

Claims

1. A dry mortar, especially a cementitious tile adhesive, comprising or consisting of, in each case relative to the total dry weight of the dry mortar,
 - a) 10 – 50 wt.-% of at least one cementitious binder,
 - 5 b) 20 – 75 wt.-% of at least one aggregate, preferably sand,
 - c) 0.1 – 2 wt.-% of fibers with an average length of 0.1 – 1.1 mm, preferably 0.2 – 0.8 mm, more preferably 0.2 – 0.75 mm, especially 0.2 – 0.5 mm.
2. A dry mortar according to claim 1, characterized in that the at least one cementitious
10 binder comprises or consists of, in each case relative to the total dry weight of the cementitious binder:
 - 60 – 99.5 wt.-%, preferably 70 – 98 wt.-%, especially 80 – 95 wt.-%, Portland cement, and
 - 0.5 – 40 wt.-%, preferably 2 – 30 wt.-%, especially 5 – 20 wt.-%, latent hydraulic
15 and/or pozzolanic binder materials, especially slag and/or fly ash.
3. A dry mortar according to any of claims 1 or 2, characterized in that the fibers are polyethylene and/or polypropylene fibers.
- 20 4. A dry mortar according to any of the previous claims, characterized in that it is free of aramid fibers, especially poly(p-phenylene terephthalamide) and/or poly(m-phenylene terephthalamide) fibers.
5. A dry mortar according to any of the preceding claims, characterized in that the aspect
25 ratio of the fibers is between 2 – 1'500, preferably 8 – 1'100, more preferably 15 – 800, especially 20 – 100.
6. A dry mortar according to any of the preceding claims, characterized in that it additionally comprises at least one redispersible polymer in an amount of 0.1 – 20 wt.-%,
30 preferably 5 – 15 wt.-%, in each case relative to the total dry weight of the dry mortar.

7. A dry mortar according to any of the preceding claims, characterized in that it comprises or consists of, in each case relative to the total dry weight of the dry mortar,
- a) 20 – 50 wt.-% of Portland cement,
 - b) optionally 4 – 8 wt.-% latent hydraulic and/or pozzolanic binder materials, especially slag and/or fly ash,
 - c) 35 – 59 wt.-% of sand,
 - d) 1 – 16 wt.-% of ground calcium carbonate, magnesium carbonate or mixed calcium/magnesium carbonates and/or expanded glass,
 - e) 0.1 – 2 wt.-% of polyethylene and/or polypropylene fibers with a length of 0.2 – 0.75 mm, and
 - f) 1 – 15 wt.-% of at least one redispersible polymer powder.
8. A method for producing a building material comprising a step of mixing a dry mortar as claimed in any of claims 1-7 with water in a weight ratio of water to powder of 0.25 – 0.5.
9. A building material obtained in a method as claimed in claim 8, characterized in that it fulfills the criteria C1 S1 or higher, preferably C1E S2 or higher, according to standard EN 12004-1:2017.
10. A structure, in particular a floor, a wall or a ceiling, comprising a support element and a cover element, in particular a tile, whereby the cover element is fixed to the support element with a building material obtained by a method as claimed in claim 8.
11. A method for improving the slip resistance and/or the flexibility of a building material comprising the steps of
- a) obtaining a dry mortar by admixing fibers with an average length of 0.1 – 1.1 mm, preferably 0.2 – 0.8 mm, more preferably 0.2 – 0.75 mm, especially 0.2 – 0.5 mm to a dry cementitious composition comprising 10 – 50 wt.-% of at least one cementitious binder and 20 – 75 wt.-% of at least one aggregate, preferably sand, in each case relative to the total dry weight of the dry mortar, and
 - b) mixing the dry mortar obtained in step a) with water in a weight ratio of water to powder of 0.25 – 0.5.

12. A method for achieving a creamy consistency of a building material comprising the steps of
- a) obtaining a dry mortar by admixing fibers with an average length of 0.1 – 1.1 mm, preferably 0.2 – 0.8 mm, more preferably 0.2 – 0.75 mm, especially 0.2 – 0.5 mm to a dry cementitious composition comprising 10 – 50 wt.-% of at least one cementitious binder and 20 – 75 wt.-% of at least one aggregate, preferably sand, in each case relative to the total dry weight of the dry mortar, and
 - b) mixing the dry mortar obtained in step a) with water in a weight ratio of water to powder of 0.25 – 0.5.
13. A method for reducing the shrinkage of a building material, said method comprising the steps of
- a) obtaining a dry mortar by admixing fibers with an average length of 0.1 – 1.1 mm, preferably 0.2 – 0.8 mm, more preferably 0.2 – 0.75 mm, especially 0.2 – 0.5 mm to a dry cementitious composition comprising 10 – 50 wt.-% of at least one cementitious binder and 20 – 75 wt.-% of at least one aggregate, preferably sand, in each case relative to the total dry weight of the dry mortar, and
 - b) mixing the dry mortar obtained in step a) with water in a weight ratio of water to powder of 0.25 – 0.5.
14. A method as claimed in any of claims 11-13, characterized in that the fibers are polyethylene and/or polypropylene fibers.
15. A method as claimed in any of claims 11-14, characterized in that the fibers are admixed in an amount of 0.1 – 2 wt.-%, relative to the total dry weight of the dry mortar.