STRIPPING OLD PAINT

Restoring a Victorian to its original glory means getting down to bare wood

by Steve Allen

Whenever I'm hired to repaint a building's exterior, I prefer to remove the layers of built-up paint, right down to the original surface. Getting the surface down to bare wood helps to ensure a successful and long-lasting paint job. Stripping paint from flat siding and trim is a fairly straightforward process. Removing years of built-up paint from the intricate "gingerbread" found on a large turn-of-the-century Victorian, however, is a much more formidable project. At first glance, this maze of surface area, with all of its nooks and crannies, seems impossible to strip down to bare wood — at least within the life span of the average painter.

Single-Application Stripper

Because of the intricacy of the design, on a recent Victorian job I used a chemical stripping process called Peel-Away (Dumond Chemicals, New York, NY; 800/245-1191; www.dumond.com), that removes multiple layers of paint in one application. The active ingredient is sodium hydroxide,

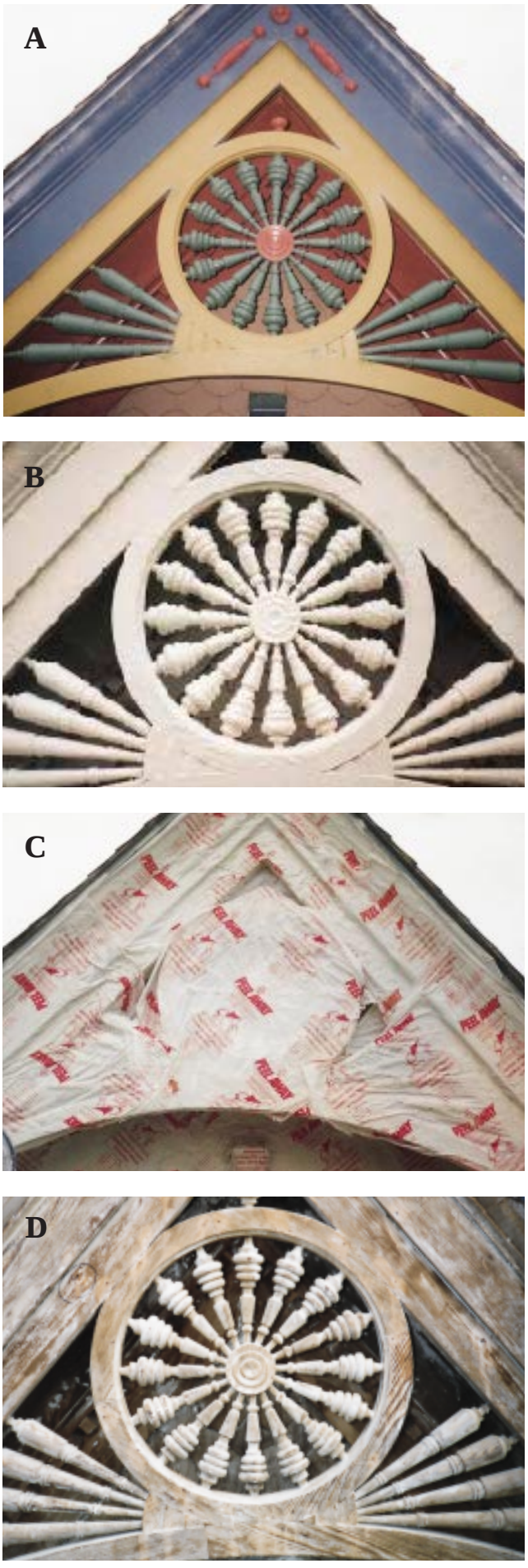

Figure 1. To remove paint from the detail work on a typical Victorian (A), Peel-Away stripper is applied in a thick layer (B), then encapsulated with a plastic-laminated paper (C). After 48 hours, the paper is peeled off, exposing the bare wood (D).

commonly known as lye, an odorless, highly alkaline substance. It does an excellent job of removing old paint from flat and contoured surfaces, and from detailed trim pieces that are typically impossible to strip without destroying them (see Figure 1). Using this system and working with a crew of three other painters, I restored the exterior of the elaborately-trimmed Victorian shown here in three months.

Disposing of existing paint can also pose some problems. Since lead is a matter of concern, another advantage of chemical stripping is that the stripper encapsulates it intact — no more releasing lead dust by sanding and grinding. After it dries, the removed paint and stripper can be properly disposed of, without risk to workers or the environment.

Application and Equipment

The trick is to apply the stripper in a heavy and even coat. On small areas this can be done using a brush, trowel, or even a gloved hand. To cover the large wall areas of the house, however, I needed a more efficient and thorough method of application. Spraying was the only way to accomplish this. The problem with spraying Peel-Away is that it's a heavy paste, with the consistency of dry-wall mud, and not many sprayers can deal with a material that thick. To prepare Peel-Away for spraying, the manufacturer recommends thinning with clean water. I added about a quart of water to 5 gallons of Peel-Away, and mixed it to a more fluid consistency, using a mud-mixing paddle chucked in a drill.

I connected a Speed-Flow 5500 paint sprayer to an adapter, fitted to the bottom of a clean 35-gallon grease drum (Figure 2), which I found to be the perfect container for this purpose. A follower plate — a flat, round metal plate with a rubber sealing-ring around its rim, originally designed to displace grease in the barrel — capped off the stripper in the drum. Drawn down by the suction of the sprayer, the plate had the squeegee-effect of scraping the drum sides clean as it went down.

Protecting equipment. Before use, I replaced the sprayer's usual leather packings with special Teflon packings, because Peel-Away will attack and dissolve leather. It had also severely corroded my aluminum spray gun, so I replaced it with a stainless steel gun.

After removing all of the filters in the sprayer and gun that would have become clogged with the heavy compound, I fitted the pump with a 3/8-inch line. After some trial and error to find the best fan pattern for the spray, I settled on a .026-inch tip orifice for the gun. This proved to be large enough to prevent clogging and provide an even fan spray pattern. I also installed a tee connector and a dual valve with a separate inlet on the sprayer hose, which allowed me to bypass the drum and draw water into the sprayer in order to flush it out.

Protecting workers. As with any chemical use, personal protection is essential — especially when working with chemical paint-strippers, which are extremely caustic and can burn the skin even after brief contact. Full-body protection in the form of a chemical-resistant suit and rubber gloves, plus a hat and a full face-shield, is vital. Being water-based, Peel-Away doesn't produce noxious fumes; but when it's sprayed, a particulate respirator is definitely a must, more to protect from splatter than from atomized vapor.

Figure 2. The author used a recycled grease drum, adapted for use as a container for the suction sprayer, to apply the heavy-bodied chemical paint stripper.

Testing before applying. Before beginning to strip any of the surfaces, I did some test patches to determine how the product would work on various detail areas. I tested several sample areas, not only for paint film thickness, but also to judge the complexity of the surface (Figure 3). Because Peel-Away is meant to work as a one-step paint-remover, I needed to get an idea of how heavy to apply it, and also how long it would take to achieve complete removal. The objective is to make sure that you've reached optimal effect with the first application to minimize laborious hand scraping and eliminate the need to reapply the stripper later. My test patches showed me that I could expect good results after about 48 hours of chemical action.

Preparing for Application

Before starting the application, I power-washed the house and let the surface dry, then masked off any surfaces that weren't being stripped.

Figure 3. Before starting in on the entire house, the author tested a small sample area to determine how thick to apply the stripper, and how long to leave the paper in place.

Because a lot of water is used in the process, I used duct-tape to completely seal areas of potential water entry, such as the tracks on double hung windows, and around the doors. To protect windows, I stripped the sash manually using a methylene-chloride-based stripper instead of Peel-Away. This proved to be the most time-consuming part of the job.

Peel-Away won't harm asphalt shingles, but it's hard to get off after it dries, so I covered the roof with 4-mil plastic during the application process. Plants require protection too, but plastic films can adversely affect plants if left on too long. So to cover and protect the landscaping, I used a landscaping fabric to protect foundation plantings (Figure 4).

Figure 4. During stripping and repainting operations, it's a good idea to protect shrubs from chemical splatter with a landscape fabric.

With safety gear on, surface ready, and surroundings protected, I was ready to start applying the material. Relying on my test-patch results, I sprayed the Peel-Away on heavily and evenly, about 1/8 to 1/4 inch thick, depending on the thickness of the paint layers. To get an even coat, it's necessary to direct the spray pattern perpendicular to the surface to be coated. This wasn't difficult when coating flat surfaces, but it got trickier when it came to the multi-surfaced decorative trim pieces and turned spindles, since the sprayed material won't go around corners. When necessary, we'd apply the compound with a brush, trowel, or even a rubber-gloved hand. At this juncture, it helped to have an assistant or two to keep the process going, because the special paper provided with the Peel-Away system has to be applied over the wetted surface. One side of the paper is plastic-laminated to prevent the stripping compound from drying out while it's working. The paper has to be applied with the plastic side out, and be embedded in the material, avoiding trapped air bubbles as much as possible (Figure 5). Trapped air can promote failure by allowing the compound to dry on the surface.

Figure 5. The paper is carefully pressed into place in an effort to eliminate air bubbles, which would prematurely dry the stripper.

Capturing the details. Typically, one person keeps the spray process going, while the other two follow up with the paper application. This is fairly easy when covering flat surfaces, but the intricate trim on this Victorian slowed us way down. We used scissors to cut the shapes for good tight wraps around all of the trim pieces. It wasn't necessary to fit the paper into every contour, but rather to create a "package" around the pieces, and contain the stripper in the recesses of carvings and small dentils. The trick was to apply the paper firmly to the surface without manipulating it too much, thereby maintaining an even distribution across the surface and on the corners. Papering the gingerbread reminded me of wrapping odd-shaped Christmas presents: At each new section, I'd have to decide how to wrap each element.

Figure 6. After stripping, the remnants of the original painted surface are removed with small picks and scrapers, a hose and scrub brush, or by pressure-washing.

Each container of Peel-Away is supposed to cover a specified number of square feet, and the paper should cover that area, but I found that because of all the details, I ran short and had to order more.

Removing the paper. It took about two days for the Peel-Away to loosen the paint — then I began the removal process. It worked best to start from the bottom and work toward the top, in order to prevent the upper sheets from pulling away the lower sections. Exposing too much area at once can cause drying, which makes cleaning up the details much more difficult. After working a putty knife under the paint at the edge of the paper, paint and paper lifted off in large sheets from the flat siding and trim areas, but in much smaller pieces on the intricate surfaces. We removed as much as we could by hand before beginning the rinsing process, which further cleans the surface and removes residual solvent. Rinsing can ordinarily be done with a hose and a scrub brush, but using a pressure-washer was the only way to get the more intricate gingerbread clean. You have to be careful with the pressure, though — use too much and you risk damaging the wood.

At this point we had removed about 98% of the paint from the surface. The remaining 2% left in nooks and crannies had to be removed by hand with small scrapers or picks, while the paint was still soft from the solvent-process (Figure 6). Once all of the paint was off, the surface had to be neutralized with Peel-Away neutralizer solution — essentially acetic acid — and allowed to dry. Skipping this step would be asking for trouble, because the wood would remain chemically hostile to paint. After neutralization, I checked the pH level with the manufacturer's litmus paper. Some areas had to be treated a few times to get the pH level close to neutral — between 7 and 8.

Waiting to Paint

Sixty to ninety days of drying time is required before the newly stripped wood can be repainted. I used a moisture meter to monitor the moisture content in the wood as it dried. Acceptable moisture levels for painting depend on the equilibrium moisture-content of wood for the region you're working in.

Repainting was fairly straightforward once all of the old paint was removed. To be on the safe side when selecting paint, I consulted a technician at Peel-Away, who recommended a water-based acrylic primer called X-Out Plus (XIM Products, 1169 Bassett Rd., Westlake, OH 44145; 440/871-4737; www.ximbonder.com). It's formulated to permit any excess moisture still present in the wood to evaporate off, while sealing bleeding stains in the wood — even the tannins present in redwood or cedar. Two coats of primer followed by two topcoats of Sherwin Williams Super Paint, a good quality latex, made the house look like new again (Figure 7).

Figure 7. After neutralizing the stripped surface with an acid solution, the author allowed the wood to dry for more than two months before repainting with two coats of primer and two topcoats.

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