Patent claims:

1. Dry mineral binder composition comprising cement and mineral fillers for the production of mouldings by means of 3D printing, characterized in that the binder composition also comprises at least one aluminium-sulfate-based accelerator and comprises at least one superplasticizer based on a polycarboxylate ether and comprises at least one rheology aid, where the polycarboxylate ether has, per gram of dry polycarboxylate ether, at least 1 mmol, in particular at least 1.2 mmol, specifically at least 1.8 mmol, of carboxylic acid groups,
   further characterized in that 0.1 to 5% by weight, preferably 0.1 to 4.5% by weight, more preferably 0.5 to 3% by weight, of calcium sulfoaluminate, based on the total weight of the dry binder composition, is also present.

2. Binder composition according to Claim 1, characterized in that the quantity present of the aluminium-sulfate-based accelerator is 0.1 to 2% by weight, preferably 0.3 to 1.5% by weight, in particular 0.4 to 1.0% by weight, based on the total weight of the dry binder composition.

3. Binder composition according to any of the preceding claims, characterized in that the quantity present of the polycarboxylate ether is 0.02 to 5% by weight, preferably 0.05 to 4% by weight, in particular 0.1 to 3% by weight, calculated as dry polymer based on the total weight of the dry binder composition.

4. Binder composition according to any of the preceding claims, characterized in that the rheology aid is selected from the group consisting of modified starches, modified celluloses, microbial polysaccharides, superabsorber and mineral thickeners.

5. Binder composition according to any of the preceding claims, characterized in that at least two, preferably at least three, different rheology aids are present in the dry binder composition.

6. Binder composition according to any of the preceding claims, characterized in that at least one antifoam, in particular selected from the group consisting of oil-based antifoams, silicone-based antifoams, alkyl esters of phosphoric or of phosphonic acid, alkoxylated polyols, fatty-acid-based antifoams, alkoxylated fatty alcohols and mixtures thereof is also present.

7. Binder composition according to any of the preceding claims comprising:
   - 10 to 50% by weight of cement, in particular Portland cement,
   - 0.1 to 5% by weight, preferably 0.1 to 4.5% by weight, more preferably 0.5 to 3% by weight, of calcium sulfoaluminate,
   - 0 to 10% by weight of at least one latently hydraulic binder, in particular metakaolin and/or silica fume,
   - 45 to 85% by weight of mineral fillers,
   - 0.1 to 2% by weight of an accelerator based on aluminium sulfate,
   - 0.02 to 5% by weight of at least one polycarboxylate ether,
   - 0.01 to 2% by weight of at least one rheology aid,
   - 0.01 to 1% by weight of at least one antifoam and
   - 0 to 10% by weight of other additives,

   based on the total weight of the dry binder composition.

8. Aqueous mineral binder composition obtained by mixing of the dry mineral binder composition according to any of the preceding claims with water, where the mixing in particular takes place in a continuous mixer.

9. Use of the aqueous mineral binder composition according to Claim 8 for the production of mouldings by means of 3D printing.

10. Process for the application of a mineral binder composition, in particular by means of 3D printing, comprising the steps of:

- provision of a dry mineral binder composition according to any of Claims 1 to 7, of water, and optionally of at least one other additive;
- addition, by a feed device (9), of the dry mineral binder composition, of water, and optionally of the at least one other additive into a mixing device (10), in particular into a mixing chamber of the mixing device;
- mixing of the dry mineral binder composition with water and optionally with the at least one other additive in the mixing device (10) to give an aqueous mineral binder composition;
- with use of a conveying device, introduction of the aqueous mineral binder composition through a conveying line (12) into a printing head (3) that is movable in at least one direction in space;
- application of the aqueous mineral binder composition by the movable printing head (3).

11. Process according to Claim 10, characterized in that
    - at least one other additive is added together with the water to the dry mineral binder composition, where the at least one other additive comprises another polycarboxylate either, a retarder and/or another rheology aid, in particular a polycarboxylate ether, and
    - where the metered addition of the at least one other additive is adjusted as required by printing conditions, for example horizontal and vertical printing speed, printing height and ambient temperature.

12. Process according to Claim 10 or 11, characterized in that the speed of the horizontal motion of the printing head during the application of the aqueous mineral binder composition is at least 20 mm per second, preferably at least 30 mm per second, in particular at least 40 mm per second.

13. Moulding produced by mixing of a dry mineral binder composition according to at least one of Claims 1 to 7 with water and optionally with other additives, layer-by-layer application of the aqueous mineral binder composition by a 3D printer and hardening of the binder composition.

14. Moulding according to Claim 13, characterized in that its height is at least 0.5 m, more preferably at least 1 m, specifically at least 1.5 m or 2 m, where the height is obtained from the sum of all thicknesses of the layers applied in vertical direction.