

How do your walls hold up?

Patented technology brings protection, durability – and great-looking walls

Imagine this: A customer drives into a car wash bay, intent on bringing back a great shine to her vehicle, when suddenly she's surrounded by dingy, peeling walls. As the proverbial saying goes, you don't get a second chance to make a first impression. And a bad first impression can significantly impact your overall business image.

Even more fundamentally, car wash owners need to pay attention to bay and tunnel walls in order to prevent expensive damage caused by constant exposure to water and chemicals. It's the kind of damage that can cause substrate rot and lead to that feared, four-letter word: mold.

Car washes create hydrostatic pressure that sends chemically laden vapors into every nook and cranny. You can tell when a building is not properly sealed up. Water permeates the block and when it evaporates efflorescence takes place showing up as a white chalky deposit. And what's more frightening is what you can't see – the continual degradation of steel reinforcing bars in side walls and roofs, along with mold growth inside walls.

Not a pretty picture. So what's a proactive car wash owner to do? There are many options on the market, each with its own benefits and drawbacks.

The old stand-bys

Cheap, quick wall coverings like fiberglass reinforced paneling (FRP) board are commonly used by inexperienced operators. These sheets at first seem to provide bright, shiny surfaces that convey that all-important "clean" feel to customers. The problem is that FRP board doesn't stand up to the acids in car wash detergents, so the initial shine soon disappears and is replaced by an old, worn look. It's also impossible to completely seal the seams between sheets, so moisture and chemicals seep through and slowly degrade hidden substrates. Although the initial price is lower, FRP board typically looks bad within two years.

Epoxy coatings are another common way to finish car wash walls. The coating must be carefully selected to ensure compatibility with the high pH contained in concrete block, and should be free of any ingredients that provide a food source for mold or mildew. Epoxies offer a strong seal on CMU (block) surfaces and provide a glossy shine, but unfortunately they are a maintenance nightmare. Two-part epoxy can break down after five to 10 years (sooner if the block is not cured correctly), resulting in patches that seem to "pop" off the wall. To make matters worse, epoxy's chemical composition makes it impossible for a new coat to bond to the old coat. That means that all of the old epoxy must be removed before a fresh coat can be applied – which is a very time-consuming and costly process.

A new solution: Thermal plastic

Thermal plastic coatings are the newest solution for sealing and protecting walls. This patented technology is designed for use on concrete, pre-cast and CMU surfaces, and is owned by Menomonie, Wis.-based Protective Coatings Technology, Inc.

The unique, single-component product is called Poly-Wall Pro 3101. It's been on the market for 15 years, and customers couldn't be more satisfied with its performance and durability. It has no "pot" life like epoxy, which must be used within a small time period after it's mixed or it becomes hard. Poly-Wall Pro goes on more like paint, and it resists acid down to 1.5 pH and alkalis up to 14 pH. In addition, epoxy cannot be applied to newly made walls until the concrete has been allowed to cure – typically 20 to 25 days. Thermal plastic coatings, on the other hand, can be applied the next day a wall has been constructed.

Best of all, walls coated with a thermal plastic are very easy to maintain. The surface is durable enough to be cleaned with chemicals or acids and can withstand power washing. And unlike epoxies, a fresh coat of thermal plastic can be applied easily right to the old coat or to spots that need touching up.

Proper application for maximum protection

In new car wash construction, one common mistake is installing equipment and windows before coating walls. For maximum protection, blocks should be capped at all window and door openings and thermal plastic coating should be applied to the interior jams. The coating should also be applied before flat work is poured; a six-inch minimum below-floor application is recommended to stop water from wicking up. A low-elastomeric caulking should also be installed after the coating has cured for 12 hours.

As with most coatings, thermal plastic needs to be applied to a clean, dry surface with enough profile so the product can attach to the wall. Regular concrete block is best. Lightweight block is too porous and requires a lot of material just to fill the holes. Pre-cast panels are often too smooth and need to be etched with acid to achieve a three- to five-percent mil. profile.

Poly-Wall Pro 3101 can be applied at a wide range of temperatures, from -10° F to more than 100° F. It should be applied directly to the concrete surface. An airless sprayer with a 4000 p.s.i. stall pressure and a .039-inch reversible tip is recommended.

Application should be done at a time when temperatures are descending and when the coating will not be exposed to strong sunlight for at least six to eight hours. This precaution helps minimize pin-holing or blistering.

Making the old look new

If you have an existing property that's in desperate need of a facelift, resurfacing is the solution. This requires removal of all old caulk from joints, as well as sand blasting of walls and ceiling surfaces to remove the old coating. Cracks and holes should be filled with a vinyl or latex vinyl patch. Any moisture remaining in the surface should be allowed to dry. Proper preparation is critical for long-term adhesion of the coating.

Once dry, the surface is ready for the thermal plastic coating. Walls and ceiling surfaces should be treated with two coats of Poly-Wall Pro 3101. Metal doors and window frames need to have rust and scale removed before being primed with a good, rust-inhibiting paint and a final finish coat of paint. Finally, the exterior of the building should be coated with a breathable clear coat in order to stop rain and melting snow from entering the block from outside.

The bottom line

Waterproofing is serious business, both for your image and your pocketbook. To protect your investment against long-term damage, be sure to select an experienced commercial painter who doesn't cut corners. Make sure your contractor is aware of the various technologies that are available. Ask a lot of questions up front, and don't assume anything. Because quite simply, a job done right the first time will help prevent damage, improve customer perception, and eliminate years of headaches.

For more information on how you can protect your car wash from mold, algae growth and the freeze/thaw destruction of CMUs, visit www.poly-wall.com, or contact Poly-Wall at 1-800-846-3020.

Sidebar story:

Learning from experience

Talk about learning things the hard way. Dan Foor, owner of Magic Wash Car Washes in Wisconsin, has seen firsthand how epoxy coatings fail to hold up. Currently he is operating four touchless, automatic tunnels and 14 self-serve bays.

Four years ago, Foor put in six self-serve bays and used a two-part epoxy to coat the walls. While the initial look was great, he is already faced with re-doing the walls because the epoxy became brittle around the mortar joints and is flaking off.

A quick look at Foor's experience with thermal plastic coatings tells a totally different story.

"Four years ago I coated two of our automatic bays with Poly-Wall Pro 3101 and I haven't had to deal with one problem," Foor says. "The coating actually helped smooth out the concrete surface a bit and is very easy to clean. I wish I would have used this on all of our walls. The cost is a little higher than the two-part epoxy, but it's a small amount in comparison to the increased maintenance costs I'm facing with the epoxy-coated walls."

Foor also has bays with FRP wall panels, but says he will never use them again.

"They're hard to keep clean, especially around the cracks and fasteners, so the walls always look dirty," Foor says.

Foor's oldest property is a 25-year-old building with commercial red brick on the walls. The previous owner used a clear coat on the walls, which provided some protection. However, the dark walls don't give the "clean" feeling offered by today's lighter colors.

Foor was so impressed with Poly-Wall Pro's success at his other properties that he asked Protective Coatings Technology to test the product on the red brick, with the goal of giving an old property a major facelift.

"Poly-Wall Pro just looks better and lasts longer than any of the other products," Foor says.