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COLD COMFORT

High-tech paints make chilly weather no excuse for putting down those paintbrushes

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The idea of painting your garage or porch in the cold seems mightily unappealing. Why not let it wait till spring? Then you can tackle more important tasks in the fall, such as carving pumpkins and watching football.

But there are people who want to paint — or have to — when the temperatures drop. And apparently there are a lot of them, because most paint manufacturers are offering products that work to temperatures down to 35 degrees.

"It ... was definitely something that needed to be developed," says Steve Revnew, vice president of Product Innovation for Sherwin-Williams.

Like any good company, Sherwin-Williams is always looking for that next innovation.

"One thing we'd hear (from customers)," he says, "is, 'Toward the end of the year I get jammed up, the weather changes, and I can't do anything.' We looked at it as a way to extend the painting season for our customers."

Sherwin-Williams has a new product, its Emerald line, that came out this summer and is good to 35 degrees. **Ace Hardware** brought its 35-degree Clark+Kensington line to the market last year; almost all Benjamin Moore paints are good to 40 degrees; and other companies offer similar cold-weather paints.

The biggest factor in the proliferation of these products is new technology. Ten years ago, the science behind them hadn't been developed.

"We weren't able to go (to) 35

before the technology we use in Clark+Kensington was available," says Dennis Centofante, vice president, research and development, for Ace Paint. "The key was the latex. That gives us that exceptional film."

So how does this cold-weather paint work? A scientific explanation is in order.

Grab a lab coat

After a paint is applied and water evaporates out, a film forms. The harder the film, the more durable the paint job. The 35-degree paints form a hard film, which keeps the elements out and protects surfaces from peeling and cracking.

The chemistry involved in these various paints is often similar. And it comes down to the latex.

Centofante likens latex to Elmer's Glue. "Looks like Elmer's, feels like Elmer's. ... It creates an adhesive bond." Ace has developed its own self-cross-linking latex; that's where the chains of a polymer link to one another so that the polymer, as a whole, becomes stronger. Ace's latex employs nanoparticle material, which by its nature gets into every nook and cranny on a surface.

"Ultimately, when it dries you have mechanical adhesion," he says. "It's like little fish hooks; it gets in there and stays."

That cross-linking means a harder surface and, thus, a better-performing latex.

Revnew says Sherwin-Williams developed resin that enabled the curing mechanism, which requires water to evapo-

rate and the polymers to gel so that the film forms, to occur at lower temperatures.

Drawbacks

Low-temperature paints are not perfect.

Jeff Spillane, senior product manager for Benjamin Moore, says almost all of his company's exterior products are good down to 40 — he says they're conservative in their numbers — but there are some caveats.

"The reality is, products perform best when put on in ideal conditions — in the mid-70s," he says. "Products have been developed so they'll cure at lower temperatures. But you do sacrifice something when you do."

Part of the problem may be the guy on the ladder.

"When you get down to, say, 35, people are going to push that number. You paint at 35, and you're getting close to 32, and the paint will crystallize."

Ideal painting weather is 77 degrees and zero percent humidity, Spillane says.

But being realistic, he adds, "That's maybe one day a year."

"As you move away from those points, higher or lower temperatures, higher humidity, you'll alter the overall application properties, and at extremes, high or low, you can affect the overall durability of that film."

Before lifting a brush

Even though they work in the cold, these paints will give a better result if stored away from outdoor extremes. They're not freeze-frost stable, said Centofante. "Once they freeze, they're shot." He suggests keeping them in the basement until ready to use.

When it comes time to paint, as always, surface prep is the key.

"No matter what we engineer into it, you need surface preparation," Centofante says. "Poor surface preparation will give you a poor paint job. You've got to clean the walls, clean off the dirt,

remove loose materials. Paint isn't going to fix that problem."

Also check the temperature. The air temperature may be 40, and the paint may be good to 35,

but that garage wall in the shade may be only 30 degrees. And paint takes longer to dry in cool conditions, so paint applied at 5 p.m., when it's 37 degrees, may

not cure properly as the evening temperature dips.

And dress warm.



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New paint formulations allow applications down to 35 degrees, but it's still best to use at higher temps.