

Melamine Paint -- Plastic Enamel -- and getting paint smooth.

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Every paint is formulated to maximize some special characteristic, and that often means sacrificing other desirable characteristics in that particular paint. No one paint can be everything to everybody. One of the most common trade-offs in making paint is "ease of application" vs. "durability". Plastic enamel, or as it is currently being called, Melamine paint, is one of those very durable paints that are not at all easy to apply perfectly. First note that Melamine paint is not paint specifically formulated for painting over Melamine -- it is paint designed to look like Melamine when it is dry. But it can also be painted over Melamine. If you read the label carefully you get a hint that it is not an easy paint to use because the label talks about the right humidity conditions and the right room temperature for applying the paint. In fact, when the person who makes the props for the TV show quickly made up the painted doors for the show in our terribly hot dry studios, the paint went a bit crazy. There was a small crisis just before it was time to shoot this segment for the TV show and everyone wanted to just talk about something else and leave this paint to another day when we could do it right. But I said no. This is what happens to real people in real homes all the time. This is a difficult paint to use and we might as well show that honestly to the audience. So we showed how the paint bubbled (using a sponge roller is not a good idea for this paint) and how it streaked (the dryness of the air wouldn't give the paint time to smooth out) and how it wrinkled (the second coat was reacting to the first coat which was uneven). And then said that we would come back another day and show how to use this paint successfully. (By the way, the difficulty in using this paint is in no way a criticism of this particular brand -- it is the reality of plastic enamel.) So we asked the manufacturer to come to our studios and show us how to do it right. He came, he painted, he left, and the bubbles and streaks did not flow away and some cracking still did occur. He was just a little too sure of himself and didn't allow for the very dry conditions in our studio. So then we set about working on it. What we needed to do was to find a way to slow down the drying process to give it time to flow -- and to apply it as smoothly as possible. One trick for slowing down drying is to dilute it with 10% of the solvent listed on the can for clean-up. That requires more evaporation (which slows things down) and makes a thinner coat of paint, which will cure more evenly. It also makes it easier to brush it out smoothly without leaving the deep brush ridges that are common with a paint as thick as plastic enamel. You may however need to put on an extra coat of this thinned paint. The surface was looking much better, but not yet acceptable. So then we tackled the 20% relative humidity in the room. With some heavy duty humidification we got the room to 50% relative humidity, and with thinned paint we finally got a smooth surface. The problem in all of this is although slowing down the drying process allows the paint to flow smoothly on a horizontal surface, it can increase sagging on a vertical surface. I like the way that Bob Flexner, a paint expert that writes for Woodwork magazine, puts it. Rather than trying to brush out many thin coats of paint or varnish, he brushes out many "thinned" coats. 10% added solvent gets thick paint on smoother. He just applies more coats and ends up with the hard resistant finish the paint is designed to achieve, without the application problems.

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