Ever since I started writing this column people send me things in the mail. So far so good --there have been no threatening notes attached to bricks. Sometimes I find rolls of wallpaper UPSed to my doorstep or as we say in this part of the country "my front stoop." It all started a while ago when a manufacturer asked me for an opinion about a particularly difficult high end product that paperhangers were having a rough time with in the field. Not only did I give them an opinion, I gave them a second opinion: "It's ugly,too." (Apologies to Rodney Dangerfield.) Over time I have amassed a rather large dossier on materials that give paperhangers agita and I thought you might be interested if I opened the folder on some of these.

Imagine a very expensive wallpaper which consists of 6 inch squares of paper arranged in horizontal rows and painstakingly glued in tight formation on a paper backing. The problem in real world conditions was that despite paperhangers' best efforts to get the material to lay down smoothly, each square gradually took on moisture from the pasted backing, swelled up and had some squares that didn't really lie back down again after drying. Some squares remained slightly separated from the paper backing and showed residual bubbles that couldn't be flattened out. This did not look good at all. Here is a photo of what happened when I wet the material with plain water.

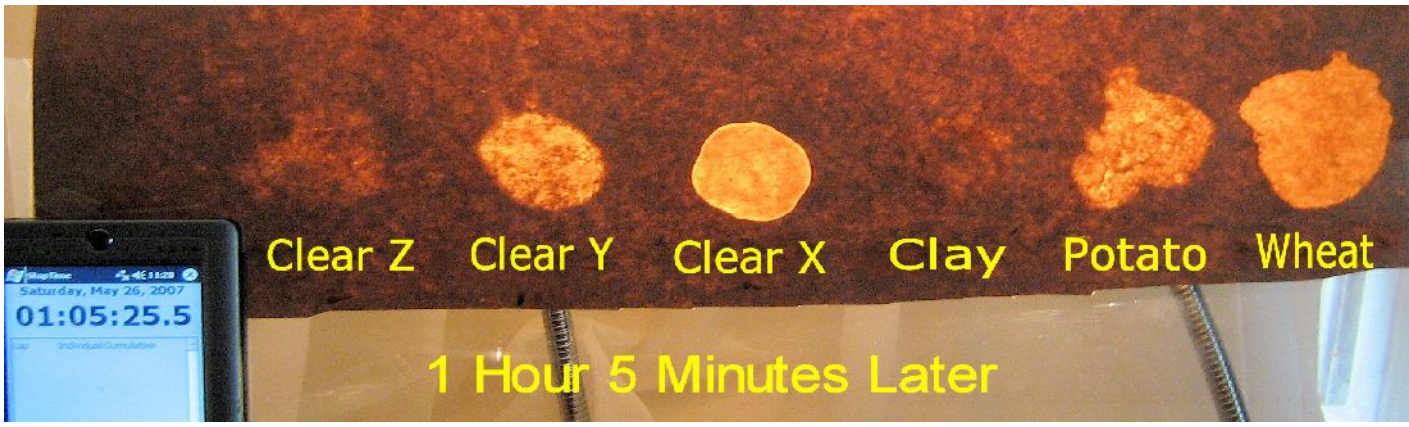
Fig. A

My first impulse was to hide this material in my "to do' basket

(an almost certain death) and ask if they didn't have something else they would like me to give an opinion on. But then I thought of the paperhangers….ready to throw themselves off a precipice after they are informed they have just ruined $1500 worth of wallpaper. So I picked up the instruction sheet and saw that the manufacturer had actually given halfway decent advice—a rarity these days. They said to use a heavy duty clay-based adhesive without too much moisture. Close but no cigar. What the instructions fail to take into account (and more than a few paperhangers too) is that different manufacturer's clay paste can have wildly different properties.

You may recall a column I wrote in PWC July-August 2007 called "The Gel Factor." In it, I told the story of several types of pastes as they valiantly tried to wet through the backing of a brown paper shopping bag. It was quite moving. Unfortunately I was not able to tell you the brand names of the different pastes tested because lawyers were already lining up out there on the front stoop with all the wallpaper rolls just waiting for me to cast their product in a bad light. Lawyers don't understand that there is no such thing a good paste or bad paste---pastes are like snowflakes, each one is different. What may be good for one wallpaper is terrible for another.

I have included one of the test photos from the Gel Factor column which demonstrates just how different pastes can be in terms of wet-



out time for paper. Dabs of paste were dolloped on brown paper and after about an hour I flipped the paper over and photographed it backlit. The "Clear X" adhesive had penetrated the paper 55 minutes before yet the clay that I tested in this round had not even begun to make its way into the brown paper. (Amazingly that brand of clay did not even start to spot the paper with dampness until two hours later.) Is that good? Is it bad? Well…that all depends on what you want the paste to do and that is what I will get into for most of this column. In

the meantime, I suggest that the next time you are bored with 500 channels of nothing on, get out the different pastes you use and do this same brown paper bag test to see which ones are the fastest penetrators and which are the slowest.

Meanwhile, back at the wrinkly squares, I was able to get some very good results by using ***a combination of two pastes*** paying particular attention to the paste that would come in contact with the finicky material. If moisture was causing the bubbling up of the squares, then the thing to do was to use a paste that wouldn't penetrate the paper to swell it up in the first place. The stores in my area were out-of-stock on the clay tested in the Gel Factor, so I opted for the close second best…the Clear Z, the gelliest of clears.

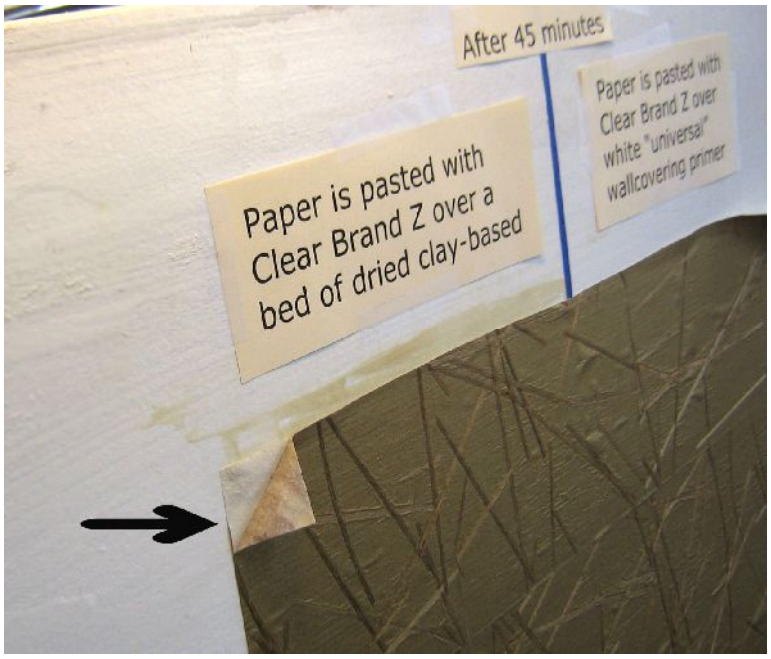
Step One involved applying a layer of clay paste to the wall. This layer of clay was applied thickly with a roller and allowed to dry completely overnight. I used a quick penetrating type of clay on the wall (not at all like the brand tested in The Gel Factor.) Since the clay is applied full strength with a roller, I took care not to leave a "cake icing" finish. After clay was applied to the entire room, I got out my 12 inch taping knife and smoothed the clay so that the surface was baby butt smooth. This is a good habit to get into since you can assume that a finish paper will show "orange peel" in bad lighting.

Step Two: I let it dry overnight. Let me say it again… **overnight**. The clay must be bone dry and even though it may feel dry to the touch after a few hours, it isn't.

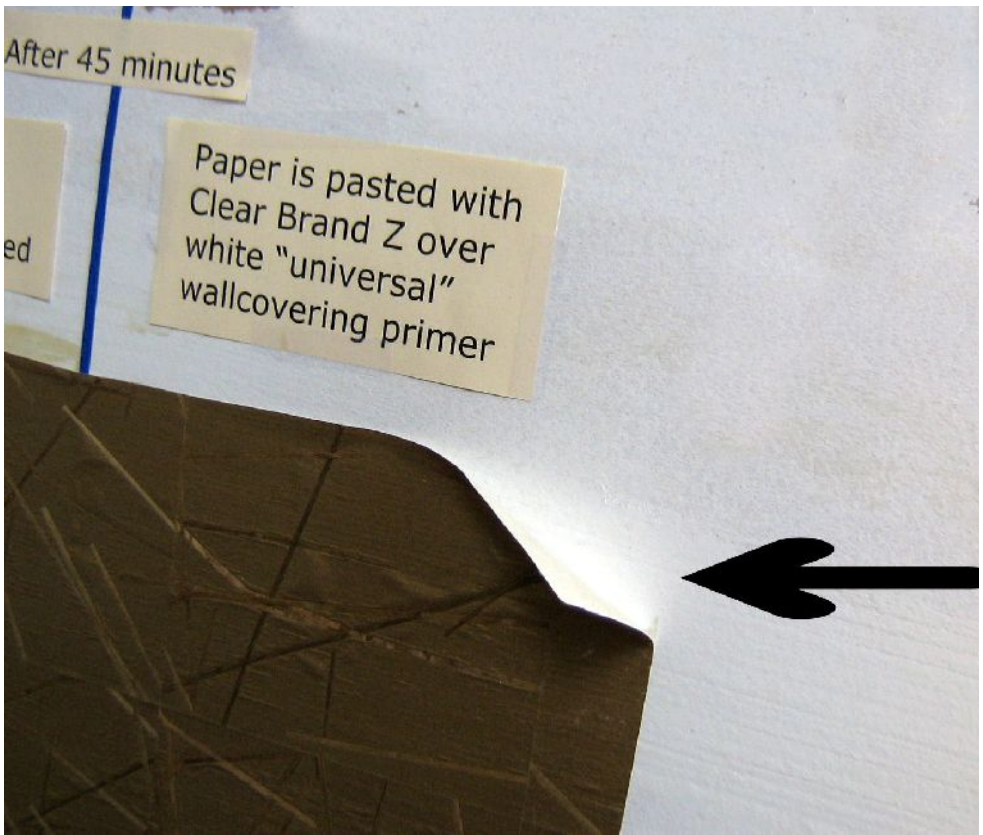
Step Three: Next day I rolled on a thin, full strength coating of Brand Z clear to the paper. Remember, we are trying to get moisture out of the entire system here so it was not diluted whatsoever. I applied it to a sample board where half the surface was the bed of dried clay and the other half a regular primed surface. Blue masking tape divides each half

Figure B:

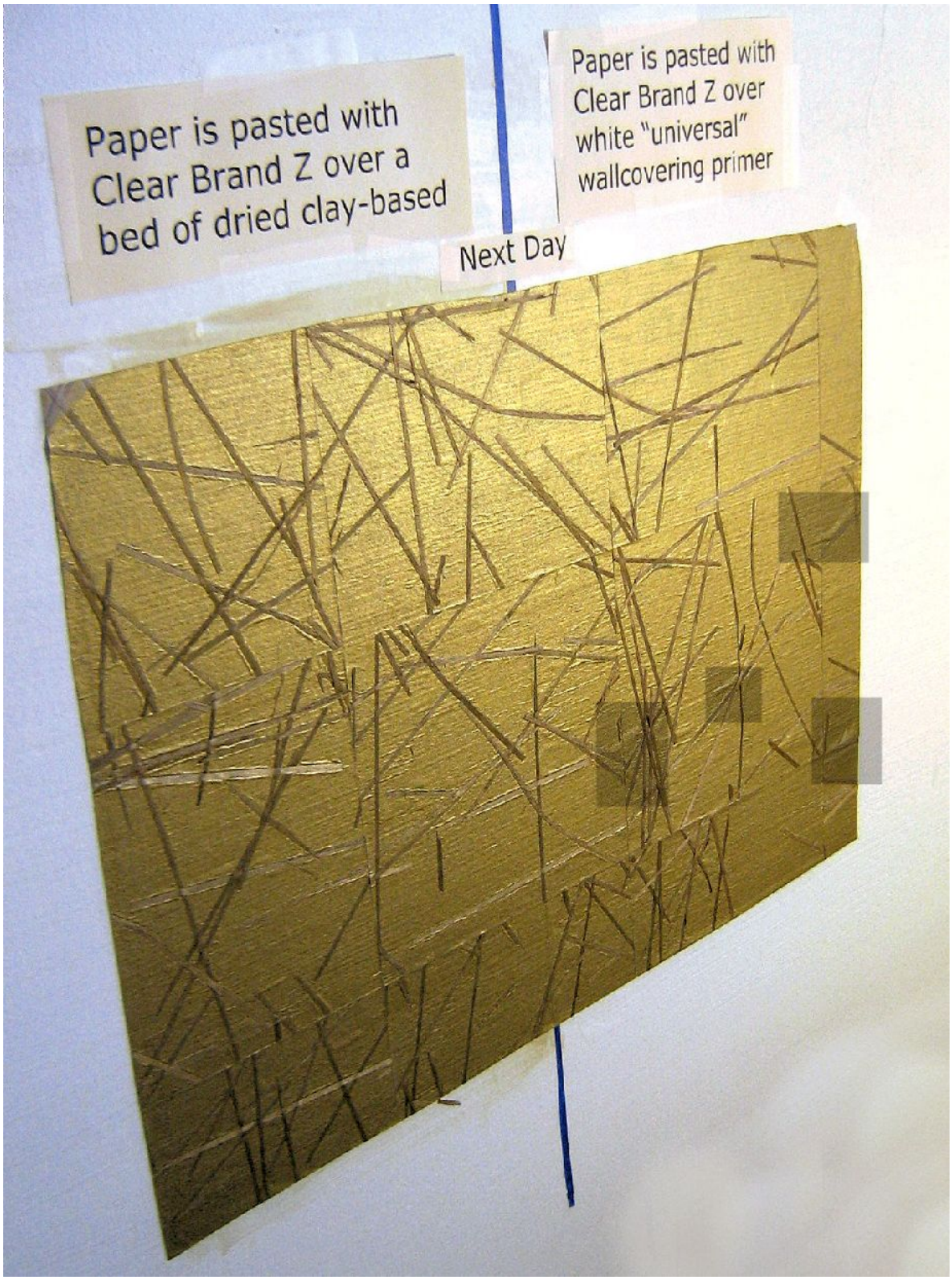
After 45 minutes you can plainly see in Fig. B that the side to the right of the blue tape, the one without the bed of dried clay, is bubbling up. Mind you that I used the gelliest of clears as an adhesive. If I had used a fast penetrating paste the bubbling would have been more intense (as in Fig A.). The side with the bed of clay has a few minor issues caused by high humidity from the paste moisture, but it is faring 90% better than the right side. The moisture contained in the gel Brand Z is being given up to the dried clay before it has a chance to transfer into the wallpaper.



Also encouraging on the clay side after only 45 minutes of dry time is that the sample can't be lifted off the surface. The backing is tightly adhered so that the appliquéd square separates from the backing when I tried to lift it.



Not so with the right side. I was able to lift it from the surface and the paste looked like it had just been rolled on a minute ago.

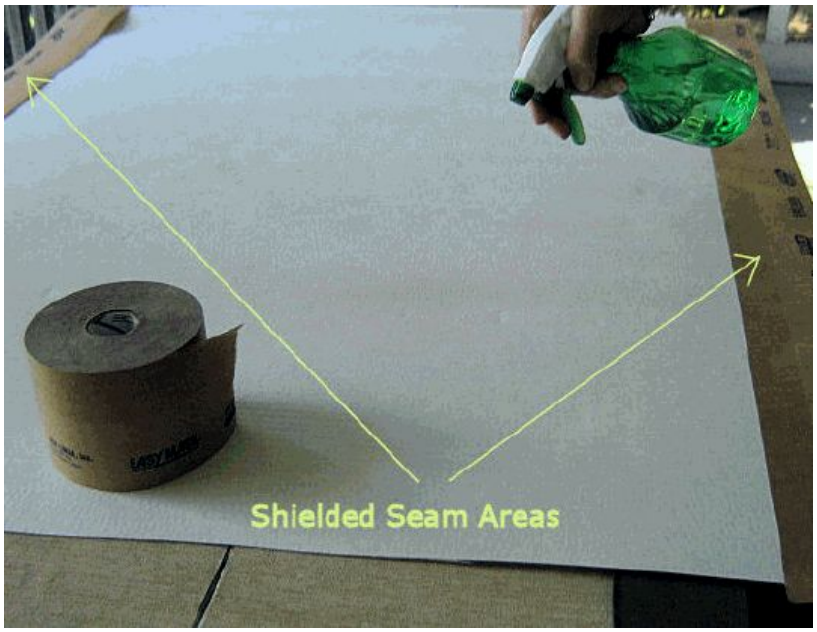


After letting this sample dry overnight this photo tells the end of the story on the next day.

The clay-bed side looks great after drying out very well without bubbles but the right side has several areas with residual bubbles (highlighted by the transparent rectangles). I encourage you again to find out which of the pastes you use are penetrators and which act as non-penetrating gels. You will be spared massive headaches and expensive job failures if you do.

Another problematic material I tested had a completely

different problem. This material consisted of a high relief "washboard effect" ---actually I thought it looked like corrugated cardboard—mated to a paper backing. Installers were having difficulty with this material because the lamination glue holding the front and backing together was very water sensitive and there was awful separation. Once it separated you could kiss the expensive piece goodbye. Now if you're thinking, "Hey, why not use the same Clear Z on this to prevent water from infiltrating to wet the lamination glue?", give yourself a cookie. But there was a problem when I did that. The material towards the middle of the sheet expanded with moisture after an hour or so when I used the Clear Z. I didn't want to get rough with the stuff forcing the bubbled up areas to lay down.



So this is what I did. I laid down some EZ mask on the seam areas to shield them from moisture (waxed paper strips or scrap vinyl wallpaper pieces would also do.) I lightly misted the backing to allow moisture/humidity to pre-expand the center part of the sheet **and then** I applied the Clear Z to the whole backing after removing the EZ Mask Shields.

This really worked like a charm. Also to avoid stress on the seams I used the tips of a paperhangers's brush to tap down the seams after dry trimming them on the table. This brush technique is very useful when you are concerned about stressing a material that may delaminate.

Don't go away thinking that the "Gel Factor" is only for the high end. In order to avoid "bubble headaches" with any mass market material or fabric backed contract material you would be well served to know just how quickly the pastes you use are wetting out the materials you are hanging everyday. It is also important to realize that high end materials are a different breed altogether and may require that you test them before slopping paste on them and running to the wall. I know your first impulse may be to curse them because they aren't what you are used to, but consider that once you master their need for specialized techniques you can substantially increase your daily rate for hanging them and establish yourself as the "master paperhanger" in your area.