Three Steps to a Flawless Painted Finish

BY PAUL SNYDER

If you associate the word "paint" with images of a pail of house paint, a roller, and a brush, you may have difficulty linking it to fine furniture. However, painted built-in cabinets, bookcases, wall units, and furniture are as popular today as they have ever been, and a great paint job stands comparison with the best clear finish.

There is more to achieving a quality painted finish than meets the eye, and the process is different than obtaining a clear finish. Much of the effort centers on the need for a perfectly flat, smooth base for the paint. To get this base, I work through a series of preparation and priming steps that get the surface of the piece progressively smoother.

Because the wood will be hidden under paint, it doesn't make sense to use expensive furniture-grade hardwoods, such as oak, ash, walnut, and mahogany. Poplar, medium-density fiberboard (MDF), birch plywood, pine, and paint-grade alder and maple are more suitable for painting. Paint grade just means the wood

Preparation

Priming

Painting

Photos: Mark Schofield

Preparation A filler for every blemish

Fillers under a painted finish don't need to blend into the wood, but they shouldn't shrink as they dry, leaving a low spot that must be refilled. Use fillers that are easy to sand. I also prefer fillers that dry fast.

Some of the best painted finishes are on cars, and auto-supply shops sell fillers that will help you achieve such quality. For fine cracks, flat end grain, and flat MDF edges, automotive spot and glazing putty works well.

Spackle is a good choice on flat or routed end grain and MDF profiles. However, spackle shouldn't be used to fill a deep hole; sanding it can leave a depression in the surface of the piece. Spackle also dries a lot more slowly than other fillers, so use it sparingly.

A smooth surface. *Large holes are best filled with an auto-body filler that must be mixed with a hardener (far left). Fast-drying wood filler is ideal for medium-size holes (near left).*

has grain or color variations that make it unsuitable for a clear or stained finish.

Surface preparation is critical

Getting the wood ready for painting is even more important than preparing it for a clear finish, despite the fact that any repairs will be hidden under the paint. The first step is to inspect all of the surfaces and fill any holes, cracks, and gaps, and remove any glue runs or drips.

Once the filler is dry (for more on the different types of fillers, see the story above), sand the wood with P150-grit paper. This grade of paper levels the surface and makes it uniform, but leaves it relatively rough so that the primer still has some "tooth" to latch onto. As you sand each surface, start with any areas that were filled; excess filler will create a high spot that will show up later in the finish. However, filler used in large holes might shrink, leaving a recess that will need to be filled and sanded again.

Pay attention to end grain, edges, and profiles—End grain will soak up a lot of primer if you don't pretreat it. Either seal end grain with glue size, shellac, glazing putty, or spackle and

Tips for MDF

When MDF is cut or routed, a rough, porous surface is exposed. The best way to fill and smooth it is to cover the area with spackle, and then use a small, dampened brush with the bristles cut short to work the excess spackle out of the corners and curves before it has a chance to harden. Once the spackle dries, smooth it with a sanding sponge that can be shaped to fit into the profile.

Avoid using a water-based primer on MDF, which can cause the fibers to swell and leave the surface bumpy. Instead, choose an oil-based primer or alcohol-based shellac.

Priming Select a compatible primer

Primer should be compatible with the topcoats and adhere well to both the wood and the topcoats. The primer also should fill the grain, leaving the surface flat, as well as dry quickly and sand easily. If you'll be using a water-based topcoat, choose a 100% acrylic primer.

There are situations when another type of primer is preferred. On areas prone to staining—wood knots, sap streaks, tannins, and pitch—shellac is the best choice. To simply seal the wood, use clear shellac, but to seal and prime the wood, use pigmented shellac such as Zinnser's BIN.

If the paint you're using contrasts a lot with white primer, tint the primer to a color close to the paint. The paint will obscure the tinted primer with fewer coats, and if the finish is scratched or otherwise damaged, the primer will be less visible.

then sand it smooth; or sand the edges with P220- or higher-grit sandpaper to burnish the surface, which will prevent the primer from soaking in too deeply.

On routed profiles, the aim is to achieve a smooth surface but still retain the crispness of the profile. Automotive glazing putty dries too fast, and glue size is relatively difficult to sand; like shellac, glue size doesn't fill the many small voids that cause a rough texture. I've found that the best filler for profiles is spackle (for more on using spackle, see "Tips for MDF" on p. 81) because it is easy to use and easy to shape when dry. Spackle is especially well suited for filling mitered corners in crown molding, where the detail and location call for a filler that can be spread easily and then sanded.

Break the corners for a better surface—The final preparation is to lightly sand the sharp corners, rounding them over slightly. Known as breaking the corners, this step helps paint flow from a flat surface onto a corner, avoiding paint buildup. It also reduces the chances of sanding through the primer on the corners.

Primer readies a smooth surface for the topcoats

With the obvious defects filled, everything sanded, and the corners broken, it's time to prime. Don't think of primer as being optional; it's indispensable for the flat, smooth base necessary for a painted finish. Primer performs a variety of functions that either the paint itself doesn't do or the primer does better.

The first coat of primer may be absorbed unevenly—Apply an even coat of primer using the brushing techniques described in *FWW* #156 ("Choosing and Using Brushes," pp. 38-43). With MDF and maple, one coat of primer often is all that's needed because the substrate is dense and free of pores. Other woods usually take two coats and sometimes three.

Despite the extra preparation on end grain and profiles, these areas still may absorb an excess of primer. The natural instinct is to apply it more heavily to get continuous, even coverage. But applying primer thickly leads to sags and runs and

Seal before priming

I use a clear sealer when I'm painting a piece that's made of wood suitable for a stained or clear-coat finish (e.g., pine). Applying the sealer makes it easier to strip paint from the piece if someone ever wants to change the look; it's hard to remove every last trace of the pigments when primer or paint is applied to bare wood. An alternative to alcohol-based shellac is a water-based shellac such as Ultra-Seal from Target Coatings. It can be sprayed safely and cleans up with warm, soapy water.

Apply the first coat of primer. *Brush on an even coat. On areas that will absorb the primer, let this coat dry and then apply a second coat.*

Fill small blemishes. *The first coat of primer reveals surface imperfections that may have been missed during the initial preparation.*

also slows the drying time. A better option is to apply primer in several thin coats until you get uniform coverage.

Once the primer dries, it's time to find and fix all of the surface flaws that this first coat has revealed. Each little hole, crack, and other imperfection that you didn't see during the surface preparation stands out clearly after the first coat of primer.

Filling, sanding, and applying the next coat of primer—If you need to make minor repairs, and you are working with MDF or a tight-grained wood such as maple, sand the whole surface carefully after the filler dries; use P220 grit on a sanding block or a random-orbit sander. If the primer has soaked in a lot, or if there's a strong grain pattern, the entire surface will need a vigorous sanding, which means you may end up removing most of the primer. If the grain is visible, use P150 grit, sanding until either the wood begins to show through the primer or all the shiny dimples (low spots) on the surface disappear. Use a random-orbit sander on large, flat areas, but on narrow boards, molding, or inside corners, use a sanding sponge. To avoid cutting through the edges and corners on narrow pieces, fold the sponge to fit the width.

With everything sanded, remove the dust and feel the surface with your fingers. Sand any rough areas again as needed. If there are bare spots, prime and sand them again. Then apply a second coat of primer over the entire surface. Sand this additional coat

Sand the primer. *Depending on how rough the surface is, sand the first coat of primer using P150- or P220-grit paper on a random-orbit sander. A sanding sponge is a good choice for smoothing moldings.*

Painting Pay top dollar for the topcoat

Paint for interior cabinetry and furniture should be formulated to resist sags and runs, and it should dry fast to avoid excessive dust collection. It also should provide a completely opaque finish after two coats and be durable enough for the intended use of the piece. Don't be tempted to economize with a $15 can of paint from a home center; quality is indicated by price, so be prepared to pay upwards of $30 per gallon for paint used by the pros.

There are a number of quality 100% acrylic and acrylic-enamel house paints. Generally speaking, manufacturers use the term enamel to describe any paint that has a smooth, hard surface. Add a few ounces of Floetrol, a latex paint additive that improves flow-out and leveling, to each gallon you use.

A good paint deserves a good brush. Pay extra for a quality nylon brush with flagged ends (the bristle ends are split). Nylon is softer than polyester or polyester/nylon blends and will help the paint lay down more smoothly with fewer brush-stroke ridges. The flagged ends will leave a finer, smoother pattern.

Try to paint horizontally. *It is easier to get a good finish with no sags or runs if you paint surfaces when they are horizontal.*

with P220-grit paper and a fine sanding sponge, working carefully to avoid cutting through the primer. When you're finished, remove the dust and inspect the surface to make sure all of the problem areas have been addressed. The surface should look as defect-free as you want the final painted finish to look. If you sanded through to bare wood, prime and sand only those areas again.

Two tinted topcoats are protected by a clear coat

Now that all of the hard work is done, it's time to paint. If more than a day has passed since you last sanded the primed surfaces, go over them quickly and lightly with P220-grit sandpaper. Like other finishes, primer continues to cure for a number of days, so the sanding scratches tend to shrink and close, reducing the bond between primer and paint.

If the paint is tinted and you have more than one can, mix them all together in an empty paint bucket to ensure the same color throughout the job. Then pour the paint into a smaller container with a large opening until it's half full. Dip the brush into the paint no more than halfway up the bristles, and gently tap them on the inside wall of the container to remove excess paint.

Brush with the grain in long strokes, holding the paintbrush at about a 45° angle to the surface. Overlap strokes slightly to maintain a wet edge and apply light pressure to keep all of the bristles in contact with the surface. Pull up as you reach the end of a stroke to avoid leaving a ridge. On long surfaces where you need to apply the paint in sections, start a new section just beyond the last strip and brush back into the wet section. Starting in the wet section causes pooling.

Plan to use two coats of paint. Trying to obtain 100% coverage with one coat encourages applying the paint too thickly. Scuff-sand between coats to promote good adhesion, and allow the paint to dry for at least two weeks to reach optimal durability before putting the piece to use.

Clear coat the paint—After letting the second coat of paint dry for 24 hours, you can apply a coat of clear finish for improved durability, added depth, and optional sheen adjustment.

The texture of the painted surface and the final sheen determine how much sanding is needed

Paints designed for spraying

Spraying is the quickest and easiest way to get a smooth, high-quality finish. I use high-volume, low-pressure (HVLP) spray equipment and select a paint designed for spray application. A couple of good brands are Target Coatings and M.L. Campbell.

FOR PERFECT RESULTS

Choose the right brush. *Use a 2-in. or 2½-in. angled brush to get into small or confined areas (above). Switch to a 3-in. brush for large panels (left), and apply the paint in long, flowing strokes.*

Sand between coats. *Use a fine sanding sponge to smooth the first topcoat. Don't worry about sanding through to the primer in some spots; it is more important to get a smooth surface.*

before the clear coat. If the surface is flat and you're planning on a satin or semigloss clear coat, then a light scuff-sanding is fine. If there are substantial brush ridges, or if you want a high gloss, the paint should be sanded until it is level.

For hand-sanding, use sanding sponges. Their padding helps to avoid cutting through the paint. For larger flat surfaces, Mirka's Abralon abrasive pads can be attached to a random-orbit sander to make the job faster.

To minimize changes in color, the clear coat should be completely clear, nonyellowing, and compatible with the paint. A water-based polyurethane is a good choice. You will be rewarded with a painted finish every bit as attractive as the finest clear finish. □

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A clear coat is optional

Applying a clear coat protects the paint and gives a look of greater depth. To minimize changes in color, the clear coat should be completely clear, nonyellowing, and compatible with the paint.