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alkaline earth metal silicate crystal, which process comprises

(1) molding glass powders having a particle size of 200 mesh or less and having a composition consisting essentially of, in % by weight,

8 to 34% MgO;

12 to 43% CaO;

25 to 40% SiO<sub>2</sub>;

10 to 25% P<sub>2</sub>O<sub>5</sub>;

1 to 10% Al<sub>2</sub>O<sub>3</sub>, ZrO<sub>2</sub> or both

with proviso of 90% or more MgO+CaO+SiO<sub>2</sub>+P<sub>2</sub>O<sub>5</sub>+(Al<sub>2</sub>O<sub>3</sub>+ZrO<sub>2</sub>),

0 to 10% Li<sub>2</sub>O;

0 to 5% Na<sub>2</sub>O;

0 to 10% K<sub>2</sub>O;

0 to 10% SrO;

0 to 10% B<sub>2</sub>O<sub>3</sub>;

0 to 10% TiO<sub>2</sub>;

0 to 10% Nb<sub>2</sub>O<sub>5</sub>;

5 0 to 10% Ta<sub>2</sub>O<sub>5</sub>; and

0 to 3% F<sub>2</sub>,

with proviso of 10% or less Li<sub>2</sub>O+Na<sub>2</sub>O+K<sub>2</sub>O+SrO+B<sub>2</sub>O<sub>3</sub>+TiO<sub>2</sub>+Nb<sub>2</sub>O<sub>5</sub>+Ta<sub>2</sub>O<sub>5</sub>+F<sub>2</sub>,

(2) heat treating the resulting molding in a sintering temperature range of the glass powders, and

(3) heat treating the molding in the temperature range where alkaline earth metal silicate crystals selected from the group consisting of diopside, forsterite and akermanite are formed.

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