Photographing the Ghosts

Those Occasional Ghosts That Appear in Textured Finishes Can Ruin a Man’s Day

by Tauno Laine

Compared to the utilization of mortars, stuccos, and plasters, the drywall industry and its coating materials are very young. Mortars, stuccos, and plasters based on clay, lime, or various types of cement have been used for thousands of years, while even a middle-aged drywall man can remember the beginning of the drywall industry.

I can well remember when the drywall ceiling texture-or simulated acoustic-applicators still had their “factory” on their flatbed truck. Everything was there: 55 gallon drums and drill mixers for mixing talc, whitening, perlite, vermiculite, soya protein, animal glue and casein; the whole thing. Every batch was a little different, and lots of smell and foam was around.

And once in a while, sometimes pretty seriously, an unsightly ghost, unknown on textures sprayed on plaster ceilings, ruined a man’s day and even weeks. That ghost was, and still is, photographing, also called “burning through,” “banding,” and “bleeding through;” the joint areas are either lighter or darker than the field areas. The width of the discolored area can be as narrow as the width of the tape, or as wide as the entire area of joint filling. Sometimes it is two narrow stripes on both sides of the tape; then it is called “railroading”. In rare cases, the entire ceiling is hiscolored, usually various shades of yellow, at the tips of the coated styrofoam aggregate.

Since those pioneer days, many changes and improvements have taken place. More modern mixers and accurate measurers are utilized, and raw materials are getting more and more sophisticated. However, one thing is still haunting us: photographing. Are formulators so stupid that they cannot eliminate this unsightly ghost? What is this photographing? What
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causes it? Actually this phenomenon is nothing new to the formulators of coating materials. In somewhat different ways it has been the major problem in all one-coat applications, paint, stains, and stuccos. It is basically (1) a matter of uneven porosity of the substratum; and (2) migration of discolored soluble solids from the substratum. These causes and conditions involved are discussed in the following:

1. Uneven porosity of the substratum.
The difference in the porosity or absorption rate in various brands of wallboard, and even within the different shipments of the same brand of wallboard, varies from A to Z. Some of them absorb water like a sponge; some almost repel water. When we add to this the basic difference between the joint area and the field, we can see how unpredictable—I would like to say, impossible—is the substratum to be covered with one coat of acoustic with its minimum of vehicle and minimum of colloidal matter. If the treated joint area has a sealed, unabsorbitive surface, the sprayed acoustic flattens on it more easily than on the more porous field area; further, the more porous field absorbs the fine fillers in the texture closer to the surface and thus exposes the aggregate more so than on the joint area. When the acoustic dries there are more shadows on the field than on the joint area and consequently the field looks darker than the joint. The opposite takes place when the treated joint area is more porous than the field; the joints are darker. In both cases, we cannot really talk about a discoloration or “bleeding through”. This type of photographing is very common and cannot be corrected without a re-spray.

Of course, the next question is: why the formulator does not add so much sealer to the texture that it will even up the porosity of the substratum? This is the way paint industry solved the problem; paint high in vehicle and high in colloidal matter. If we did the same to the texture, the price would be astronomical. You cannot spray it with your present equipment, and simply cannot make any kind of rich-looking texture with it.

2. Discoloration migrated from the gypsum wallboard. The real discoloration is caused by soluble chemical substances in the gypsum wallboard and its face paper (and very, very rarely in the joint compound.) They can be darker in color by themselves or they are, such as start in the face paper, photo and thermo-sensitive, turning darker, usually yellow, when exposed to light and heat, especially in rooms where a high studio-type ceiling exposed to a large window.

When we see a lighter joint area than the field, we tend to conclude that the joint compound or the texture itself is to be blamed, and ignore the fact that the field has turned darker because of the migration of a darker material. The barrier of the joint compound prevents the migration in the joint area which thus remains lighter.

These causes, 1 and 2, indicate that
the uncontrolled physical and chemical characteristics of the gypsum wallboard are the major source of discoloration in the acoustics. So the question is why the wallboard manufacturers do not correct them. It is easier said than done. Only a small percent of the wallboard manufactured is used as a substratum for the texture type finish. To standardize all the brands of wallboard to such a high quality that it will eliminate the problems described is a task so costly and gigantic that I am afraid it will never be accomplished.

In any case, the discoloration of the drywall ceiling texture is an industry problem and gypsum companies are in it “with both feet”, with their board and their joint treatment materials and textures. All of us, formulators, manufacturers, contractors, and applicators would welcome an open discussion of the photographing problem.

3. Joint compound as a cause of photographing. All claims that a par-
ticular joint compound (it is always the competitor’s compound!) causes the discoloration by a migration of a discoloring material seem to be groundless. Is there then anything that an applicator can do to avoid the photographing? Some manufacturers of the acoustic not only recommend, but virtually demand, that the ceiling has to be sealed with a pigmented shellac, alkyd-based sealer, or similar. I have no doubt that those sealers, utilized in a sufficient quantity, will do the job, and I have nothing against anyone using them. I just wonder how many are really doing as recommend-ed. And how many can afford to do it?

I have been in this business almost 30 years, and I have never met anyone who does it. I do not mean to be nasty, but this recommendation seems merely to serve as an escape route for the manufacturer of the texture. When you have a trouble call, it is so convenient to ask: “Did you seal the ceiling before you sprayed your ‘acous-tic? You didn’t! Too bad, I am sorry, but your problem is all yours.” Alto-gether, the economy of this recom-mendation is questionable. The an-nual amount of ceilings having a photographing is, even in a bad year, only a small percent of the total amount of ceilings sprayed. It is always a reason to ask: which one is more expensive: to re-spray the ceil-ing with an “acoustic” or wall tex-ture, or to spray all ceilings with an expensive sealer?

Is there then anything one can do to minimize the chance of photo-graphing?

The major rule is: the fastest dry-ing texture has the least amount of photographing. Avoid excessive water in the mix, avoid build-up, that is, keep the atomization as good as possible, and, most important, be sure that there is as much ventilation as possible to enhance the fast drying. A fair amount of titanium dioxide in the tex-ture enhances the hiding power and thus minimizes the translucency of the texture. Presence of titanium dioxide is the easiest to see in a wet spray. Use the texture which has the best wet hid-ing power or opacity.

Sometimes a diluted Clorox bleach sprayed with a Hudson gun will eli-minate the darker than the field field joints. But watch your eyes and face!