CLAIMS

1. Fastening system for chemically fastening of anchoring means comprising a chemical anchor being a ready-for-use two-component mortar system based on aluminous cement, and an anchor rod comprising an attachment region and an anchoring region which is insertable into a borehole and which has a profiled section including a plurality of expansion sections disposed axially in a row which are conically shaped,
wherein the two-component mortar system comprises a curable aqueous-phase aluminous cement component A and an initiator component B in aqueous-phase for initiating the curing process, component A further comprising at least one blocking agent selected from the group consisting of phosphoric acid, metaphosphoric acid, phosphorous acid and phosphonic acids, at least one plasticizer and water, and component B comprising an initiator, at least one retarder, at least one mineral filler and water.

2. Fastening system according to claim 1, wherein
i) the initiator comprises a mixture of alkali and/or alkaline earth metal salts,
ii) the at least one retarder is selected from the group consisting of citric acid, tartaric acid, lactic acid, salicylic acid, gluconic acid and mixtures thereof, and
iii) the at least one mineral filler is selected from the group consisting of limestone fillers, sand, corundum, dolomite, alkaline-resistant glass, crushed stones, gravels, pebbles and mixtures thereof.

3. Fastening system according to claim 1 or 2, wherein the initiator comprises a mixture of lithium metal salts.

4. Fastening system according to anyone of claims 1 to 3, wherein the at least one retarder is citric acid, tartaric acid or a mixture thereof.

5. Fastening system according to anyone of claims 1 to 4, wherein the at least one mineral filler has an average particle size of not more than 500 µm.

6. Fastening system according to anyone of claims 1 to 5, wherein the at least one mineral filler is a limestone filler or a mixture of limestone fillers.

7. Fastening system according to anyone of claims 1 to 6, wherein component A and component B are in form of a slurry or paste.

8. Fastening system according to anyone of claims 1 to 7, wherein the two-component mortar system has an initial set time of at least 5 min.

9. Fastening system according to anyone of claims 1 to 8, wherein component B comprises

0.1 wt.-% to 4 wt.-% of lithium hydroxide,

0.1 wt.-% to 5 wt.-% of lithium sulfate or lithium sulfate monohydrate,

0.05 wt.-% to 5 wt.-% of citric acid,

0.05 wt.-% to 4 wt.-% of tartaric acid,

35 wt.-% to 45 wt.-% of a first mineral filler,

15 wt.-% to 25 wt.-% of a second mineral filler,

10 wt.-% to 20 wt.-% of a third mineral filler,

0.01 wt.-% to 0.5 wt.-% of a thickening agent, and

15 wt.-% to 25 wt.-% of water.

10. Fastening system according to anyone of the preceding claims, wherein the distance of the expansion section for each of the plurality of the expansion sections is constant over a longitudinal extension of the anchoring region.

11. Fastening system according to anyone of the preceding claims, wherein a surface of each of the plurality of expansion sections includes a coating.

12. Fastening system according to anyone of the preceding claims, wherein a surface of each of the plurality of expansion sections is bright-nickel-plated and/or chromium-plated.

13. Fastening system according to anyone of the preceding claims, wherein a surface of each of the plurality of expansion sections is electrochemically polished or electro-polished.

14. Fastening system according to anyone of the preceding claims, wherein each of the plurality of expansion sections includes a passage for the inorganic mortar compound.

15. Fastening system according to claim 14, wherein the passage is a flow channel.

16. Fastening system according to anyone of the preceding claims, wherein each of the plurality of expansion sections runs helically along the anchoring region.

17. Use of the fastening system according to anyone of the preceding claims for chemical fastening of anchoring means in mineral surfaces.

18. Use according to claim 17, wherein the mineral surfaces are structures made of brickwork, concrete, pervious concrete or natural stone.