

Quick Coat

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New paint and coating technology means faster dry-to-handle times, shorter recoat times and reduced coating layers.

Challenges in a paint shop can slow down a fabricator's productivity—each side of a beam must be painted and dried before moving to the next; coats must be dried completely to prevent damage from lifting equipment; and each layer of a multiple-coat system must dry before the next is applied. However, newly formulated products have responded to the need to speed-up the coating process.

"The biggest bottleneck is the paint shop, because of the time it takes for coatings to dry," said Skip Pendry, focus market manager for The Sherwin-Williams Company. "The industry has single-coat systems that perform as well as multiple-coat systems," he said.

Sherwin-Williams has developed the ExpressTech™ family of coatings that provides faster drying times while eliminating extra layers, which saves fab shops labor costs and time.

"[It is] a fast-drying, single-coat, direct-to-metal urethane that equals the performance of two-coat conventional epoxy/urethane systems," Pendry said.

Fast Clad DTM Urethane is an aliphatic polyurea coating that can be applied at 6 to 9 mils dry-film thickness in a single coat with no outgassing or pinholing. Because the coating is a urethane, it has chemical and corrosion resistance and color and gloss retention. Using one coat instead of two minimizes labor costs, and the coating's fast-dry formulation speeds jobs to completion. It can be used for architecturally exposed steel applications such as entrances to shopping centers, schools or hospitals. For bridge steel, Sherwin-Williams' Fast Clad DOT Urethane can be applied over zinc-rich primers, and features a 30-minute dry time. Because Fast Clad DOT Urethane dries so quickly, spent abrasive and other airborne dirt and grit will not stick to the paint film.

SOLVENT-FREE SOLUTION

ITW Devcon's Iraseal line of polyurethane coatings offers similar benefits. "They offer fast set times, for projects where you have a short window to get in, get the work done, and get out," said Devcon Technical Applications Manager Jeff Stewart. "Some examples are high-traffic zones, like overpasses, bridges and industrial areas."

Stewart says the solvent-free nature of the coating is what contributes to its quick drying time. "It's a 100-percent solid system, which means that there are no solvents or volatile organic compounds (VOCs) that have to evaporate out of the product," he said.



"And the paint reacts quickly, so you can apply a thicker membrane in a single application if you want, and put the whole coating down in one shot."

Drying time is only about seven seconds, but it takes longer for the paint to cure. "Your cure rate varies depending on the environment the paint is exposed to," Stewart said. "In a water or weathering zone, cure time is two to three hours. But in an environment that requires full chemical resistance, cure time is 24 hours."

SILOXANE ADVANTAGE

A new coating by Ameron utilizes recent technologies to create long-term

aesthetic and cost-cutting benefits. "PSX1001 is a single-pack, acrylic Siloxane coating which has longer-term gloss retention and better weathering properties than aliphatic polyurethane," said Ameron World Marketing Vice President Linda Marquez. The product is based on a technology that combines silicone-oxygen and acrylic chemistries.

"Most coatings require resin and a curing agent," Marquez said. "We wanted to develop a one-pack product that didn't have the environmental and health issues related to the use of the Isocyanate curing agents that urethane coatings contain. We were able to do that with this new chemistry, without sacrificing weathering properties. The coating can be brush-roll or spray applied as a topcoat for a zinc-epoxy 1001 or epoxy 1001. So you're going to get double weathering property, with 50-percent longer gloss and color retention."

Marquez says that although drying time varies depending on primers, at 70°F, the coating should be dry to touch in two hours. "The product has an unlimited recoat window," she said. "You can shop-apply the whole system, and later do field touch up and repair. All you need is a clean, dry surface. You can recoat after a few hours, or after a few years."

Although the initial cost of the coating is more expensive than urethane coatings, Marquez says it is more cost-effective in the long run. "In a high-intensity UV environment, for example, you would normally need to refresh a urethane in four years," she said. "The Siloxane coating would only need to be refreshed in six years. It's more cost-effective when you take into account the savings on labor and surface preparation."

With greater speed, sophistication and safety benefits, new coatings products can reduce bottlenecks in the paint process and result in more timely and cost-effective project delivery. ★