



C. BATES

Brushing Up on Water-Based Paints

The paint industry is changing fast these days. As coatings manufacturers reformulate their products to adhere to stricter air pollution standards, they are altering the way paints and other finishes behave, both on the brush and on the finished surface.

The move to water-based paints (often generically called “latex” paints, though latex is no longer an ingredient) is being driven by a growing body of state and city regulations that limit the amount of VOCs — volatile organic compounds — allowed in paints. When VOCs are

released into the air, they react with other elements and with sunlight to form ozone. Ozone is desirable in the upper atmosphere, where it filters sunlight; at ground level, though, it’s a harmful pollutant and the main ingredient in smog.

Because traditional oil-based paints contain very high levels of VOCs (about 5 to 10 times higher than water-based coatings), manufacturers have had to radically change their formulations. This has reduced the workability of oil-based paints, radically lengthened drying time,

Water-based paints can perform as well or better than traditional oil-based paints, but you have to choose and apply them correctly



Because water-based paints dry quickly, it's easy to overbrush — leaving visible brush marks in the finished surface (left). Likewise, with latex stains, lapping marks result when a second coat is applied over partially dried stain (right). Avoid laps by brushing or spraying small areas at a time and keeping a wet edge.

and produced enamels that lose their gloss or discolor within months of application. The problems have proved so difficult to solve that most paint professionals believe that oil-based paints are on their way out, except for specialized uses.

Because I share this opinion, I've made a conscious effort to move gradually toward the use of water-based paints in almost all applications.

Water-Based Advantages

Today's best water-based paints have several advantages over reformulated oil-based finishes, and manufacturers are rapidly solving the remaining deficiencies.

Water-based coatings generally apply more easily and retain both color and sheen better than the new oil-based paints do. Dark colors fade less, whites stay white longer, clears are clearer. Water-based paints, which use acrylic or vinyl-acrylic binders, flex and stretch more readily, allowing them to withstand wood movement. They dry faster, too, which can sometimes cause problems but usually proves an asset because it speeds the job.

Water-based paints present fewer problems in humid or damp weather; you can even paint over slightly damp surfaces, because the more open chemical structure of water-based paint lets moisture out. Water-based paints resist mildew better than oil-based paints do. And of course, water-based paints are less messy to apply, easier to clean up, and don't smell as strong as oil-based paints.

Application Tips

With water-based coatings, attention to quality products and good technique are more important than ever.

Buy the good stuff. Most contractors already know that the best latex paints are the "all acrylics" — those in which the binders are 100% acrylic, which is more durable than the vinyl used in early latex paints and in some bargain paints today.

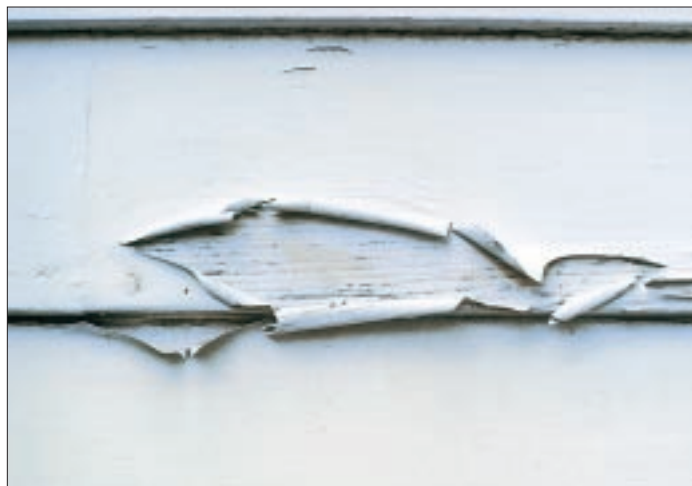
I use different brands of paints for different applications, but if I have a favorite overall brand, it's Pratt & Lambert (Pratt & Lambert Specialty Products, P.O. Box 1505, Buffalo, NY 14240; 800/876-7005). Pratt & Lambert offers good quality across its entire product line, and their technical assistance has been excellent. Benjamin Moore (Benjamin Moore & Co., 51 Chestnut Ridge Rd., Montvale, NJ 07645; 201/573-9600) is another brand with high quality across its entire line. I also like Sherwin-Williams (The Sherwin-Williams Co., 101 Prospect Ave., Cleveland, OH 44115; 216/566-2000) because they have such a wide selection, particularly in specialty products like sign paint and primers for metal surfaces.

Whatever brand you choose, buy at or near the top of the line. It's also important to read the label directions and any supplementary literature the manufacturer offers. And don't be shy about calling the company's technical staff with specific questions. These people often possess recently acquired information that has not yet found its way onto the paint can.

For instance, I once called Sikkens (1845 Maxwell, Troy, MI 48007; 800/833-7288) because I was having problems getting a semi-transparent finish to adhere to some cedar benches and decks. The Sikkens people told me that the "mill glaze" on the new lumber was probably repelling the stain and suggested I wash the wood before finishing it. I did, and the stain adhered beautifully. This was a few years ago, at a time when mill glaze was a new problem, and the tech people were just learning how to deal with it. Such current information is particularly helpful today, when product manufacturers are in the middle of a learning curve themselves.

Be prepared. Water-based finishes require more thorough surface preparation, cleaning, and all-round careful application than oil-based. Remove any loose paint, and clean any dirty or oily surfaces. For most surfaces, I use Spic-and-Span powder; on a very oily surface, I use painter's naphtha.

Put it on right. Applying water-based paints is different from applying oil-based paints. Spraying water-based paints, for instance, often produces an orange-peel texture. Sometimes you can solve this problem by adding thinner — water in the case of water-based paints — though too much thinner degrades the paint film. You might also try using larger or smaller spray tips. As a last resort, use a second person to brush or roll right behind the sprayer. Paint manufacturers are making progress on this problem, but brands vary, so it pays to experiment a bit.



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For exterior jobs, the author uses an oil-based primer on woods that are prone to staining, such as redwood and cedar, and on any previously painted surfaces where the paint has failed. Examples include cross-grain cracking, which results from excessive paint buildup (left), and intercoat peeling, which is caused by poor surface preparation (right).

Also take care not to spray too thick a coat, because water-based paints have a greater tendency to run and sag. To prevent this, don't linger with the nozzle and avoid lapping passes, both on flat surfaces and in corners. And stay alert: Because water-based paints dry so quickly, you have only a few minutes — often less than 20 — to go back and brush or roll out any sags or runs. Brushing requires similar cautions. It's a good idea, whether brushing, rolling, or spraying, to keep a wet edge. This may mean painting smaller areas at a time.

Interior latex enamels are even more demanding. The best new interior acrylic enamels level fairly well with a high-quality paintbrush — but you should brush less than you would with oil-based paints. It takes practice not to leave fine brush marks in high-gloss latex paints. Use long, fairly rapid strokes, taking care not to abruptly dive in or pull off with the brush at the beginning or end of a stroke. Use as few strokes as required to produce an even coat, then leave it alone — you'll leave a brush mark if you try to touch up when the paint is half-dry.

Finally, use the best brush you can buy. This should be standard practice by now, but I'm still surprised at how many contractors try to save money on paintbrushes. I like brushes made by Purdy, which are widely available.

Inside Jobs

Here's how I handle the peculiarities and limitations of water-based finishes in different interior situations.

Walls. Since most people already use latex interior wall paint, I'll limit myself here to a summary of the different finishes and their uses. Different paint makers use varying nomenclatures, but most make three wall finishes: flat; eggshell (slight sheen); and semi-gloss, or satin. I use flat for most walls, though I often use eggshell in closets, because glare is not a problem and the sheen makes the wall more cleanable. I use eggshell or satin for bathrooms or kitchen walls that will receive some splash or dirt.

For priming walls before wallpapering, oil-base primers have long been standard, and many wall covering manufacturers still specify it. However, I successfully use Zinsser's Shieldz (Wm. Zinsser & Co., 173 Belmont Dr., Somerset, NJ 08875; 908/469-8100).

Trim: the last frontier. By "trim" I mean doors, door and window casings, baseboards and other moldings, and cabinet work. The finish on these areas will receive close scrutiny, so you want an attractive and smooth, easy-to-clean surface. Trim paint must be durable, for it will be touched, bumped, banged, and brushed against. The paint surface will have to stand up to chemicals (oils from hands on door jambs, chemical cleaners mopped up against baseboards) and abrasion.

At present, oil-based enamels still excel in providing most of these qualities — particularly the smooth, lustrous sheen — and trim is thus one of the few areas where I still routinely use oil-based paints. (Where I live, you can still buy the older formulas.) I've already used a

latex enamel, however — Sherwin-Williams Super Paint — on a couple of small jobs, and it's worked pretty well. I had difficulty preventing sags and runs when spraying, though I worked that out, and the paint lacked the luster that oil paints have when they dry. But the owner was pleased and the job is holding up well.

Water-based enamels are catching up with oil-based, and I expect to switch over within a few years.

Primers for trim. I may be slower to switch to water-based interior primers for trim — this seems to be an area where water-based products still lag significantly. To produce a really smooth surface for enamel finishes on trim, I often extensively sand the primer (which itself needs to lay on smoothly), but the water-based primers I've tried so far don't sand well. Their "gummy" nature clogs the paper, and the rubberlike surface often stretches and tears rather than powdering. What's worse, the water in water-based primers can raise the wood's grain, thus requiring even more sanding. Between the raised grain and the difficulty with sanding — and the severe degree to which these problems compromise the final finish — I find it better to stick to oil-based primers for now.

Even here, though, there are signs of promise. For instance, the Hydrocote Co. (P.O. Box 160, Tennent, NJ 07763; 800/229-4937) makes a water-based sanding sealer, a protective clear coat you put on wood — cabinets, for instance — before painting, and it



The author uses water-based paints for interior walls and ceilings (far left), though he prefers oil-based paints, which are glossier, for interior trim (left).

sands beautifully. I would never have dreamed a water-based finish could sand so well. I don't know how this quality is achieved, but it bodes well for the sandability of future paints and primers.

Interior stains. With the old oil-based stains I once used, I could put a beginner on a job and end up with a good finish. With water-based stains I've used, any place you overlap or brush twice — such as at a corner — will be twice as dark as the places you brush just once. And the quick drying time leaves little opportunity to go back and level out thick spots. The stains perform well, however, if you spread them evenly, don't overlap, and make sure you produce a uniform thickness. In other words, use an extra measure of the same good technique that all water-based products require.

Interior clear finishes. I started using Hydrocote for floors and other interior clear finishes about six years ago, and I have stuck with it. Most of the major brands make similar products now. These new products behave differently than their oil-based cousins, and you have to get the hang of using them. For instance, the labels on Hydrocote products warn of a temporary purplish cast on the drying finish, but on those first couple of jobs, I still got nervous waiting for that loud purple sheen to clear up. The color disappeared, however, and the finishes have held up well.

On the Outside

Outdoors, I use water-based paints for almost everything except priming tricky spots or tannin-heavy wood species.

Walls. Latex paints are more flexible, breathable, weather-durable, and

mildew-resistant than oil-based paints are — all the qualities we look for in an exterior paint. The only place an oil-based topcoat might hold a marginal advantage is for frequently handled surfaces such as doors or handrails.

For routine outdoor priming, including priming the backs and ends of new siding (a must with today's finicky lumber), I use latex primers; they apply easily, hold up well, and their quick drying time lets me get to the topcoats more quickly. There are two exterior conditions, however, in which I still prefer oil.

Priming those iffy spots. I don't do too many exterior repaint jobs, but when I do, I still use oil primers where the paint is chalky, oily, or poorly adhered. Ideally, such areas should be sanded to bare wood before priming; but where budget restrictions prevent such preparation, an oil-based primer will provide the most secure base for the finish coat. Some of the new water-based acrylic primers, such as Zinsser's 1-2-3, are closing this gap. This is an area in which I'm experimenting, but for now I tend to go with oil-based primers.

Priming tannin-heavy woods. The other place most water-based primers presently fall short is in blocking the tannin stains characteristic of cedar and redwood. Some of the new "stain killing" water-based primers may do the job, but they usually require two coats. If I just need to seal a few knot-holes, that's okay. But if I need to block tannin stains in an entire siding job, as with redwood or cedar, priming twice costs too much — I'd lose the bid. So I still use oil-based primers for priming redwood or cedar;

then I follow with a topcoat of high-quality acrylic.

Exterior stains and clears. Outside, I still use oil-based stains and clear finishes, usually Sikkens or Penofin (Performance Coatings, P.O. Box 1569, Ukiah, CA 95482; 800/736-6346). These look great, though they require washing and recoating every year or two. I haven't found any exterior stain or clear finish, either oil- or water-based, that will hold up longer than that. For a clear finish on cedar siding, you might also consider Flood's CWF — a petroleum-distillate-based product that usually costs less than many oil-based formulas (The Flood Co., 1212 Barlow Rd., Hudson, OH 44236; 800/321-3444).

As far as water-based stains go, the ones I've used so far don't penetrate well and look kind of muddy. If you use a water-based exterior stain, take care to apply a consistent coat and minimize overlaps so as not to produce uneven color.

Adapting to Change

When change is unavoidable, as it is now with paints, smart painters and contractors will embrace it slowly rather than all at once. You can't just bring in a whole new line of paints on a big job and expect to dodge major trouble. It's better to change proven methods and products gradually, experimenting when time permits, working out the bugs one at a time. That way, you will avoid major disruptions in your schedule and maintain the quality of work you are known for. ■

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