Plaster-render-decorative-coating-of-walls-and-ceilings

Plaster

Plaster is a building material used for the protective or decorative coating of walls and ceilings and for moulding and casting decorative elements. Plaster usually means a material used for the interiors of buildings, while “render” commonly refers to external applications. Another imprecise term used for the material is stucco, which is also often used for plasterwork that is worked in some way to produce relief decoration, rather than flat surfaces. The most common types of plaster mainly contain either gypsum, lime, or cement, but all work in a similar way. The plaster is manufactured as a dry powder and is mixed with water to form a stiff but workable paste immediately before it is applied to the surface. The reaction with water liberates heat through crystallization and the hydrated plaster then hardens.

Plaster can be relatively easily worked with metal tools or even sandpaper, and can be moulded, either on site or to make pre-formed sections in advance, which are put in place with adhesive. Plaster is not a strong material; it is suitable for finishing, rather than load-bearing, and when thickly applied for decoration may require a hidden supporting framework, usually in metal or concrete.

Plaster types

Clay plaster

Clay plaster is a mixture of clay, sand and water with the addition of plant fibers for tensile strength over wood lath.

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Gypsum plaster

Gypsum plaster, or plaster of Paris, is produced by heating gypsum to about 300 °F (150 °C):

Lime plaster

Lime plaster is a mixture of calcium hydroxide and sand (or other inert fillers). Carbon dioxide in the atmosphere causes the plaster to set by transforming the calcium hydroxide into calcium carbonate (limestone). Whitewash is based on the same chemistry.

Cement plaster

Cement plaster, also cement render, is a mixture of suitable plaster, sand, portland cement and water which is normally applied to masonry interiors and exteriors to achieve a smooth surface. Interior surfaces sometimes receive a final layer of gypsum plaster. Walls constructed with stock bricks are normally plastered while face brick walls are not plastered. Various cement-based plasters are also used as proprietary spray fireproofing products. These usually use vermiculite as lightweight aggregate.

Heat resistant plaster

Heat resistant plaster is a building material used for coating walls and chimney breasts. Its purpose is to replace conventional gypsum plasters in cases where the temperature can get too high for gypsum plaster to stay on the wall. Heat resistant plaster should be used in cases where the wall is likely to exceed temperatures of 50 °C.

In some circumstances, houses were finished by pre-formed concrete sandwich panels or calcium silicate boards sandwich walls, the houses render without plaster or plaster directly onto the surface to receive painting according to different requirements.

Plasterwork:

Drywall:

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