Claims

1. An accelerator powder for cement, comprising
- from 10 to 99.7% by weight of a water-insoluble mineral powder **P** and
- from 0.3 to 90% by weight of at least one compound **V** selected from the group consisting of alkali metal halides and alkaline earth metal halides, alkali metal nitrates and alkaline earth metal nitrates, alkali metal nitrites and alkaline earth metal nitrites, alkali metal thiocyanates and alkaline earth metal thiocyanates and hydroxyalkylamines or salts thereof, and mixtures thereof,
wherein the mineral powder **P** has an average particle size D50 of from 1 to 8 µm, and
wherein the compound **V** comprises at least one hydroxyalkylamine, in particular diethanolamine, triethanolamine or N-methyldiethanolamine, preferably N-methyldiethanolamine.

2. The accelerator powder as claimed in claim 1, wherein the mineral powder **P** is selected from the group consisting of calcium carbonate, dolomite, metakaolin and quartz flour, preferably from among calcium carbonate and dolomite.

3. The accelerator powder as claimed in any of the preceding claims, wherein the hydroxylalkylamine has been partially or completely neutralized with an inorganic or organic acid.

4. The accelerator powder as claimed in any of the preceding claims, wherein it comprises at least two, in particular at least three, different compounds **V** selected from the group consisting of alkali metal halides and alkaline earth metal halides, alkali metal nitrates and alkaline earth metal nitrates, alkali metal nitrites and alkaline earth metal nitrites, alkali metal thiocyanates and alkaline earth metal thiocyanates and hydroxyalkylamines, or salts thereof.

5. The accelerator powder as claimed in any of the preceding claims, wherein the accelerator powder comprises from 50 to 99.7% by weight, preferably from 75 to 99.5% by weight, in particular from 80 to 99% by weight, of powder **P** and from 0.3 to 50% by weight, preferably from 0.5 to 25% by weight, in particular from 1 to 20% by weight, of at least one compound **V**, based on 100% by weight of the accelerator powder.

6. The accelerator powder as claimed in any of the preceding claims, wherein it also comprises a plasticizer, in particular a polycarboxylate ether, preferably in an amount of from 0.3 to 10% by weight, in particular from 0.4 to 8% by weight, especially from 0.5 to 7% by weight, calculated as dry plasticizer and based on 100% by weight of accelerator powder.

7. The accelerator powder as claimed in any of the preceding claims, wherein it also comprises a retarder, preferably a hydroxycarboxylic acid, in particular tartaric acid, citric acid or gluconic acid, or a salt thereof, a sugar, in particular sucrose, a phosphate or a phosphonate or salt thereof, or mixtures thereof.

8. A binder composition comprising from 10 to 95% by weight of cement and from 5 to 90% by weight of accelerator powder as claimed in any of the preceding claims, based on 100% by weight of the binder composition.

9. A concrete or mortar containing the accelerator powder as claimed in any of claims 1 to 7, wherein the accelerator powder is preferably present in an amount of from 6 to 100% by weight, in particular from 8 to 67% by weight, especially from 10 to 54% by weight, based on the weight of the cement present in the concrete or mortar.

10. A mortar mixture comprising:
    - from 55 to 85 parts by weight of sand having a particle size of not more than 4 mm, preferably not more than 2 mm,

- from 15 to 45 parts by weight of cement, in particular CEM I in accordance with DIN EN 197-1, especially CEM I 52.5,
- from 5 to 45, in particular from 10 to 25, % by weight of mineral powder **P**, based on the weight of the cement,
- from 0.15 to 5.0, in particular from 0.3 to 3.0, % by weight of compound **V** comprising an alkanolamine, based on the weight of the cement,
- from 0 to 1.0, in particular from 0.1 to 0.8, % by weight of plasticizer, in particular a polycarboxylate ether, based on the weight of the cement,
- from 0 to 1.0, in particular from 0.1 to 0.8, % by weight of retarder, in particular tartaric acid or a salt thereof, based on the weight of the cement, and
- from 0 to 5% by weight of further additives, based on the weight of the cement,
- with all constituents being calculated as water-free components,

wherein the mineral powder **P** has an average particle size D50 of from 1 to 8 µm.

11. The use of the accelerator powder as claimed in any of claims 1 to 7 for accelerating a concrete or mortar mixture, wherein the concrete or mortar mixture after mixing with water has a commencement of setting of less than 90 minutes, preferably less than 60 minutes, especially less than 30 minutes, and an end of setting of less than 3 hours, preferably less than 2 hours, in particular less than 90 minutes, measured using an automatic Vicat needle apparatus in accordance with DIN EN 196-3 at 20°C.

12. The use of the accelerator powder as claimed in any of claims 1 to 7 for accelerating an aqueous concrete or mortar mixture, wherein the concrete or mortar mixture has such a composition that the concrete or mortar mixture containing the accelerator powder has a viscosity of from 1 to 100 Pa·s, preferably from 3 to 50 Pa·s, at a shear rate of 10 s^{-1} after mixing with water, where the viscosity is determined on a concrete or

mortar sample which has a maximum particle size of 2 mm, in particular obtained by sieving the aqueous concrete or mortar mixture, using a rheometer and the method indicated in the description.

13. A shaped body produced from a concrete or mortar mixture containing the accelerator powder as claimed in any of the claims 1 to 7 after mixing with water and curing of the resulting mixture.