32, 42) are designed as sockets with internal thread.

7. The silo (100) according to any one of claims 3 to 6, characterized in that the shut-off element of the first upper opening (41) of the main chamber and/or the shut-off element (52) of the first upper opening (32) of the at least one secondary chamber (2) and/or the shut-off element (of the second upper opening (42) of the at least one secondary chamber are in each case a solenoid valve.

8. The silo (100) according to any one of claims 2 to 6, characterized in that the ends of the lower openings (12, 22) of the main chamber and/or of the at least one secondary chamber are designed as flanges.

9. The silo (100) according to any one of the preceding claims, characterized in that the main chamber (1) and/or the at least one secondary chamber (2) comprise a trace heating system (71, 72) and/or in that the main chamber (1) and/or the at least one secondary chamber (2) are cylindrical.

10. The silo (100) according to any one of the preceding claims, characterized in that the silo (100) comprises a sensor by means of which the moisture content and/or the temperature of the environment of the silo are to be determined; and/or in that the silo (100) comprises means (10) for holding the silo in a vertical position and/or in that the silo is transportable.

11. The silo (100) according to any one of the preceding claims, characterized in that the main chamber (1) has solar panels on at least on part of its lateral surface (81), advantageously for supplying energy to the control system (20) and/or the control device (30).

12. The silo (100) according to any one of the preceding claims, characterized in that the silo (100) comprises at least two secondary chambers (2, 3), preferably a number of secondary chambers in the range of 2 to 6, more preferably in the range of 2 to 5, most preferably in the range of 2 to 4.

13. An installation (1000) comprising the silo (100) according to any one of the preceding claims, as well as at least one mixer (150) into which the components of the main chamber (1) and the at least one secondary chamber (2) of the silo (100) are to be introduced and mixed with water to form concrete, in particular lightweight aerated concrete, wherein the introduction of these components into water preferably takes place via individual, separate metering pumps (160, 161), and their respective aqueous mixtures are then mixed together in the at least one mixer (150), and wherein the concrete, in particular the lightweight aerated concrete, is to be discharged from the at least one mixer (150).

14. A method for producing concrete, in particular aerated lightweight concrete, in an installation (1000) according to claim 13, comprising the following steps:

a) Providing a first, preferably powdery, component in the main chamber (1) of the silo (100), as well as at least one second,

preferably liquid, component in the at least one secondary chamber (2) of the silo (100);

b) Introducing the first component from the main chamber (1) and water into a first mixer (150), preferably via individual, separate dosing pumps (160), and mixing the first component and the water to form a concrete slurry;

c) Introducing the second component to water, preferably using a metering pump (161), and mixing the second component and water to form an aqueous mixture (when producing concrete) or a foam (when producing aerated lightweight concrete);

d) Introducing the concrete slurry produced in step b) to a second mixer (151) while incorporating the aqueous mixture produced in step c) or the foam produced in step c), and mixing the concrete slurry and the aqueous mixture or the foam in the second mixer (151) to form concrete, specifically aerated lightweight concrete;

e) Removing the finished concrete, in particular the finished aerated lightweight concrete, from the second mixer (151).

15. The method according to claim 14, wherein steps b), c), d) and e) are carried out continuously.

16. Use of the silo (100) according to any one of claims 1 through 12, or of an installation (1000) according to claim 13, for the production of concrete, in particular for the production of aerated lightweight concrete.