CLAIMS

[Claim 1]

A cementitious material for three-dimensional modeling for construction, the cementitious material comprising

(A) a cement,

(B) an aggregate,

(C) a dispersant containing a lignin sulfonic acid-based dispersant (R) and a melamine sulfonic acid-based dispersant (M) at a mass ratio R:M of 100:80 to 400,

(D) a diutan gum having an average molecular weight in the range of ~~2,000,000~~2,200,000 to 8,000,000 and having a viscosity of a 0.25 mass% aqueous solution in the range of 2,000 to 10,000 mPa·s,

(E) a setting retarder,

(F) an amorphous calcium aluminosilicate containing 10 to 25% by mass of SiO_2 based on oxide,

(G) a gypsum, and

(H)a short fiber.

[Claim 2]

The cementitious material for three-dimensional modeling for construction according to claim 1, wherein the dispersant (C) is used in an amount of 0.2 to 3 parts by mass relative to 100 parts by mass of the cement (A).

[Claim 3]

The cementitious material for three-dimensional modeling for construction according to claim 1 or 2, wherein the diutan gum (D) is used in an amount of 0.03 to 1.0 parts by mass relative to 100 parts by mass of the cement (A).

[Claim 4]

The cementitious material for three-dimensional modeling for construction according to any one of claims 1 to 3, wherein the gypsum (G) is used in an amount of 50 to 250 parts by mass relative to 100 parts by mass of the amorphous calcium aluminosilicate (F).

[Claim 5]

The cementitious material for three-dimensional modeling for construction according to any one of claims 1 to 4, wherein the amorphous calcium aluminosilicate (F) and the gypsum (G) are used in a total amount of 5 to 30 parts

by mass relative to 100 parts by mass of the cement (A).

[Claim 6]

The cementitious material for three-dimensional modeling for construction according to any one of claims 1 to 5, wherein the aggregate (B) contains a balloon-type aggregate.

[Claim 7]

The cementitious material for three-dimensional modeling for construction according to any one of claims 1 to 6, wherein the setting retarder (E) contains an oxycarboxylic acid.

[Claim 8]

The cementitious material for three-dimensional modeling for construction according to any one of claims 1 to 7, wherein the short fiber (H) has an average fiber length of 5 to 15 mm.

[Claim 9]

The cementitious material for three-dimensional modeling for construction according to claim 8, wherein the short fiber (H) has an average fiber diameter of 20 to 250 μm and having a number of fibers per gram of 5,000/g or more.

[Claim 10]

A method of three-dimensional modeling for construction, the method comprising

kneading the cementitious material for three-dimensional modeling for construction according to any one of claims 1 to 9 with water to obtain a wet material,

pressure-feeding the wet material with a pump, and

stacking layers of the wet material discharged from a nozzle while moving the nozzle to thereby construct a modeled product.

[Claim 11]

The method of three-dimensional modeling for construction according to claim 10, wherein the pump is a rotary positive displacement-type uniaxial eccentric screw pump.