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ALUMINUM FOIL WALL COVERING

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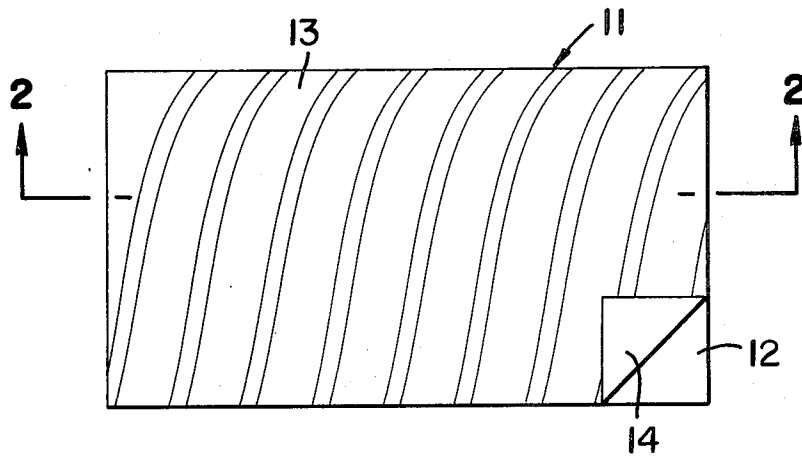


FIG_1

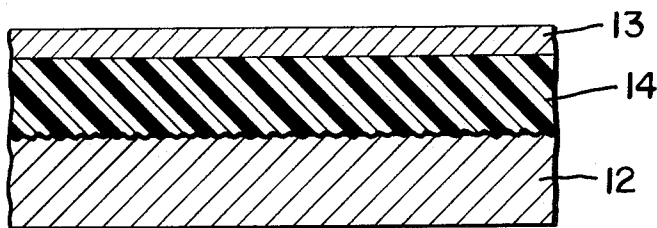


FIG_2

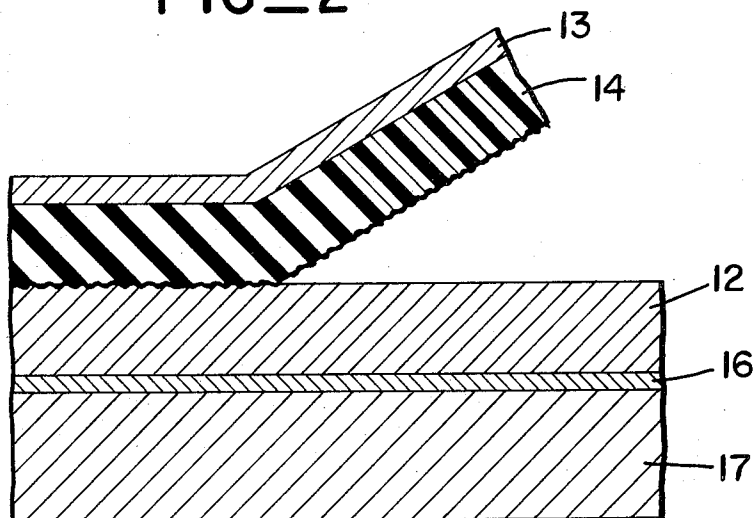


FIG_3

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ATTORNEYS

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ALUMINUM FOIL WALL COVERING

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Continuation of abandoned application Ser. No. 733,729, Apr. 30, 1968. This application Aug. 27, 1971, Ser. No. 175,718

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2 Claims

ABSTRACT OF THE DISCLOSURE

A paper backed aluminum foil wall covering contains a thin layer of polyethylene film between the aluminum foil sheet and the paper backing. The polyethylene film laminates the foil to the paper and serves as a moisture barrier to prevent water from the paste used in hanging the wall covering from contacting the back side of the foil. The film adheres to only the surface fibers on a smooth surface of the paper backing to permit the foil and polyethylene film to be stripped as a unit from the paper backing after the wall covering has been installed.

This application is a continuation of my application Ser. No. 733,729, filed Apr. 30, 1968, now abandoned.

This invention relates to a paper backed aluminum foil wall covering. This invention relates in particular to a paper backed aluminum foil wall covering that is protected against corrosion from the water contained in the paste used to hang the wall covering and that also offers the convenience of being readily strippable from the wall after the wall covering has been installed.

Aluminum foil wall coverings have become quite popular because of the decorative effects which can be obtained with these wall coverings. The outer surface of the foil can be coated with a variety of emulsion coatings and decorative designs. The outside surface is usually coated with lacquer. It can also be given a textured coating by the use of powder and pigmented vinyl emulsions.

The aluminum foil wall covering is a composite product in which a thin sheet of aluminum foil is attached to a paper backing. The paper backing permits the aluminum foil wall covering to be put on a wall, like ordinary wallpaper, by a paper hanger using conventional paper hanger's paste.

In the prior art a number of techniques have been used for attaching the foil to the paper backing. An adhesive is commonly used for this purpose.

The paper hanger's paste does contain water, and, with the prior art products, the water can soak through the paper backing and laminating adhesive and can thus come in contact with the inner surface of the foil. The water corrodes the foil from the back side, and the corrosion produces a black, grey or white crusty look on the outside, decorative surface of the foil. This kind of corrosion takes time to develop, and in some cases does not appear until after the aluminum foil wall covering has been on the wall for a year or more. The aluminum foil wall covering is relatively expensive, and this kind of late appearing corrosion has presented serious problems with the prior art aluminum foil wall coverings.

It is a primary object of the present invention to include a flexible thermoplastic moisture barrier between the paper backing and the aluminum foil that will positively prevent any moisture from the paste from contacting the back side of the foil. In the present invention, this object is accomplished by a thin film of polyethylene plastic between the paper backing and the aluminum foil sheet. The polyethylene serves to laminate the paper backing

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to the aluminum foil sheet. The film is also impervious to water and thus shields the foil from the water contained in the paste.

The decorative emulsion coating is added after the foil has been laminated to the paper backing. The decorative emulsion coatings are actually baked on the outer surfaces of the foil in drying ovens, so the wall covering must have a certain degree of temperature resistance. The temperature resistance (or plasticizing temperature) of the plastic film must be high enough to prevent softening as a result of the heat applied in the drying ovens. Softening of the film can cause crinkling of the foil, called "alligatoring."

The thickness of the film is also important. If the film is too thin, the wall covering will not have sufficient lamination or sufficient moisture barrier properties. If the film is too thick, the end product will be too stiff and rigid. It will be unworkable.

It is therefore another object of the present invention to provide a flexible, workable wall covering that will not crinkle under the temperatures required to bake the emulsion coatings.

The aluminum foil wall covering cannot be steamed off a wall once the wall covering is put on the wall. The steam cannot penetrate the aluminum foil to soften the paste like ordinary wallpapers. With a certain class of users, it is quite important to be able to readily strip the wall covering from the wall. For example, department stores using seasonal displays want to be able to change wall coverings quickly and easily.

It is therefore another object of the present invention to construct the wall covering in a manner such that the aluminum foil can be easily stripped from the paper backing. This object is achieved in one form of the present invention by using a super-calendered bleached kraft paper which has a smooth surface on at least one side. The hot polyethylene film embeds just the surface fibers of the paper. As a result, the aluminum foil and the polyethylene film can be stripped as a unit from the paper backing, and a new wall covering can then be put over the old paper backing remaining on the wall.

It is another object of the present invention to provide a moderate weight aluminum foil wall covering that can be conveniently handled by a paper hanger.

Other and further objects of the present invention will be apparent from the following description and claims and are illustrated in the accompanying drawings which, by way of illustration, show a preferred embodiment of the present invention and the principles thereof and what are now considered to be the best modes contemplated for applying these principles. Other embodiments of the invention embodying the same or equivalent principles may be used and structural changes may be made as desired by those skilled in the art without departing from the present invention and the purview of the appended claims.

In the drawings:

FIG. 1 is a plan view of a paper backed aluminum foil wall covering constructed in accordance with one embodiment of the present invention;

FIG. 2 is a cross-sectional view taken along the line and in the direction indicated by the arrows 2—2 in FIG. 1; and

FIG. 3 is a side elevation view showing the wall covering of FIG. 1 installed on a wall and illustrating the manner in which the aluminum foil and plastic film can be stripped as a unit from the paper backing.

In FIG. 1, a paper backed aluminum foil wall covering constructed in accordance with one embodiment of the present invention is indicated generally by the reference numeral 11.

With reference to both FIG. 1 and FIG. 2, the wall covering 11 includes a paper backing sheet 12, an aluminum foil sheet 13 and a thin layer of polyethylene plastic film 14.

The polyethylene film 14 is extruded between the paper backing 12 and the aluminum foil 13 in the course of the manufacture of the wall covering and laminates the foil to the paper backing. The thickness of the film 14 is controlled within a certain range of thicknesses. If the film is too thin, the aluminum foil will not be laminated properly to the paper backing and will not have sufficient moisture barrier properties. If the film is too thick, the wall covering will be too stiff and too rigid and will be unworkable. A 15-pound coating producing a thickness of substantially 0.001 inch has been found quite satisfactory for the polyethylene plastic film. It has been found that the polyethylene film can vary plus or minus 10% from the 0.001 inch thickness and still produce a workable and adequately laminated wall covering product.

In FIG. 3 the wall covering is shown pasted on a wall 17. The polyethylene film, which is impervious to water, serves as a barrier which positively prevents any moisture from the paste layer 16 from soaking through the paper backing 12 and contacting the foil 13.

The paper backing 12 is a relatively lightweight paper backing which has a smooth surface on the side laminated to the polyethylene film to facilitate stripping off the wall covering product, as will be described in greater detail below. In one specific form of the present invention the paper backing 12 is a 40 to 50 pound supercalendered bleached kraft paper, and the aluminum foil has a thickness of substantially 0.00035 inch. This combination produces a moderate weight aluminum foil wall covering that can be conveniently handled by a paper hanger.

The aluminum foil has a lacquer coating on its outer surface which protects this surface against moisture and resulting corrosion. The outer surface may also have any one of a number of different emulsion coatings, depending upon the decorative design desired.

The smooth surface of the paper backing noted above combines with the polyethylene plastic film in a unique and quite useful manner to make the wall covering stripable from the wall. Because the surface of the paper backing 12 facing the polyethylene plastic film 14 is smooth, only the surface fibers of the paper backing are embedded in the polyethylene film under the controls exerted in the course of the manufacture of the wall covering. Thus, after the wall covering has been pasted on the wall, it is possible to strip the aluminum foil and the polyethylene film as a unit from the paper backing 12 by lifting a corner, as illustrated in FIGS. 1 and 3, and pulling the foil and film off the paper backing. The wall covering product tears at the junction between the polyethylene and the paper backing and leaves the paper backing behind. A new wall covering can then be pasted over the paper backing remaining on the wall.

While I have illustrated and described the preferred embodiment of my invention, it is to be understood that this is capable of variation and modification, and I there-

fore do not wish to be limited to the precise details set forth, but desire to avail myself of such changes and alterations as fall within the purview of the following claims.

What is claimed is:

1. A paper backed aluminum foil wall covering of the kind that is attached to a wall by a water-containing paste that can cause corrosion of the foil if water from the paste soaks through the paper backing and contacts the back side of the foil, said wall covering comprising, a relatively lightweight paper backing sheet, an aluminum foil sheet having a baked on decorative emulsion coating on the outside surface of the sheet, and a thin layer of flexible thermoplastic film disposed between the paper and the foil and laminated to the inside of the foil and to the surface of the paper to form a moisture barrier which prevents water from the paste used in hanging the wall covering from contacting the foil and wherein the flexible thermoplastic film is substantially 0.001 inch thick and just the surface fibers of the paper backing sheet are embedded in the film to provide a strippable wall covering in which the foil sheet and film can be stripped as a unit from the paper backing and a new wall covering can be installed over the paper backing remaining on the wall.

2. A strippable paper backed aluminum foil wall covering of the kind that is attached to a wall by a water-containing paste that can cause corrosion of the foil if water from the paste soaks through the paper backing and contacts the back side of the foil, said wall covering comprising a relatively lightweight paper backing sheet, an aluminum foil sheet having a baked on decorative emulsion coating on the outside surface of the sheet, and a thin layer of polyethylene film substantially 0.001 inch thick disposed between the paper and the foil and laminated to the inside of the foil and to the surface of the paper to form a moisture barrier which prevents water from the paste used in hanging the wall covering from contacting the foil and wherein only the surface fibers of the paper are embedded in the film to provide a strippable wall covering in which the foil sheet and the polyethylene film can be stripped as a unit from the paper backing and a new wall covering can be installed over the paper backing remaining on the wall.

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156—71; 161—165, 167, 216, 250, 406, 413