CLAIMS

1. A self-climbing unit (12) for a self-climbing system (10) for a concrete building body (18), in which the self-climbing system (10) comprises a first concrete wall section (14) and a second concrete wall section (16), which are arranged one above the other in the vertical or climbing direction (20); in which the self-climbing unit (12) comprises:

– climbing brackets (26), which each have first anchor receptacles (84a) for the anchor bolts (30), by means of which the climbing brackets (26) are each releasably anchored in the anchor holes (32) of the first anchor points (34) of the first concrete wall section (14);

– working brackets (28) with second anchor receptacles (84b) for anchor bolts (30), by means of which the working brackets (28) are releasably anchored in the anchor holes (32) of the second anchor points (36) of the second concrete wall section (16), in each case one of the first anchor points (34) of the first concrete wall section (14) and one of the second anchor points (36) of the second concrete wall section (16) being arranged in pairs aligned with each other in the vertical or climbing direction (20);

characterised by

– a working platform (40) fastened to the working brackets (28);

– climbing cylinders (42) which are fastened at one end to one of the climbing brackets (26) and at the other end to one of the working brackets (28) and by means of which the working brackets (28) are movable from the second anchor points (36) to the third anchor points (38) of a third concrete wall section (22) abutting the second concrete wall section (16) above the second concrete wall section (16) in the vertical or climbing direction (20),

in which the first anchor receptacles (84a) of the climbing brackets (26) and the second anchor receptacles (84b) of the working brackets (28) correspond with one another in their pattern with respect to their relative positions, so that the climbing brackets (26), after the anchoring of the working brackets in the anchor holes (32) of the third anchor points (38) of the third concrete wall section, are movable by means of the climbing cylinders (42) to the second anchor points (36) of the second concrete wall section (16) and can be anchored in the freed anchor holes (30) of the second anchor points (36) of the second concrete wall section (16), in which the self-climbing unit (12) has concrete

shuttering elements (58a, 58b) which are supported on the working brackets (28), in which the working brackets (28) have supporting pillars (50), each of which extends upward, at least in sections, in the vertical direction (22) of the working bracket (28) during the operational use of the self-climbing unit, in which at least a part of the supporting pillars (50) of the working brackets (28) have a plurality of the attachment points (70) for one of the climbing cylinders (42), the attachment points (70) being arranged spaced apart from each other along the supporting pillars (50) in such a manner that the climbing cylinders (42) can be fastened on the supporting pillars (50) with fine graduation.

2. A self-climbing unit (12) according to Claim 1, characterised in that the concrete shuttering elements (58a, 58b) are attached, in particular suspended, to the supporting pillars (50).

3. A self-climbing unit (12) according to Claim 1 or 2, characterised in that the climbing brackets (26) and the working brackets (26) each have two anchor receptacles (84a, 84b) and each anchor point (34, 36, 38) has only two anchor holes (32) for each one anchor bolt (30).

4. A self-climbing unit (12) according to Claim 1, 2 or 3, characterised in that at least a part of the supporting pillars (50) are designed as a hollow profile.

5. A self-climbing unit (12) according to any preceding claim, characterised in that at least a part of the climbing cylinders (42) extends into each one of the supporting pillars (50).

6. A self-climbing unit (12) according to any preceding claim, characterised in that the climbing cylinders (42) are each secured to the climbing brackets (26) with an axial play.

7. A self-climbing unit (12) according to any preceding claim, characterised in that the climbing cylinders (42) are each designed as hydraulic cylinders.

8. A self-climbing unit (12) according to any preceding claim, characterised in that a base platform (48) is fastened to the climbing brackets (26).

9. A self-climbing unit (12) according to any preceding claim, characterised by a hydraulic pump device (96) having a control device (98) by means of which the climbing cylinders (42) are synchronously actuated, the control device (98) preferably having a sensor (100) for each

climbing cylinder (42) for detecting a respective volume flow (102) of a hydraulic medium to/from the climbing cylinder (42).

10. A self-climbing unit (12) according to Claim 9, characterised in that the hydraulic pumping device (96) comprises a plurality of the pumping units (99), each pumping unit (99) being connected to one or more of the climbing cylinders (42) in each case via a fluid valve (F) that is individually controllable by the control device (98), in which the number of fluid valves of each pumping unit thus corresponds to at least the number of climbing cylinders that are respectively connected to the pumping unit.

11. A self-climbing unit (12) according to any preceding claim, characterised in that the self-climbing unit is designed as a self-climbing shuttering with concrete shuttering elements (58a, 58b).

12. A self-climbing system (10) for a concrete building body (18), in which the self-climbing system (10) comprises a self-climbing unit (12) according to any preceding claim and in which the first concrete wall section (14) and the second concrete wall section (16) are arranged one above the other in the climbing or vertical direction.

13. A method for vertically moving a self-climbing unit (12) according to Claim 11 on a concrete building body (18), characterised by the following steps:

(a) anchoring (202) of the climbing brackets (26) in the anchor holes (32) of the first anchor points (34) of the first concrete wall section (14) with the anchor bolts (30) that engage in the first anchor receptacles (84a) of the climbing brackets (26);

(b) anchoring (204) the working brackets (28) in the anchor holes (32) of the second anchor points (36) of the second concrete wall section (16) by means of the anchor bolts (30) that engage in the second anchor receptacles (84b) of the working brackets (28), the first anchor points (34) and the second anchor points (36) being respectively arranged in pairs in the vertical or climbing direction (20) one above the other;

(d) releasing the working brackets (28) from the second anchor points (36) of the second concrete wall section (16);

(e) raising the working brackets (28) from the second anchor points (36) to the third anchor points (38) in the third concrete wall section (22) in the vertical direction (20) by means of the climbing cylinders (42), each of which is fastened to one of the climbing

brackets (26) and on one of the working brackets (28), and anchoring the working brackets (28) in anchor holes (32) of the respective third anchor points (38) by means of the anchor bolts (30);

(f) releasing the climbing brackets (26) from the first anchor points (34) of the first concrete wall section (14) and raising the climbing brackets (26) in the vertical or climbing direction (20) to the second anchor points (36) of the second concrete wall section (16) by means of the climbing cylinders (42);

(g) anchoring the climbing brackets (26) in the freed anchor holes (32) of the second anchor points (36) of the second concrete wall section (16) by means of the anchor bolts (30).

14. A method according to Claim 13, characterised in that by means of the concrete shuttering elements (58a, 58b) comprised by the self-climbing unit the third wall section (22), which abuts the second concrete wall section (16) above the second concrete wall section (16) in the vertical or climbing direction (20), is created between steps (b) and (d).