Claims

1. A gypsum building material, **characterised in that** the gypsum building material comprises at least gypsum, H-siloxane and amorphous silicon dioxide, wherein the gypsum building material is produced from at least one slurry which is produced in that at least stucco and water are mixed with one another, wherein the gypsum building material comprises the H-siloxane in an amount between 0.01 and 10 wt.-% in relation to the mass of the used stucco and the amorphous silicon dioxide in an amount between 0.5 and 20 wt.-% in relation to the amount of the used stucco, wherein the H-siloxane is uniformly distributed in the gypsum building material and/or is applied to at least one surface of the gypsum building material, **characterised in that** the gypsum building material under the effect of temperatures of at least 80°C has a longer expansion phase than a gypsum building material without H-siloxane and amorphous silicon dioxide, wherein the gypsum building material is otherwise of identical composition, wherein the amorphous silicon dioxide comprises microsilica.

2. The gypsum building material according to claim 1, wherein the gypsum building material comprises further additives.

3. The gypsum building material according to claim 1 or 2, **characterised in that** the expansion phase of the gypsum building material is at least 1.2 times the time of the expansion phase of the gypsum building material of identical composition but without H-siloxane and amorphous silicon dioxide.

4. The gypsum building material according to claim 3, wherein the expansion phase of the gypsum building material is at least 2.5 times the time of the expansion phase of the gypsum building material of identical composition but without H-siloxane and amorphous silicon dioxide.

5. The gypsum building material according to any one of claims 1 to 4, **characterised in that** the gypsum building material under the effect of

temperature in accordance with the temperature/time curve according to DIN EN 1363-1: 2012-10 for the first 60 min. and under constantly 950°C during the next 60 min. has a smaller degree of shrinkage than a gypsum building material of identical composition, but without H-siloxane and amorphous silicon dioxide.

6. The gypsum building material according to claim 5, **characterised in that** the degree of shrinkage of the gypsum building material is at least 10 % lower than the degree of shrinkage of a gypsum building material of identical composition, but without H-siloxane and amorphous silicon dioxide.

7. The gypsum building material according to claim 6, wherein the degree of shrinkage of the gypsum building material is at least 75 % lower than the degree of shrinkage of a gypsum building material of identical composition, but without H-siloxane and amorphous silicon dioxide.

8. The gypsum building material according to any one of claims 1 to 7, **characterised in that** the gypsum building material comprises H-siloxane in an amount between 0.01 and 5 wt.-% in relation to the mass of the used stucco.

9. The gypsum building material according to any one of claims 1 to 8, wherein the gypsum building material comprises amorphous silicon dioxide in an amount between 0.5 and 10 % by weight in relation to the amount of the used stucco.

10. The gypsum building material according to claim 9, wherein the gypsum building material comprises amorphous silicon dioxide in an amount between 0.5 and 6 wt.-% in relation to the amount of the used stucco.

11. The gypsum building material according to any one of claims 1 to 10, **characterised in that** the gypsum building material comprises 0.01 to 2.5 wt.-% H-siloxane in relation to the amount of the used stucco and 1 to 10 wt.-% amorphous silicon dioxide in relation to the amount of the used stucco.

12. The gypsum building material according to any one of claims 1 to 11, **characterised in that** the gypsum building material is a gypsum building board.

13. The gypsum building material according to claim 12, **characterised in that** at least one surface of the gypsum building board is treated with H-siloxane.

14. The gypsum building material according to claim 13, **characterised in that** at least two surfaces of the gypsum building board are treated with H-siloxane.

15. The gypsum building material according to claim 14, wherein the upper side and the underside of the gypsum building board are treated with H-siloxane.

16. The gypsum building material according to claim 12, **characterised in that** the gypsum building board has at least one first edge layer and a core layer, wherein at least the first edge layer contains H-siloxane and amorphous silicon dioxide.

17. A method for producing a gypsum building board, wherein at least one slurry is produced in that at least stucco and water are mixed with one another, the slurry is formed into an endless strand of gypsum building board, which is then separated into gypsum building boards and the gypsum building boards are dried, **characterised in that,** in order to produce the slurry, H-siloxane in an amount between 0.01 and 10 wt.-% in relation to the mass of the used stucco and amorphous silicon dioxide in an amount between 0.5 and 20 wt.-% in relation to the amount of the used stucco are additionally used, such that the gypsum building board under the effect of temperature of at least 80°C has a longer expansion phase than a gypsum building board without H-siloxane and amorphous silicon dioxide, wherein the gypsum building board is otherwise of identical composition, and wherein the amorphous silicon dioxide comprises microsilica.

18. The method according to claim 17, wherein the H-siloxane is applied to at least one surface of the endless strand of gypsum building board or of the separated gypsum building boards.

19. The method according to claims 17 or 18, **characterised in that** at least one first and one second slurry are produced, and the first slurry contains H-siloxane and amorphous silicon dioxide, and wherein the first slurry is used to form at least one edge layer of the gypsum building board.

20. Use of H-siloxane and amorphous silicon dioxide to extend the expansion phase of a gypsum building material under the effect of temperature, wherein the gypsum building material is produced from at least one slurry which is produced in that at least stucco and water are mixed with one another, wherein the H-siloxane is used in an amount between 0.01 and 10 wt.-% in relation to the mass of the used stucco and the amorphous silicon dioxide is used in an amount between 0.5 and 20 wt.-% in relation to the amount of the used stucco, wherein the gypsum building material in accordance with the temperature/time curve according to DIN EN 1363-1: 2012-10 is heated from 0 to 60 min to 950°C and is treated from 60 to 120 min with constant temperature application of 950°C, and wherein the gypsum building material has a longer expansion phase as compared to a gypsum building material without H-siloxane and amorphous silicon dioxide but of otherwise identical composition, and wherein the amorphous silicon dioxide comprises microsilica.