

6. The process according to claim 1 wherein the temperature at which said firing and foaming are carried out is from 750° to 1000° C.

7. The process according to claim 1 wherein, in raising the temperature to that at which the firing and foaming are to be carried out, roasting of the shaped article is carried out during a time period between 40 minutes and 6 hours.

8. The process according to claim 1 wherein said shaped article is dried prior to its firing and foaming to evaporate the moisture therefrom.

9. The process according to claim 1 wherein the particle diameters of the several components of (A), (B), (C) and (D) are not greater than 1.00 mm.

10. A process for the manufacture of foamed porcelain-like shaped articles which comprises mixing, per 100 parts by weight of the total components, (A) 50 to 95 parts by weight of at least one aggregate component selected from the group consisting of silicate mineral powder and a mixture of silicate glass powder and silicate mineral powder; (B) 5 to 40 parts by weight of a water glass component; (C) an inorganic alkali salt component which generates a gas by substantially decomposing at the firing temperature, said inorganic alkali salt component being selected from the group consisting of alkali metal salts of carbonic acid, sulfuric acid, sulfurous acid, thiosulfuric acid, nitric acid, nitrous acid, phosphoric acid and chloric acid, and being used in an amount of (a) 10 to 30 parts by weight when said aggregate component is a silicate mineral powder, and (b) 1 to 15 parts by weight when said aggregate component is a mixture of said silicate mineral powder and silicate glass powder; and (D) a component for adjusting the foaming temperature, said component selected from the group consisting of (a) at least one mineral powder selected from the group consisting of lead oxide and zinc white and used in an amount of 0.1 to 25 parts by weight and (b) at least one mineral compound selected from the group consisting of magnesite, brucite, magnesia clinker and spinel and a calcium compound selected from the group consisting of dolomite, dolomite clinker, calcite and gypsum and used in an amount of 0.1 to 9 parts by weight; molding the resulting mixture; and thereafter firing and foaming the resulting shaped article at a temperature between 700° and 1200° C.; followed by comminuting the resulting foamed porcelain-like shaped article; then admixing with the comminuted product a water glass component in an amount such that the latter is 5 to 30 parts by weight per 100 parts by weight of the sum of said comminuted product and said water glass component and further such that the total content of the water glass component ranges between 5 and 40 parts by weight per 100 parts by weight of the total components; molding the resulting mixture; and thereafter again firing and foaming the shaped article thus obtained at a temperature ranging between 700° and 1200° C.

11. The process according to claim 10 wherein said silicate glass powder is selected from the powders of soda-lime glass, lead glass, barium glass, borosilicate glass, alumina-silicate glass, lithia-alumina-silicate glass and quartz glass.

12. The process according to claim 10 wherein said

silicate mineral powder is selected from the powders of quartz sand, silica, olivine, garnet, petalite, beryl, cordierite, pyroxene, amphibole, talc, pyrophyllite, mica, chlorite, chrysotile, antigolite, kaolin, toseki, allophane, feldspar, apfite, zeolite, alunite, obsidianie and shale.

13. The process according to claim 11 wherein said at least one aggregate component is used in an amount of 60 to 90 parts by weight, said water glass component is used in an amount of 15 to 35 parts by weight, said inorganic alkali salt component is used in an amount of 15 to 25 parts by weight when said aggregate component is said silicate mineral powder, and 1 to 10 parts by weight when said aggregate component is a mixture of said silicate mineral and silicate glass powders, said component for adjusting the foaming temperature is 0.2 to 20 parts by weight of at least one mineral powder selected from the group consisting of lead oxide and zinc white and 0.2 to 6 parts by weight of at least one mineral powder selected from the group consisting of said magnesia compounds and said calcium compounds, said water glass component added to the comminuted product of the foamed porcelain-like shaped article is used in an amount such that the amount of said water glass component is 5 to 30 parts by weight per 100 parts by weight of the sum of said comminuted product and said water glass component and further such that the total content of the water glass component ranges between 5 and 30 parts by weight per 100 parts by weight of the total components.

14. The process according to claim 10 wherein said silicate glass powder is selected from the powders of soda-lime glass, barium glass and borosilicate glass, said silicate mineral powder is selected from the powders of quartz sand, silica, zeolite, toseki, feldspar and apfite, said inorganic alkali salt component is selected from sodium bicarbonate, sodium carbonate, sodium bisulfite, sodium sulfate and sodium thiosulfate.

15. The process according to claim 10 wherein the temperature at which said firing and foaming are carried out is from 750° to 1000° C.

16. The process according to claim 10 wherein, in raising the temperature to that at which the firing and foaming are to be carried out, roasting of the shaped article is carried out during a time period between 40 minutes and 6 hours.

17. The process according to claim 10 wherein said shaped article is dried prior to its firing and foaming to evaporate the moisture therefrom.

18. The process according to claim 10 wherein the particle diameters of the several components of (A), (B), (C), (D) and comminuted product of said foamed porcelain-like shaped article are not greater than 1.00 mm.

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