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JOINT FILLING COMPOSITIONS

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3 Claims

ABSTRACT OF THE DISCLOSURE

A joint filling composition particularly intended for use between adjacent panels of wall board or plaster board to obtain joints that resist beading and ridging is provided by a mixture of a proteinaceous binder, a resinous binder, an inorganic filler, an organic fibrous filler, glycol and water, the mixture when ready for use having a putty-like consistency.

BACKGROUND OF THE INVENTION

This invention relates to compositions useful in filling the joints between adjacent panels of plaster board or wall board in building construction of the "drywall" type and for other similar purposes.

In drywall construction the interior walls and/or ceilings are finished with large panels, usually of plaster board nailed to the studs. The adjacent edges of the panels are usually beveled for a distance of two inches from the edges and when applied are spaced, one from the other, about 1/8 inch to permit expansion caused by temperature and humidity changes. Hitherto, the joints thus formed have been concealed by troweling a paste-like material into the space between the adjacent panels and on the beveled portions thereof, applying a tape along the joint in the trough formed by the beveled panel portions, and covering the tape with two or three additional coats of the paste.

Difficulty has been encountered with the joints of dry-wall construction in a high percentage, about 75%, of installations, ridging and beading of the joints occurring between thirty and ninety days after completion of the installation.

It is an object of the present invention to provide compositions that may be used in drywall installations to produce joints which resist beading and ridging and permit smooth surfacing of the joints even without the use of tape.

SUMMARY OF THE INVENTION

The novel compositions of the present invention have a putty-like consistency and comprise a proteinaceous binder as well as a resinous binder and an inorganic filler as well as a fibrous organic filler. More specifically, the compositions are composed of a mixture of water, glycol, a casein adhesive, a resinous latex, a granular mineral filler such as gypsum, and a fibrous cellulosic filler.

DESCRIPTION OF A PREFERRED EMBODIMENT

The following is a composition according to the invention which has been found to give superior results:

Example 1

Ingredients:	Parts
Dry powdered casein adhesive cement	24.2
Powdered gypsum	24.2
Short staple cellulose fiber	24.2
Polyvinyl acetate latex (21.7% solids)	8.2
Water	19.3
Glycol	3.0

In compounding the composition it is preferred to first mix the polyvinyl acetate, glycol, and water and then

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blend in successively the casein cement, the cellulose fiber, and the gypsum. This is done at room temperature and results in a rather crumbly damp mass which can be stored at 35°-45° F. in a closed container for three years or more. When wanted for use, the composition is warmed to 80°-90° F. and may then be worked, as by kneading, into a plastic, putty-like, white mass which spreads readily.

In using the novel compositions of the invention, they are applied by a knife or trowel in the joints between adjacent sheets or panels of plaster board, enough being used to fill the spaces between the sheets or panels and permit shrinkage without cracking of the filler. Although the compositions do not set up before use, the filling in the plaster board joints hardens in about 30 minutes. If desired, an additional amount of the novel composition may be applied over the beveled edges of the adjacent panels to provide a smooth, even surface over the joint, the composition being sanded after hardening, if desired. Alternatively, the joints may be leveled out by the use of conventional tapes and cements. The latter adhere well to the novel inventive compositions.

In any event, joints in which the novel compositions of the present invention are used do not bead and ridge as do joints formed with conventional, known compositions.

Since, after hardening, the present novel compositions are somewhat water repellent, they present advantages over many prior compositions when used in areas subject to dampness. Thus, for example, they are suitable for use in filling in around tubs and for filling cracks or joints between wall or plaster board in areas of high humidity. Further, because of their putty-like consistency, they may be shaped or molded to provide decorative effects such as rosettes on walls or ceilings.

Although the example set forth above describes a composition that has given excellent results, it will be understood that the proportions of the ingredients may be varied if desired. Thus the casein adhesive or cement, that sold under the name Bedding Compound being suitable, may vary between about 18% and 28%; the polyvinyl acetate latex, that sold under the name Elvacet® Emulsion being suitable, may vary between about 5% and 1% (i.e. about 1% to 2.3% solids); the gypsum filler, the 80 mesh material sold under the name Metronite being suitable, may vary from about 20% to 30%; and the cellulose fiber filler, the 200 mesh product sold under the name Cellulose Wood Flock being suitable, may also vary between about 20% and 30%. The glycol may vary between about 2% and 5%. The water content should be enough to make the novel products of the proper putty-like consistency. Obviously, changes in the other constituents will also require a change in the amount of water used.

It will also be understood that materials equivalent to those specified in the foregoing example may be substituted, in whole or in part, for those specified and that other materials such as dyes, pigments, and odorants may be added in small amounts if desired without departing from the spirit of the present invention.

In the foregoing specification and the accompanying claims, percentages refer to percentages by weight and mesh sizes are based approximately on U.S. Standard Sieves.

I claim:

1. A joint filling composition consisting essentially of a mixture of from about 18% to 28% casein cement as a proteinaceous binder, from about 1% to 2.3% polyvinyl acetate as a resinous binder, gypsum as an inorganic filler, cellulose fiber filler, glycol and sufficient water to provide a putty-like consistency to the composition for application.

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2. A composition as defined in claim 1 containing from about 18% to 28% of a casein cement binder, from about 1% to 2.3% of a polyvinyl acetate binder, from about 20% to 30% of gypsum filler, from about 20% to 30% of cellulose fiber filler, and about 2% to 5% glycol.

3. A composition as defined in claim 1 containing approximately 23.4% casein cement binder, 1.7% polyvinyl acetate binder, 23.4% gypsum filler, 23.4% cellulose fiber filler, and 3.0% glycol.

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