Gypsum mixture having improved mechanical properties and process for adding an additive to gypsum*

The innovation

Existing methods for mass hydrophobisation provide satisfactory results for numerous fields of application with regard to reducing the water absorption of the prefabricated gypsum products. However, conventional methods have either no or only a slight influence on the development of the mechanical properties. Prior to the invention of this improved gypsum mixture, no process existed for adding an additive to gypsum that permits both, reduced water absorption and enhanced mechanical properties, at the same time.

By adding a new additive mixture made from special silanes and metallic salts, the gypsum mixtures tested exhibit both a significantly enhanced mechanical strength (bending tensile strength in particular) and reduced water absorption. Consequently, the current solution is ideally suited for a large number of building projects and types of buildings, e.g. sports and leisure centres, sauna and spa facilities, schools, hospitals, canteen kitchens, hotels, etc.

Advantages at a glance

- Significantly increased bending tensile strength
- High mechanical loading capacity
- High safety against cracking
- Reduction of water absorption
- Higher water resistance

Keywords

- Gypsum (mixture)
- Adding an additive
- Special silanes
- Metallic salts
- Mechanical strength
- Water absorption

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Areas of application

- Gypsum composite boards
- Prefabricated elements made from gypsum
- Special gypsum (dental technology)
- Interior finishing

Patent status

The invention is filed internationally and partially granted. It is owned by ZYLUM Beteiligungsgesellschaft mbH & Co. Patente II KG. The application was filed in February 2005.

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