

The Wall

**Why Oh Why, Are
SS Bay Walls Such A
Frustrating Bugaboo?!!
They Can Make Ya Wanna Scream!**

**Could There Be An
"Ultimate" Wall Material?
... An Operator Searches
For Some Elusive Answers.**

(Artwork Gratefully Adapted From Pink Floyd's Movie & Album "The Wall")

BY LISA LYONS

An Eternal Question

I can trace the genesis of my involvement with this article on bay walls to an interesting and spirited exchange on the Auto Care Forum (autocareforum.com). The thread that pulled me in was the eternal, infernal question that has long nagged at virtually every long time owner of a SS carwash. If Shakespeare's Hamlet had been a SS operator, he might've said it thus:



"To paint or not to paint my bay walls — THAT is the question!" Beyond that classic query, there was another regarding stucco and if might be a good choice for a bay wall coating. As often happens on the Forum, there were a number of diverse opinions on the topic of paint. But when you seek to broaden the topic of how to best cover and dress up bay walls beyond paint — brace yourself for a ton of diverse and conflicting opinions.

Concrete block and brick seem to have been the building material of choice for much of the SS industry for many years. But even with the very best maintenance practices, block and brick will eventually start showing their age. And that is when the "fun" begins — trying to find a way to refresh and update your carwash. On the other hand and for the last dozen years or so, many new washes have been built around the country (especially in

the Southeast) that, yes, use concrete block construction, but right from the get-go they "dress" and cover them brightly with a variety of different materials.

I'm a second generation SS carwash operator who has picked the brains of innumerable other operators at a slew of WCA and ICA Expos over the last couple decades. Over that time, I've heard of so many options for SS carwash walls and there are as many different opinions on which choice is the best one.

I do believe, however, that there would be consensus about my wish list of qualities the very best — the ultimate! — wall product should be:

- **Easy to install** — taking only a couple days to cover your walls ... by yourself.
 - **Very durable** — last a long, looonnnng time ... about 20 years would be ideal. During that time, it'd be virtually "bullet-proof" against graffiti, vandalism, and any climate conditions.
 - **Low maintenance** and easy to clean — not too much more than a hi-pressure rinse off would be great.
 - **Aesthetically pleasing** — adding a dimension of design and color to improve the appearance and curbside appeal of your wash.
- And last but not least, it would be ...
- **Inexpensive** — okay, cheap ... lets say, less than \$2 a square foot!

C'mon now — is that really too much to ask?!! We'll see.

Things Change

Back in the SSCWN Spring 1991 issue, **Pat Crowe** wrote an article on walls for the SS carwash. After reviewing the article, it was interesting to note that a few things have

changed over the years. Addresses and phone numbers were listed for the product information, but there was not one website address listed in the article. While researching this article, however, I seldom found a manufacturer that did not have a website with a lot of information about their products, along with other websites comparing different products, talking about ways to maintain and install them properly, forums, associations websites supporting the manufactures of various products, and more good info. Actually, there was so very much information it was easy to get lost in the details.

Most of the materials listed in earlier SSCWN article are still popular choices for the SS carwash. But there have been some noteworthy new products introduced since the 90's that are very promising.

Has the perfect — that "ultimate" — wall covering been discovered? I'm inclined to say, "not yet". But I'd bet that within this decade, someone will have developed a "space age something" that can withstand the age old challenge of the rough and tumble environment of SS carwash walls and meet all the differing criteria we operators have long been searching for. And, I must say, that there may be options out there — here and now! — that approach "perfection". I just haven't seen them rigorously tested/proven over a sufficiently lengthy period of time.

Let's start with a wall covering that always generates diverse opinions —

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Editor's Note: Before going one step further, the SSCWN realizes that there are operators out there who have had experiences (proven over time) that may contradict some assertions and observations regarding the wall treatments discussed in this article. If so, let us know ... please!

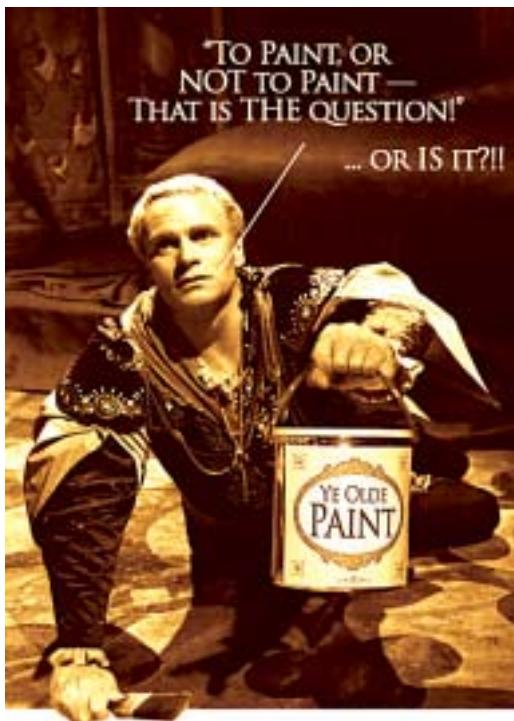
We're especially interested in getting meaningful, substantive input on the first subject — paint and "industrial coatings".

PAINT

Every spring, the community of City Heights in San Diego has a fair where they close down the street in front of my carwash. I've been told the fair is done so it will attract people to the area so it will improve the business climate. Of course, every year the street is shut down on a weekend, so I lose a prime time for business. But since I know I'll be shut down then, it's the time I choose to put another coat of latex paint on my sad-looking, painted carwash walls. The yearly painting had been going on long, long before I took over the wash 4 years ago. I can't even imagine how many coats of paint are on the walls.

I use to follow the paint manufactures' recommendations and spent a lot of time prepping the walls. They would look great for a few weeks, then someone would come along and get the walls dirty by getting tar or cement on them, or graffiti them really bad. After about 6 months, they would start looking a little "tired" again. But then it was the yearly fair and it was time to do it all over again. The last couple of years, however, I decided not to spend a lot of time prepping and the results are just about the same. I am currently in the process of updating the carwash and a new type of wall covering — something considerably more permanent — is on the top of my list of things to do.

One concrete block manufacturer's website described the proper way to paint their product was to use **latex epoxy paint**.



They also noted that it would have to be repainted every 3 to 5 years to maintain its appearance. This was not for a SS carwash where the environment is a lot harsher. Pat Crowe's article in 1991 also recommended **latex epoxy** paint as the only paint product that paint companies would recommend for painting a self-serve carwash. Pat was a former painting contractor and has experienced the same problems I have with paint in the carwash environment. He also has the same opinion: namely, do not get on the paint merry-go-round! Following are experts from Pat's article:

Carwash Paints Of Choice

There are basically three types of paint used in carwashes:

Latex — the least expensive; water soluble and the easiest to "splash on"; and the least durable.

Alkyd/enamel — oil based; commonly used and referred to as "swimming pool paint"; moderate in cost, durability, and ease of application.

Epoxy ("plastic-like") paint — most durable, most expensive, and most demanding of skill, wall prep and patience ... and, we emphatically note:

Epoxy is the only paint recommended by all the manufacturers for carwash walls.

Because oil base and latex paints expand and contract at different rates, it's generally recommended not to put one on over the other or peeling and cracking can result — especially in climates with dramatic shifts in temperature. Dry surfaces are absolutely essential to many paint applications and not at all to some others. Some exterior paints are designed to "chalk", thus covering the dirt on light colors, especially nice for urban areas. Paint manufacturers vary their formulas for different climates because weather conditions make a difference. In short, paint chemistry is high tech stuff.

For many owners, paint seems like it just has to be least expensive. Most carwash owners have at least limited experience with painting. And since many owners do their own rehabbing, paint appears to be an appealing solution and well suited to do-it-yourself application and inexpensive.

Having been a painting contractor, let me testify unequivocally there's much more to it. In presenting bids to potential customers I often said, "I'm fairly sure you're going to be pleasantly surprised at how little it is going to cost to paint your building. But I'm afraid you'll be absolutely shocked at the cost of **prepping**. Often the cost of preparation exceeds the cost of painting per se. Sandblasting is often recommended in wall prep. As Paul Edwards of Pittsburgh Paints told me, "Surface preparation is extremely important. **You must apply any paint on a solid base**. We recommend first sandblasting the walls, then a coat of filler followed by two coats of our epoxy. It will then take 7 to 10 days to be fully cured.

In many cases, sandblasting is the only practical way to get a "solid base" on which to apply paint. Sandblasting is time consuming, messy and not cheap. Even though some rental stores will rent sand-blasters, it's generally beyond what most do-it-yourselfers would care to attempt. Protective equipment is a must: beyond air tight eye covering, you should use a respirator/mask to prevent breathing in silica dust — which can cause silicosis and lead to lung cancer.



One can throw on a cheap coat of paint and redo the job every 6 months or so. In today's world of professional carwashing, that sure seems questionable. But 25 years ago that's exactly what I was doing. It took a while, but I've learned my lesson. One final observation. If painted walls were the best answer to carwash wall coverings, I'm sure that we would see many more of them. Properly done, paint is one way to cover walls in carwashes. But as the industry has grown and evolved, painted walls are becoming more and more rare every year.

The message should be clear.

After re-reading Pat's information on paint, I thought I would go and price some of his suggestions for good latex epoxy paints. The only problem I had was that none of them, believe it or not, were available in California! California has lower VOC (Volatile Organic Compounds/Chemicals) standards for paint than most of the other states. The most common definition of a VOC is any organic (carbon-based) compound that evaporates at ambient temperatures. One paint contractor told me it's all the good stuff that makes paint stick to walls and keep its gloss. Do a Google search on the internet if you are interested in knowing more! What does this mean if you are trying to find a good paint for a self-serve carwash bay in California? Well, I was given a sly "a nod 'n a wink" by two of the three paint suppliers I went to who said that maybe I should try buying my paint for my carwash in Arizona instead. Yeah — thanks a lot, guys, but that's illegal.

The third paint supplier at first tried to sell me a low-VOC version of a latex epoxy. He wanted me to use a block filler first, and also wanted me to put an urethane coating on top of the paint. I think we were up to approximately \$151 a gallon when he just looked at me and said, "here, try this oil-based water-proofing paint". He said I would have to sandblast first, but it just might hold up.

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Oil Epoxy versus Latex Epoxy — one operator's experience: Pat Hall has tried both on his brick SS built in Kentucky in the early 90's. The bay on the left was prepped/filled according to manufacturer's specs and painted with oil epoxy — it began peeling in less than 3 months! The wash wall on the right, however, was painted with latex epoxy (Coronado brand) almost 6 years ago and still looks great! Pat is convinced that the porous nature of concrete brick and its tendency to attract/retain moisture enables it to better absorb and cling to a water based latex.

Okay, enough horror stories about paint. Let's talk about the good side of painting. Yes, there really are some SS operators who are pleased as punch with paint! For example, Pat Hall in Bardstown, Kentucky is well known on the Auto Care Forum website for having a successful paint story. He used both the **latex epoxy** and **oil-based epoxy** on his carwashes. The oil-base began to peel almost immediately. However, **latex epoxy** has held up very well for him. It has been almost 6 years since he painted. Looking at the picture of Pat's wash (see photo above), I'd be happy if my painted walls looked that good after 6 months.

I also spoke to several operators who have used the **acrylic/enamel** paints and after 4 years' use, they are still looking good.

Another option often used is to paint just the top and exterior walls of the carwash and then use another kind of material (such as fiberglass panels) for the majority of the interior bay wall — the central "splashwall" sections on either side of a bay which can be cleaned aggressively and replaced easily. This leaves the option of using paint as a means to bring different colors into and around your carwash, without the headaches of dealing with trying to keep painted bay walls clean.

At one of my washes, the Community Development Agency painted two murals on my exterior wall as a project to spruce up the alley and neighborhood. It has been 5 years and the murals still look great. And similar to that — in the Spring 2004 issue of the SSCWN, there were photos of the Whale Of A Wash



near Seattle. It too had a great mural painted on an exterior wall that helped create a very distinctive identity for a wash surrounded by competitors. One of the undeniably best things about paint is the wide variety of colors and design possibilities it offers you to make your business' appearance appealing and more unique looking and memorable.

I tried — I really tried! — to find some

things in common with operators who have been happy with their painted carwashes to see if there was a common thread so we could follow their example. The only common thread I found was:

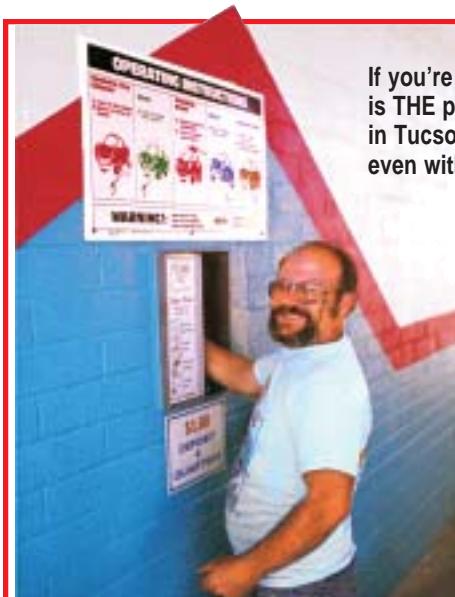
They painted block or brick walls that had never been painted before.

Other than that, there was such a variety of types of paint used, block filler or no block filler, dark or light color, dry walls or damp walls, extreme ranges in temperature, etcetera, etcetera — just too darn many variables to get a definitive answer. Although it worth the mention that operators in the almost perpetually arid Southwest, such as those in Arizona (see photos below), report more satisfactory results with paint type products than any other part of the country.

"Coatings"

There are some new products on the market that look interesting and would be worth looking into further. These are products that really aren't paint per se, but rather **"waterproof coatings"**. They can be ap-

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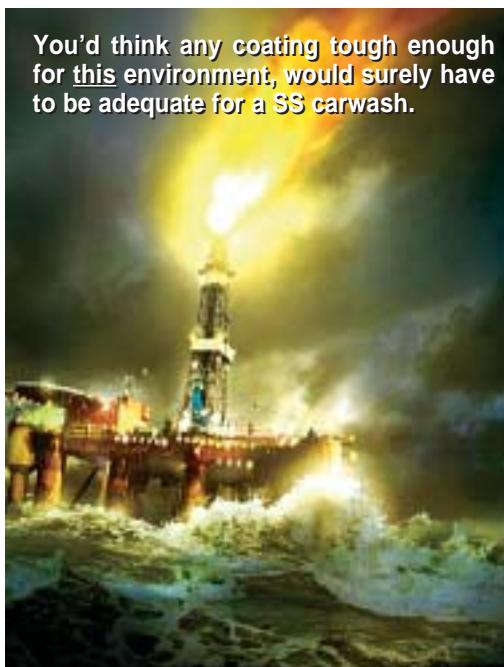


If you're determined to jazz up your bay walls with paint — it appears that the sunny, dry Southwest is THE place to do that. The owner of this patriotic red, white 'n blue Magic Wand Wash in Tucson is among many in that region relatively pleased with paints ... even with some of the less expensive options.



plied to the walls like paint, but dry to form a waterproof membrane on the wall. Examples: Poly-Wall Industrial Coatings at www.poly-wall.com (800-846-3020), and UGL Home Products makes Drylok Masonry Products www.ugl.com (carried at most Home Depot's) and various paint suppliers also offer variations of "industrial coatings".

The manufacturers' brochures tout the remarkable durability of industrial coatings which are somewhat similar to epoxy paints. These coatings are sold to industries around the world based on the fact that such brush-on materials are guaranteed for at least 10 years' use on oil derricks in the North Sea where they're exposed to extreme shifts in temperature, constant moisture, corrosive chemicals, and salt from the sea. The latest and most advanced variation on these coatings is **FPU (Fluorinated PolyUrethane)** which is said



You'd think any coating tough enough for this environment, would surely have to be adequate for a SS carwash.

to "provide protective properties (against chemicals, weather, impact, extreme temperature shifts) that far surpass high performance epoxy or conventional urethane systems ... while having a very low VOC rating." Geez, that sounds like truly bullet-proof "paint", doesn't it?!! Unfortunately, we couldn't locate and interview any operators who have had long term experience with genuine FPU or "industrial coatings". And so, if you have used this type of heavy duty coating at your wash —

Please contact the SSCWN at jjjsscwn@comcast.net or 616-949-5618 and tell us about your experience. We want to share your opinion (pro or con) with our readers in the next issue's update on this topic. But for now ...

Enough of paint. Let's move on to some other choices.

STRUCTURAL TILE/ PRE-FACED BLOCK



There are a couple of structural masonry products that have seen considerable use in SS bays and many tunnel washes around the country. They are very similar in look, installation, performance and price:

- **Structural Glazed Tile** is a product that has a ceramic tile glaze fired onto both sides of a clay block suitable for weight-bearing, structural construction ... not just a tile "veneer".

- **Pre-Faced Concrete Block** also has both sides coated but uses a very durable "plastic-like" polymer coating that is applied and baked on so it becomes an integral part of the concrete block unit.

They both come in a great variety of colors — "from white to black and every color in the rainbow" — and if you want to go first class and have the budget for it, these are very elegant looking walls. They are generally used in new construction, but they can be used in rehabbing existing "plain" block walls. Danny Bryant at Elgin-Butler, a manufacturer of structural glazed tile described using a standard 4" two-sided block and having your contractor cut it in

half. This is called a "soap unit". A wall tie attached to the existing block is used, then the soap unit is put on, using an epoxy grout to make it impervious to water penetration. Obviously, all that brick cutting is going to add substantially to installation costs.

Glazed brick has an incredibly long history and has been proven over time ... over the ages. Elgin-Butler has been in the brick/tile business since 1873, and they have an interesting photo in their brochure of an Egyptian glazed brick that's more than 2,000 years old. I've seen carwash walls less than 10 years old that don't look much worse than that ancient brick. Of course, being in a such a perfectly dry/arid and stable environment can help preserve everything from glazed brick tile walls to mummies. Which, yet again, underscores the advantage that operators in arid parts of the country have when it comes to walls.



If you're looking to build or totally rehab a wash "on the cheap", this is probably not the way to go. I've received cost estimates rang-

ing from \$7-\$8 a unit (1 double sided block) and an installed price from \$16 to \$25 a square foot. The installation price varies dramatically, depending on what part of the country you are in. For example, it can easily cost 5-7 times as much in the Northeast states and California versus the Southeast!

Regardless of the relatively high upfront cost of structural tile or pre-faced brick, the operators I spoke to who had a carwash with these products were quite satisfied. They take a long term view. First of all, their walls are finished bright and beautiful right from the get-go. And then consider that the cost of new installation is less with a 2-sided finished faced block when compared to the total cost of hiring masons to first build a basic concrete block/brick walls and then (maybe 6 years later) to cover that grungy block with new tile veneer — first on one side of the wall and then on the other. And, of course, not having to replace or cover the walls for 10 years or so with relatively easy maintenance along the way may make it worth the investment for many operators.

Jim Coleman has been using Elgin Butler Brick exclusively for almost 10 years now in their new construction projects. (See photos of some spectacular examples on the following page.) The walls have held up really well ... even in the Northern "Freeze Belt". They had been using a hydrofluoric acid cleaner on the walls, but had trouble with it removing the glaze. They now recommend using the Kleen-Wall (info already in my article) quarterly to clean the film off the walls if you are a "picky" carwash operator, or at least semi-annually. The walls remain clean by just a daily spraying down with hi-pressure rinse. The glaze is very reflective at night especially and has great, classy curbside appeal. The Elgin Butler bricks used by Coleman resemble elegant ceramic tile veneer (check out photos on the following page), but given the "unibody" construction of structural tile, it's considerably more durable than the ceramic look-alike wall covering.



Since the early 90's, we've seen "basic" pre-faced concrete block being used quite extensively (and generally successfully) in automatic bays ... especially in oil company washes.

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Installation was challenging. Because this material is so tough, they were having some problems with brick cracking using a masonry drill bit to attach the signage, so now they attach the signage in the bays using silicone adhesive. When they must drill the brick (for brackets for the wands, mat and Bubble Brush holders) they use diamond bit drills and nylon tapit anchors.



About 95% of the new washes the Jim Coleman Company washes has built use "ivory" as the main color. The bricks cost about \$4.90 each for a double sided brick which are 8 x 8 block and 4" thick. They then use accent color (\$6.50 a double sided brick) in a checkerboard, stripe or zig zag design. The equipment room walls, however, are done in a single sided brick which only costs \$3.50 each.

The bricks have held up amazing well in the SS environment and continue to look really nice. "Normal self serve dirt" comes off easily. The bricks can be scratched or broken, you really must try to damage them.

Bill Sartor, past president of the ICA and owner of several SS washes in Texas, used Elgin Butler blocks to build his wash. After living and working with the material for more than 4 years now, Bill tells us that he would definitely build another wash with the product. He said after looking at the options over the years of having to renew brick/block he thought the structural tile was cost effective — "... it's low maintenance ... no problems with it at all and it looks super!" Bill also uses Klean Wall (\$55/5 gallons) to clean his walls.



One contractor I spoke with did point out a couple of problems. This is very tough stuff! So you will need to use a diamond tip drill bit to drill holes in the walls. And you should be sure that your building is made from the same lot because there can be color variations. The pre-faced concrete block will have minimal color fading over the years, while the ceramic tile glaze keeps its original color ... but not forever. After all, I did notice that after 2,000 years, that ancient Egyptian, white glazed brick appears to be a bit faded.

Some Contacts

Structural Glazed Tile

- Elgin-Butler www.elginbutler.com (512-285-3356)

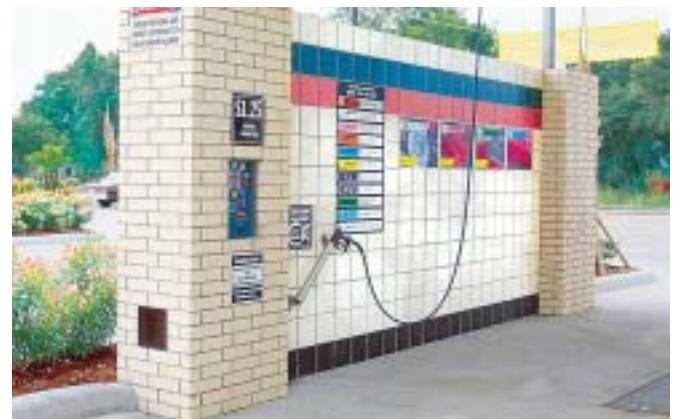
Pre-faced Concrete Block

- Trenwyth Industries - Astra-Glaze-SW www.trenwyth.com (800-233-1924)

- Johnson Concrete Company - Spectra-Glaze www.johnsoncmu.com (800-476-5858)

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The Jim Coleman Company has built and supplied many hundreds of washes throughout North America and around the world. JCC has used a variety of wall and wall covering materials over the years, but they were pioneers in the use of structural "designer" tile blocks. The examples below demonstrate some spectacular results. While structural tile has been their successful mainstay, JCC is also beginning to explore the use of the bright, durable new plastics now being adapted to SS apps.



Bill Sartor's sweet little 4 bay in San Antonio features solid, stylish structural tile from Elgin Butler. With fairly easy (but regular) maintenance, it still looks great after 4 busy years of traffic.



CERAMIC TILE

Some of the very most beautiful carwashes I've seen have used tile as a wall cover. Tile can be a dynamic, elegant choice for a carwash. Using different shapes, textures, colors, and patterns can create a very attractive, clean and modern looking carwash. A carwash near me used tile to renovate their 30 year old, painted block walls. It looked beautiful! Its gleaming white tiles really made the place look sharp. I was jealous. However, it's been about 5 years since they installed the tiles, and on a recent visit I saw one bay was missing about half a wall of tile. The other bay tiles were covered in soap scum and mildew, the tile was pitted, and the glaze was just a memory. What went so terribly wrong?!! It's true with virtually all wall coverings, but especially so with tile. And that is —

Proper material, installation, and maintenance are all essential to achieve a long lasting finish.

Classes And Standards

Tiles in a SS carwash environment need to be highly resistant to stress (mechanical/physical impact, chemical, and temperature extremes). There are established guidelines and minimum performance levels for the manufacture of tile. Tile guidelines made in the United States are done by the American National Standards Institute (ANSI) together with the American Society of Testing and Materials (ASTM). The International Organization for Standardization (ISO) cover manufacturing standards for tiles made overseas. These standards can be very helpful in choosing the right tile for a carwash. Established guidelines and criteria include:

Water Absorption — very important in a wet environment like a carwash.

Bond Strength — measures how well the tile is able to remain adhered to mortar (Portland Cement).

Breaking Strength and Impact Resistance — resistance to physical impact, weight, and bending.

Abrasive Hardness — specifies the surface finish's tolerance to scratching and and various forms of abrasion.

Chemical Resistance — the ability to withstand exposure to acid and base caustics.

Crazing — establishes the tile's glaze resistance to forming very minute, tiny surface cracks that somewhat resemble hazing.

Freeze/Thaw Resistance — a measure of the tile's ability to withstand the expansion and contraction cycles that come with changes in temperature.

When selecting tile, the industry experts say that there is one most important question to ask your supplier. Namely:

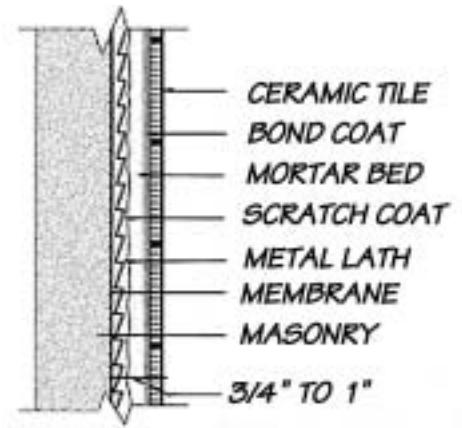
Is this tile manufactured in accordance with the standards specified in ANSI 137.1-1988

If the answer to that question is "yes", you will then be relying on your supplier's reputation and honesty that your tile will perform as promised.

While there are no absolute industry standards, the above criteria are factored in to a 5 point scale by the ASTM that the Porcelain Enamel Institute uses to classify tile. **Class 1** is spec'd for "Very Light" interior use only with no foot traffic, up to **Class 5** tiles which are suitable for "Heavy to Very Heavy" traffic and exterior use.

Do you have to be absolutely familiar with all these standards? Perhaps not, but your tile supplier sure should be! That's especially true in those areas of the country that experience dramatic shifts in temperature. It's an important question to ask before choosing a tile for your carwash. You may expect Class 5+ performance, but be disappointed in a "bargain" priced tile that's from a Class 1 or even a defective lot. All tiles are certainly NOT created equal!

Problems with tile adhering or cracking? Well, chances are your installer did not follow the Tile Council of America's guidelines for proper installation of tile on exterior walls. And/or did not use freeze/thaw resistant materials.



Ceramic Vs. Porcelain

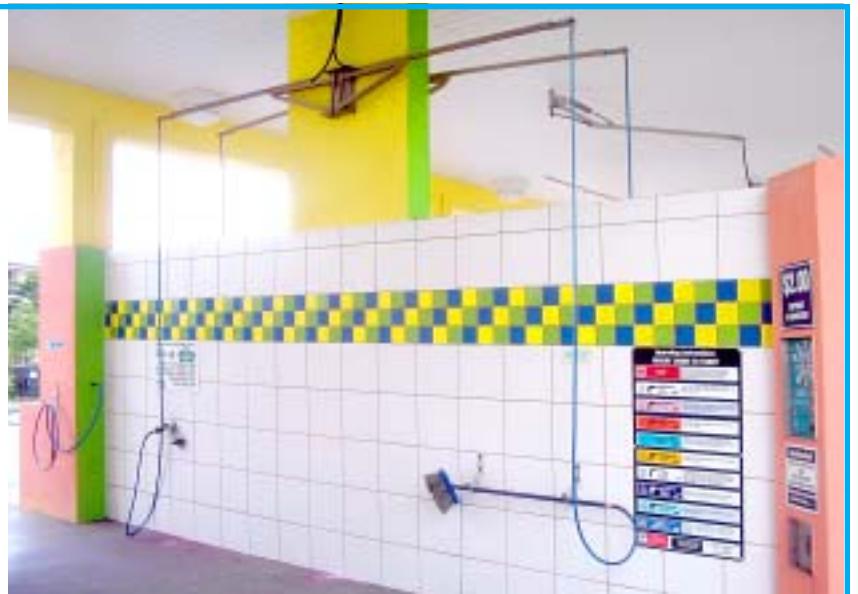
So what is the best tile to use for a SS carwash? Generally, fired clay tile is classified as "ceramic" or "porcelain". But you'll note that the title of this section is "Ceramic Tile". You should be aware that technically, all fired clay tiles come under the broad classification "ceramic" — even those processed into a porcelain product. So there can be some confusion and concern when you hear some suppliers refer to their porcelain products as "ceramics". While all porcelain tiles are technically ceramic, all ceramic tiles are definitely not porcelain. So what's the diff?!!

The basic difference between true porcelain tile and ceramic tile is that porcelain is considerably more dense and fired to be more durable and, most importantly — much more resistant to water absorption.

There always seem to be exceptions confronting and befuddling the carwash industry, and there can be some exceptions in the case of tile. But as a pretty sound rule of thumb:

100% porcelain tile is the best, most recommended tile for carwashes.

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Here are a couple examples (both from Polynet Carwash Systems of Sarasota, Florida) that give a hint as to the design possibilities provided by tile. On the left a very stately wall of 4 X 4 "royal" violet that is rather forgiving of overspray scum. And on the right, mostly 8 X 8 white tiles (installed faster and use less grout) that reflect/maximize light and is offset by a very lively band of colorful 3 X 3 tiles.

The owner of this SS in Texas has gotten a good, strong look and performance on his walls from his 12 X 12 floor tiles.



There are 2 types of porcelain tiles spec'd for exterior use:

1) **Vitrified** which is rated by the ANSI to have a water absorption rate of .5% — 3%.

2) **Impervious** which only absorbs 0.0 to .5% water.

The water absorption rating is very important in selecting tile in a wet environment ... especially so in areas that are subject to freeze/thaw cycles. The less water absorbed the better — obviously. It's also one of the major reasons some ceramic tiles fail in a carwash environment. Besides being impervious to water absorption, porcelain tile holds up very well to chemicals and also to chipping because it is both very dense and strong, plus it's the same color throughout the tile.

You'll also find that tile is also classified by its application — as either “**Wall**” or the more durable “**Floor**”. We've heard from operators that they have gotten the longest, best performance after choosing “Floor” tile even though they were put on bay walls.

Is tile a do-it-yourself project? Laying tile is not difficult if you have had any experience with it. However, unless you are familiar with all the correct material to use, the proper use of that material and the proper installation techniques, the investment of tiling your carwash should probably be left to the professionals.

The other important question to ask is — does your tile installer really know what he's doing?! Before you choose an installer, familiarize yourself with the proper techniques recommended for installing tile on an exterior wall in a wet environment. One website with a lot of detailed information on tile installation is www.thetiledoctor.com. A few pointed questions can make sure you are choosing a qualified installer.

Jim Reeks is the owner of T&K Carwash, a four bay self-serve carwash in Sydney, New York. What is unusual about Jim is he is also a tile distributor. He installed porcelain tile on his carwash when he built it in 1994. A

12 x 12 porcelain tile installed on block walls (the equipment room) and on wood studs 12" on center with Wonderboard as a backing. Wonderboard was used because it is impervious to water (several tile suppliers recommended Wonderboard also as the best choice). Unglazed porcelain tile was used and if he had to do it again, Jim would use glazed tile because it would be easier to clean. The ivory color tile with a blue strip does look good after 10 years of use. It reflects light and was a good choice for the appearance of his carwash.



The cost for installation of good porcelain tile is about \$4 to \$8 a square foot (labor and materials). Seconds at his carwash were used to save money. He has only replaced one tile because of damage in the 10 years he has had the wash. Jim noted there has been no vertical damage to grout, but there have been a few problems with the horizontal grout surfaces. Water in a few problem areas tends to collect on the surface and has required regrouting and also a silicone caulk to seal the problem areas.

Jim also recommended using a mortar with a latex additive to increase the dimensional flexibility of the tile. All tile expands and contracts with temperature and moisture changes. The expansion joints are a critical dimension in tile installation.

Greg Frey of Polynet (Sarasota, Florida) has specialized in creating beautiful, imaginative SS carwash walls using tile for over 15 years. Over those years, the SSCWN has done several articles that have featured numerous outstanding washes designed/built/supplied

Here's a good example of using a dark colored grout (red in this case) which is more forgiving when it comes to stains and maintenance.



by Frey's company. He uses colored epoxy resin grout that matches the accent tile in the bay. By using the colored grout, it prevents the dirt from showing easily. The tile they use is a fired ceramic tile usually 8 x 8, but recently they have been using larger 10 x 10 or even 12 x 12 tiles. Greg recommends using Klean Wall (see info under Spray-on Fiberglass for more detail), a mild acid cleaner to prevent etching of the tile.

Bottom line: tile can work for a SS carwash, but you must be prepared to pay what it takes to make sure it's done right and then maintain it properly. I recall an “On The Road” story in a past issue of the SSCWN that recounted what happened at a wash where the owner didn't do his due diligence when it came to tile walls. He bought “bargain” ceramic tile which lost its glaze after only a few years. The frustrated owner then added insult to injury and put paint over the tile ... which peeled like crazy!

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Here's a wash (Pronto Wash in St. Petersburg) that demonstrates an especially colorful and rather “artsy”, free spirited use of tile in its SS bays. The “eclectic” design/layout of tile in diverse colors tends to be a bit more forgiving of overspray stain and makes for less noticeable replacement of any broken tiles.

FRP Panels

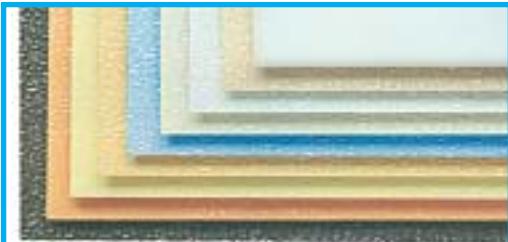
Pat Crowe's article back in 1991 noted that the FRP Panels headed the list as the most popular wall covering materials for a carwash rehab. FRP continues to be extremely popular in rehabs and even some new construction. However, within the last several years we have seen more choices become available. In fact, many operators I talked to for this article are rehabbing their FRP panelled walls with some of these newer breeds of materials. Some say they were tired of trying to keep the FRP clean and they wanted something "more modern" looking. We'll review some of those choices shortly. But for now, let's take a look at what the SSCWN had to say about Fiberglass Panels in the early '90's. The info still holds true ...

The technical name for the panel material is "Fiberglass Reinforced Plastic (FRP) — a uniform matt of glass fibers imbedded in an organic (plastic) resin. So these panels are actually as much plastic as they are fiberglass which is added to increase durability. Yet they are most often referred to as just "fiberglass" or "glass board"

They are available in a variety of colors and the five manufacturers listed also offer differing grades, thicknesses, and sizes of this material. FRP's has been the product of choice as a wall covering material for rehabbing many carwash walls around the country.

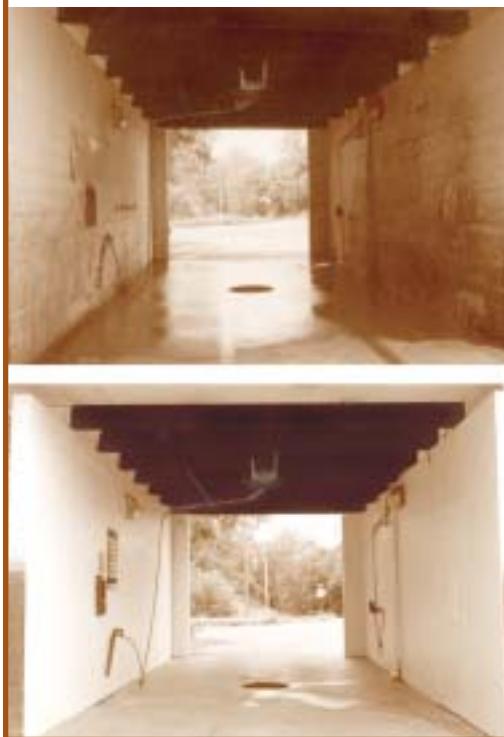
Just as a professional quality paint job involves a good bit more than throwing on a quick coat of paint, there's a bit more to the installation of these panels than one might anticipate. The panels can be glued on, screwed on, or attached with nylon truss head drive rivets. The combination of rivets and adhesives is the method most commonly suggested by the manufacturers to cover carwash walls.

Once again, surface preparation is important. The surface to which the panels are to be attached should be smooth and flat. Block walls may appear to be flat, but in installing these panels care must be taken to avoid a wavy appearance. Some irregularities in block surface can become more noticeable when the large, smooth panels are laid down over them. To totally avoid little waves or bulges requires doing a number of things right. A "flawless" surface is possible if protruding surface irregularities are removed or recessions in the walls are filled.



FRP is available in a great variety of colors and textures. However, it's the white and cream pebbled panels that are seen almost exclusively in carwash bays.

FRP has long been the standard workhorse when it comes to bay rehab. Here's a classic example of the power of FRP to revitalize old dingy bays — relatively fast and inexpensively.



One manufacturer says, "Concrete block walls (if especially irregular) may require a leveling coat of plaster." Plastering to prep bays walls is certainly an extraordinary thing to do. If, however, the walls are made nice and smooth, it may be possible to attach the panels with adhesive only — 100% coverage with very thorough sealing of seams and ends — thereby, eliminating the time and expense of drilling and hammering in many hundreds of rivets. This technique is mentioned as an option in some manufacturer literature, but as far as we know it's only a "theory" because we've heard of no one who has actually done it.

Manufacturers provide numerous accessory pieces to use with the panels. There are division bars for joining adjacent panels, end caps, inside and outside corners, two piece vinyl moldings which snap into place are available to cover the seams.

The panels do expand with heat and contract with cold. In an 8 foot span one needs to allow 1/4" for expansion and contraction. Moreover, the holes for fasteners must be drilled slightly oversize also to allow for expansion and contraction. The head of the fasteners (truss head nylon rivets) keeps the oversize holes from showing and the accessory pieces used at the seams hide the necessary expansion space between panels.

The recommended method of installation is to use both adhesive and fasteners on a clean, dry, flat surface. The fasteners should be approximately 16" apart; should start about 1" from the edges of panels; and should be staggered at the seams. Pre-drilling of a stack of panels in a symmetric layout will insure a neatly organized appearance. Start fastening at one edge and work toward the other to avoid bulges.

It is possible for one man to install these panels. But all by yourself, it is very difficult to wrestle, position, hold and fasten such large sheets — most commonly 4' x 8' or 4' x 10' with even larger sheets available. FRP installa-

tion is really a 2 man job, and even a third could be kept busy cutting, drilling, and trimming sheets while the other two focus on attaching the panels to the walls.

Adhesive can be used in 100% coverage or applied in beads. For 100% coverage apply about 1/4" of adhesive and spread it with a notched trowel. If beads are to be used apply them at least every 8". In either method the panel should be touched to the wall and pulled back 8" or 10" so that any solvents can be "flashed off". Once the panels have been touched and pulled back then they should be pressed in place with sufficient pressure to insure full contact.

In order to insure a moisture proof installation all the edges of the panels (which



will be in end caps or division bars at the seams) should be sealed with a flexible silicone caulking. The sealant goes in the space

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FRP can be a fine way to brighten and reinvigorate bays. But all those rivets and seams have no fans. And while it's fairly easy to clean, FRP has to be cleaned regularly or soap scum and stain will become tough and unsightly.



allowed for expansion and contraction, but because it's flexible it allows for the panels to shrink and expand.

I asked manufacturers/suppliers if an average do-it-yourselfers could install FRP panels. I was told by Sequentia, "Careful installation is important to keep the panels flat on the walls. We furnish detailed installation instructions and if a person follows those and uses 100% adhesive coverage it can be done. I've seen some amateur installers do a very respectable job, but they must follow the instructions."

Out in the real world, however, manufacturer's instructions are rarely followed to the letter. In fact, many operators who buy factory seconds do not get any specific, written instructions at all! I know that most operators certainly do not have a smoothing coat of plaster put on their block walls. I even doubt that very many use bead adhesive, let alone "100% coverage". Perhaps that's because they don't want the additional hassle with panel removal and replacement after some severe damage; or, even more likely, they don't want to "waste" the extra time and glue. And looking around from wash to wash, as often as not you'll not even see end-cap moldings nor beads of silicone sealant. And yet these panels still manage to look pretty good — aside from an occasional "dimple" or wave.

IMPORTANT UPDATE: the above info regarding FRP installation was what carwash owners were being told by the FRP industry's suppliers in the early '90's. Within the last few years, however, their instructions regarding adhesives have changed considerably. You'll now find, for example, in Sequentia's latest installation manual very specific new guidelines for high moisture applications. Namely:

Adhesives are NOT recommended for mounting FRP on carwash walls — "rivets only" they now say! Nor should adhesives be used on any non-porous walls (such as tile, glazed block, metal, etc.)

When it comes to allowing for **expansion/contraction**, these panels are less forgiving and you cannot be casual in installation. The panels can develop unsightly bulges and even crack if there is insufficient clearance for the rivets and between panels.

Another aspect of FRP panels that some find a bit "unsightly" are the seams. There are those who think that seams may be harder to clean. Or, perhaps, they just don't care for the way seam strips "interrupt the visual flow" of a wall. Sequentia suggests that type of individual consider rolled FRP which comes on rolls up to 500' long and 9 1/2' high. It can be cut (on site or at the factory) into single sheets large enough to cover an entire bay walls.

There are few operators who have avoided seams and minimized rivets by installing long, custom cut sheets of FRP (or cutting their own to size from a continuous roll) that cover the entire length of a nice, smooth block wall. We note, however, that the Spot Not SS wash franchise (headquartered in Joplin, Missouri) has done a number of their bay walls throughout the MidWest in that slick, distinctive manner.

FRP Costs

Somewhat amazingly, the costs for FRP mentioned in the SSCWN article some 13 years ago are still valid today ... with the exception of labor.

As you might expect, costs vary widely. In pricing the panels from several suppliers I was quoted as low as 55¢ a square foot and a high price of about \$1.25 a square foot, with a half dozen prices in between. Quite a spread! And bear in mind to rehab walls one needs more than just the panels. There are also the accessory pieces for top and bottom, seams and corners; rivets, adhesive; and caulking/sealant.

One can find 4 x 8 sheets at local lumber yards at about \$30 a sheet. Seemingly good buys and deals abound. But, as we saw with ceramic tiles — all FRP panels are not created equal, and there are basically 3 things that affect FRP panel price:

- **Color** — you can get virtually any color you want, but there is a surcharge and minimum quantity involved with custom colors apart from white, cream and about 10 "standard colors".

- **Thickness** — panels range in thickness from about 4/100" to 12/100". The gauge universally recommended for carwash applications is 9/100" (just under 1/10"). Anything heavier is unnecessary, but if you go any thinner (the next size down is 6/100") you must have a smooth, solid wall to help reduce risk of damage.

- **Quantity** — all manner of quantity price deals can be cut with retailers. Many are willing to "negotiate" down from suggested retail price. In fact, we've heard that in large enough quantities (even less than two 6-bays' worth) it's possible to buy direct from some manufacturers.

Bought in quantities of 1000, the rivets should be about 6¢ each with each 4 x 8 sheet requiring 28 rivets. The accessory pieces run about \$1 to \$2 each depending on type. The adhesive in 5 gallon buckets using 100% coverage should add about 20¢ a square foot to the cost, plus there's a tube of silicone sealant (\$3-\$5) needed for each couple of sheets.

A typical 4 bay carwash with the panels put on the 8 interior walls would need 2,000 to

3,000 square feet of material; 8 to 10 five gallon buckets of adhesives; accessory pieces for each top, bottom and seam; and a half dozen or so tubes of sealing caulk. That puts the overall material cost in the \$2,000 to \$4,000 range for a 4 bay carwash. That's \$500 to \$1,000 per bay for materials only ... no labor.

But, as usual, careful shopping can save "tons" of money. Factory seconds (panels "blemished" by chipped corners or perhaps a virtually invisible pin hole, irregular sizes, etc.) are sometimes available. I was, for example, offered 44" wide panels (cut down from standard 48" and left over from a special order) at a deep discount.

For the person not inclined to do-it-yourself activities, the cost of labor has to be included. The best source of contractors who do this type of work is usually the supplier of the materials. In strong union areas which craftsmen install the panels is sometimes a point of jurisdictional dispute, but generally the work goes to the carpenters.

To get a focus on the cost of a turn key installation of the panels I called Gordon Light. He is a veteran carwash owner and recently outfitted a 10 bay carwash. He rehabbed all the walls using 4' x 8' white panels. He shopped around for the panels and hired a local carpenter he knew. The carpenter had not done such panels before, but he was a skilled craftsman and carefully read the instructions. The carpenter charged \$10 an hour and \$5 an hour for his helper. Gordon said "The materials were about \$500 a bay and the labor about \$300 a bay. And I've gotten lots of compliments on how it looks!"

Most readers probably know those labor rates are very modest. But that does tell us that it takes about 40 man hours to do each bay. Perhaps a little less, since these men hadn't done this exact type of work before. The numbers also confirm that in areas where labor rates are \$25 an hour the labor alone could be \$1,000 a bay.

I got much the same sort of cost information from Ross Alexander, a Canadian carwash operator who gives the FRP panels rave reviews. Ross said he spent about \$4,200 (American \$) to get his 6 bay covered with the panels.

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He used rivets only (no adhesive) to mount his panels. Ross said, "they're a little loose and flexible in places, but I like that because we get so much ice in cold weather. All I have to do it hit the panels and since they're a bit flexible the ice cracks and falls right off."

Ross also mentioned that in addition to the daily wash downs with the wand in the bay, that about once a month the panels are cleaned with an acid solution and a stiff nylon brush. "That keeps them," he said, "shining and bright — just like a new nickel!" Depending on volume and ambient dirt those cleanings with a good acidic solution are more typically done every other month to as infrequently as twice a year.

It's clear the cost is higher than painting, even when sandblasting is included in the cost of preparing walls for painting. But with a life expectancy that well exceeds most paints and such a bright, neat, clean appearance — it's easy to understand the lasting popularity of FRP panels in the carwash industry.

Some FRP Tips

I got this piece of advice from several operators: as a hedge against expansion/contraction problems, "try to pick the hottest, most humid day to install your FRP panels and save yourself from having to do it again".

Also, nowadays FRP panels come in designer surfaces that look like granite and

marble for a really "fancy" carwash bay.

One other benefit worth mentioning is that you don't have to close your whole wash to install the FRP panels. Many of the other wall coverings require anywhere from 2 days to almost 2 weeks to complete the installation. When it comes to rehabbing a wash, minimizing that down time for a wash can be a huge deciding factor in choosing FRP panels.

I also spoke to Scott Gray (Soapy's Carwash in Idaho Falls, Idaho) who put FRP panels on most of his SS bay walls and some of his automatics about 4 years ago. Scott said they clean up much easier than painted walls and are much brighter too. He installed them himself and at his first wash he used a lot of adhesive and nylon rivets. This helped keep the panels from rippling. Scott said, "We go from minus 20 degrees to over 100 degrees during the year and they have held up fine".

He prefers to install at least 9 foot high panels in the bays and has not always gone to the ceiling with them. "If the wall is painted white behind them, you don't notice that they do not go all the way up the wall," Scott said.

"Another big plus — during our bitterly cold winters, ice does not build up on the walls with the FRP panels. Before I installed FRP, in the cold winter months ice would sometimes build up over 1 foot thick on the bay walls. The only way to get rid of it was to chop it off with an axe. One time I did not get it done

FRP easily sheds ice greatly minimizing the potentially dangerous problem of ice build up as seen on these masonry walls.



quick enough and on a warm day a huge sheet of ice fell off the wall and landed on the side of a car. It did over \$1600 damage to the car. The \$1600 would have paid to install two bays worth of FRP. With FRP you can just slap the wall with your hand and a small thin sheet of ice falls off with no fuss".

Contact information

Major brand names and sources for FRP:

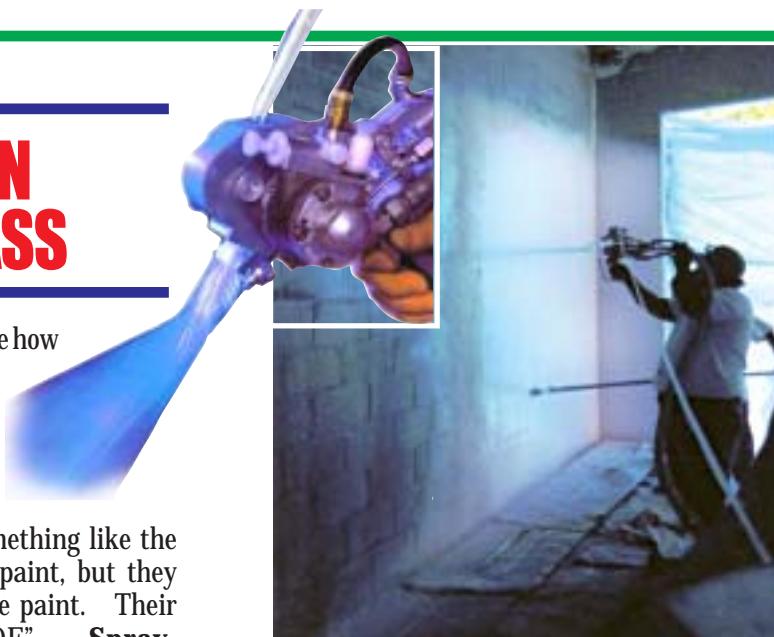
- **Kemlite/Sequentia Structoglas** from Specialized Building Systems, 800-433-5419; www.kemlite.com
- **Kal-Lite** from Kalwal; 800-258-9777.
- **Glasteel**; 901-877-3010; www.glasteel.com
- **Lasco Panels**; 800-877-2005

SPRAY-ON FIBERGLASS

Several operators told me how they were searching for a sleek, modern looking wall treatment that would allow them to incorporate more dynamic colors into the design of their carwashes. Something like the effect you can achieve with paint, but they definitely did not want to use paint. Their solution was found in "SOF" — **Spray-OnFiberglass**.

The existing walls must be sandblasted to remove old paint, dirt, grease and grime before applying the fiberglass. Generally, the process will take about one week to prepare the walls and apply the material to a typical existing masonry 5-6 bay wash. New construction, however, can be coated in as little as 10 hours. The polymer can be applied to virtually anything, but the fiberglass is not very compatible with metal (corrugated especially).

Unlike FRP panels, paint, or even tile — this is not a do-it-yourself application! This form of fiberglass coating is technically tricky to apply — requiring time, skill and correct mix of proper materials. It's a 6 step process involving very thorough surface prep followed by resin sealing coat; fiberglass and resin; resin



barrier coat; finish preparation; and finally a high-build top coat. That creates a coating about 1/4" thick. The finished surface is not exactly like glass — not super smooth and flat. The finished product does have a slick, very hard surface and resembles ceramic tile in weight/density and finish. It has a very subtle mottled or just barely perceptible dimpled look, which can only be discerned on an angle in the right light. Actually it looks better (to my eye) than a super high sheen, "glass-glass" look that is not so forgiving of any impact damage or overspray film/stain.

The warrantee is for 10 years and the cost is approximately \$4 a square foot for both material and labor. The finished surface is bright, highly light reflective and seamless. Being

such a smooth, slick surface, SOF cleans up easily and "bay algae" (mold and mildew) cannot easily get a toe hold either. Another benefit of SOF is the ability to add different colors, logos, stripes, and even signage into the design.

Five years ago, Bill Sartor of San Antonio Texas had the fiberglass applied to the walls of one of his older SS carwashes that needed renovating. He picked a white background with a teal blue and red stripe. (See before and after photos on following page.) Bill reports that the walls have held up really well and only has had to repair one spot where a customer's vehicle hit his wall damaging the fiberglass coating. It was repaired with fiberglass tape. Other operators have reported to us that do-it-yourself repairs (certainly on more major damage) are often not possible. Typically to get a clean, discreet "patch" applied to a damaged wall, you'll need the services of the pro who did the initial application.

To maintain that sleek, clean look of the walls, once about every 4 months or so Bill uses Klean Wall which is manufactured by AP Formulators Chemical Company (888-893-SOAP) and distributed by Jim Coleman Company. Klean Wall was developed by the owner of AP Formulators, Allan Palermo, and does not contain hydrofluoric acid. It does contain, however, phosphoric acid among other ingredients to clean the walls. As with any product that has a caustic acid component, it is important to follow the company's safety data on wearing the correct protective equipment when using the product.

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Bill Sartor transformed the walls of this tired ol' grungy 8 bay in San Antone via spray-on fiberglass. The result: bright, slick, durable, easy to clean/maintain walls that incorporate a sharp, lively blue and red "racing stripe" as an integral part of the wall coating.

Four years ago, Dean Smith in Fort Collins, Colorado also used the spray-on fiberglass with good results. He had concrete block walls that were getting old and tired looking. It took a week to complete the process at his 3 SS wand bay + 1 in-bay automatic carwash. The fiberglass was blown on all the way from ceiling to floor to prevent moisture from getting behind the fiberglass onto the walls. It has held up well against the harsher climate. He is very pleased with the results and agreed that it is labor intensive, specialized skill and was more than happy to pay someone to do it professionally ... and guarantee the work. Dean had tried several methods of maintaining the walls. He has now settled on a simple formula for a brush on, spray off cleaning solution that consists of one part murtic acid and one part water used approximately every 6 months.

Our Little Ol' Acid Test

A couple issues back in the SSCWN, the editor recopiunted a little test he performed on a 4 X 4 inch sample section of a fiberglass "tile". A half a teaspoon of Nu-Wall (from Arcadian Chemical) on 2 sections of the fiberglass. Nu Wall is a mix of 3 different acids including hydroflouric and is one of the most powerful, corrosive, (and potentially dangerous), but extemely effective acid cleaners that I have ever used. Still, he put Nu-Wall on the sample

undiluted — about 5 times the recommended working strength.

The raw acid concentrate was allowed to remain on one section of the fiberglass tile for 15 minutes, and then for one hour on the other half of the section. There was no discernible difference (to the eye or touch) on either section from the rest of the untreated surface — no etching. That was verified by soaking the fiberglass in coffee for 15 minutes — no stain on any part of the sample.

THE stain test is found in using a heavy duty, permanent black felt tip marker. The sample was scribbled all over and allowed to "cure" for an hour. There was only the slightest hint (a vague "ghost") of a stain after a cleaning with isopropyl alchocol. But again, there no discernible difference in clean up of the sections exposed to acid — further substantiating that no etching had occured.

We were favorably impressed by this product's tested performance and operator testimonials.

If you're considering such wall coatings, the SSCWN urges operators to thoroughly check the references and previous jobs (preferably done more than 2 years ago) of anyone selling this service. Given the complexity of this process, we suspect that there could dramatic disparities in application performance and quality

of materials from supplier to supplier. You can find companies in the yellow pages that renovate pools using the spray-on fiberglass. You'll want to use a company that has trained technicians certified by the Composite Fabricators Association. The CFA's website is at www.cfa-hq.org/index.cfm. They also have a list of terms used in the industry that might be helpful to a lay person to understand the terminology and the process. According to Cristi Roberts of Premier Fiberglass in Austin, Texas, "the type of fiberglass composites used for the carwash industry are thermoset resins, which begin as liquid polymers and are converted to solids during crosslinking — an irreversible molding process. Check out that list of definitions on the Associations website if you didn't understand that last sentence.

Contact

Here are several suppliers of this product/service who have had experience with its application in carwashes:

Premier Fiberglass, 888-424-0022
premierfiberglass.com

Fiberglass Concepts, 877-537-6692,
fiberglassconcepts.com

Seguin Fiberglass, 830-372-1790,
seguinfiberglass.com

SPRAY-ON PLASTIC

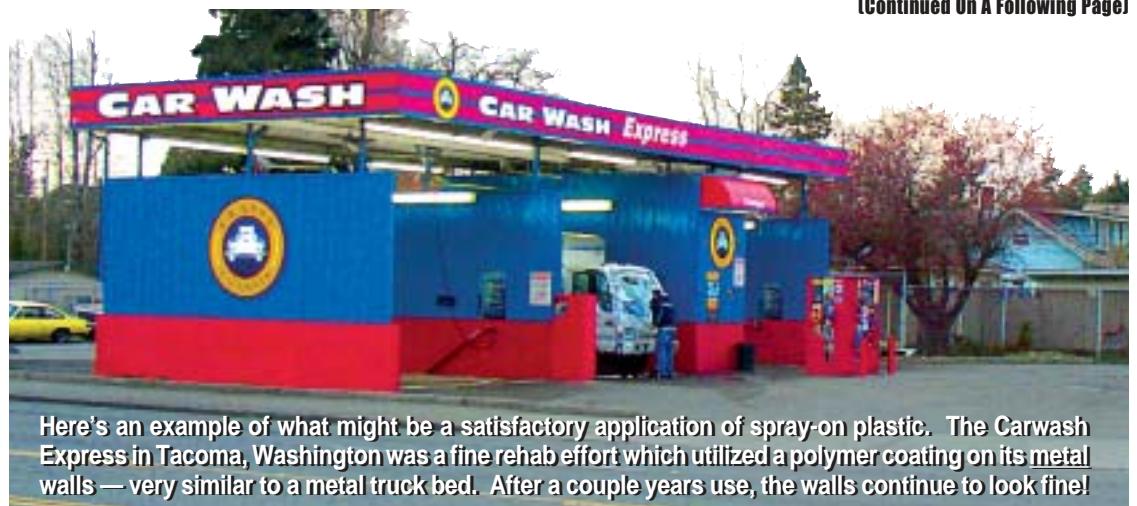
Spray-on plastic polymers are probably familiar to most everyone who is into pickup trucks. These polymers are commonly sprayed on to line/protect truck beds. We should note that spray-on fiberglass and spray-on plastics may appear to be somewhat similar, but they are distinctly different ... especially in the level of satisfaction from carwash operators.

I did not find any operators who were pleased with the results after having used the spray-on plastic polymer material applied to their masonry bay walls. For example, Scott Gray (in Idaho Falls, Idaho) paid \$6,000 to have plastic polymer sprayed on his automatic bay with split-faced block. He is very dissatisfied. While the product sprayed-on white, it soon discolored and in a few places

has even turned brown! And we spoke with two operators (one from the dry, hot Southwest and the other from New England) who shared identical horror stories. Both had "Rhino" (a plastic-polymer brand) truck bed lining

sprayed on their walls. Within 8 months both said their walls looked terrible — peeling and splitting everywhere ... especially all around the edges. One of the very bitterly disappointed operators said he was going to have it

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Here's an example of what might be a satisfactory application of spray-on plastic. The Carwash Express in Tacoma, Washington was a fine rehab effort which utilized a polymer coating on its metal walls — very similar to a metal truck bed. After a couple years use, the walls continue to look fine!

“Keeping It Clean” — Wall Maintenance Tips And Chemistry

Here are some commercial cleaners and generic chemicals that we have gotten operator endorsements for over the years. It seems to come down to personal preference, which means you usually have to shop around and experiment until you find a product, technique and wall maintenance schedule that works for you.

Klean Wall is manufactured by AP Formulators Chemical Company and distributed by Jim Coleman Company. Klean Wall does not contain hydrofluoric acid, so may not be quite as “aggressive” as those products that do. KW, however, does contain phosphoric acid, and therefore still requires similar safety procedures and protective gear. As seen in this article, we interviewed several operators who are very pleased with KW on a variety of walls.

Klenztone is brand name, a non-acid cleaner that has some very enthusiastic proponents among some experienced operators. It’s available and rated for strength in 4 different formulas each targeting different types of soil and wall surface — Formula 1, for example, is the most powerful and used for oil/grease on concrete pavement and masonry. And Formula 4 is the least aggressive and safest for all round use on masonry carwash walls and unglazed ceramic tile. Klenztone can be scrub-brushed on, but more often it is sprayed on at low pressure and allowed to dwell. The manufacturer recommends allowing max dwell time (30 minutes to an hour). Allowing it to dry is no problem. It can then be HP rinsed/sprayed off.



Nu Wall from Arcadian Chemical has many fans among operators. It’s powerful stuff! However, it contains hydrofluoric acid so wearing serious protective gear (similar to Lisa’s seen below) is not exactly optional.

Muriatic Acid is an long time “down home”, generic favorite. We hear that about 4 parts water to one part muriatic is a good all round formula for a variety of wall surfaces. It can be sprayed on with a low pressure plastic weed sprayer (not galvanized metal which the acid will eat up), let it set for a few minutes, do not let it dry though, scrub if necessary with a long handled fairly stiff bristled brush, and then rinse with high pressure.

Phosphoric Acid may not be as powerful or dangerous as hydrofluoric, but it still requires no nonsense safety precautions and proper protective clothing. Mixing it with water to about a 25% solution, spraying on with an acid resistant plastic sprayer, letting sit 5 to 10 minutes, and (before it begins to dry) rinsing off with high pressure.

Power Washing is another standard for rejuvenating and cleaning walls. Many operators will rent a unit that will generate 2500+ PSI pressure and go at it once a year or so. Quite a few operators have purchased their Pressure Washers and conveniently use them whenever the need arises. You can buy a real heavy duty PW that’ll pump out 3400 PSI and 3 or more GPM for \$700-\$800. But, man oh man — you gotta be

cautious. You could amputate your foot with one of those bad boy on wheels! You could also chew up your walls too. Other cautious operators hire experienced, licensed, insured professionals who have all the right protective gear and know how to best blend the proper cleaning agents into that very High Pressure blast.



Sodium Hypochlorite or good ol’ generic household “bleach” has been an inexpensive but quite effective mainstay for operators (especially those in the humid Southeast) who battle “bay moss” and mildew stains. Bleach, however, can be stymied when it comes to your porous grout/mortar lines. So sealing them (and resealing as needed) will make cleaning easier and faster.

Tire Cleaner as found among the functions on your SS bay meter is a handy dandy cleaner for routine wall cleaning maintenance.

“Etceteras” — here are a couple other brand products that we don’t know too much about but at least have gotten a positive report or two:

- **Foaming Tunnel Cleaner**, from Zep Mfg., has kelating agents that appear to work especially well on painted walls.
- **VS3 Power Wall Cleaner**, from the VonSchrader Co., is an all around product that touts it’s being “very safe but effective.”



Better Safe Than Sorry ... Much Better!

Under all that protective gear, is Lisa Lyons who is demonstrating the smart, safe way to dress when cleaning walls with caustic chemicals — especially cleaners with hydrofluoric acid as a component.

Operators often use acids and other caustic chemicals on their walls. And many rely on hydrofluoric acid due to its remarkable power and performance when it comes to rejuvenating bay walls covered with alkali scum and stain. But even using diluted hydrofluoric demands very serious safety precautions!

Several of the operators in this article have decided that it’s a good idea to hire a professional cleaning company (licensed and insured) to do this job. As one operator said, “I do not want to take the chance. So I always hire someone to do the job for me.”

If you are going to use products that contain acids (especially hydrofluoric), it’s VERY important to follow all of the manufacturer’s directions and wear the proper equipment to protect yourself or your employees. Clean walls are not worth your health!



Here’s the mandatory “wardrobe” when it comes to heavy duty wall cleaning with heavy duty caustics:

- A full face plastic shield and/or safety glasses.
- Approved respirator (complying with AS/NZS 1716) fitted with an acid-gas filter when working in confined areas or when spraying a solution of hydrofluoric acid.
- Long-sleeved, protective overalls and gloves.
- Protective Apron (covering top of boots) when handling hydrofluoric acid.
- Hi-rise, protective rubber boots.



all redone with a spray-on wall coating done by a fiberglass wall coating specialist.

Polymers do work quite well on metal or painted truck beds, because eliminating moisture is not a real problem on non-porous surfaces. So we suspect that those problems with polymer spray in carwashes may have something to do with the deep, residual moisture often found even in apparently "dry" masonry. That moisture could prevent perfect adhesion and then precipitate peeling and discoloration.

The only operator we know of who has been pleased with spray-on polymer is Corey



While spray-on plastic polymers get the job done on metal, we have to have our doubts about it on masonry carwash walls.

Campbell owner of Classy Chassis and Carwash Express in Tacoma, Washington. Corey had the walls of an old, dilapidated "tin" 3-bay coated with the material in blue. After a couple years' heavy use (and no shortage of moisture) his walls still look darn good. (See photo on previous page.) Apparently such polymers were made to stick especially well to metal ... as it does to truck beds. If any operator has had sustained good performance from a polymer app — we'd love to hear about it. But for now and apart from possibly metal rehabs — we cannot recommend it.

PVC Walls

While FRP Panels and spray-on fiberglass walls have their proponents, a number of operators are turning away from fiberglass because of the need to use acid products to clean them. They are trying PVC walls and panels. While doing research for this article, I was rather surprised at the number of operators choosing to use this product. They all had tried several different options including FRP panels, spray-on fiberglass, tile, and many different types of paint. The other thing they had in common were the reasons they decided to try the PVC walls. They were looking for something that was easy to install, did not require closing their carwash for a long length of time, easy to keep clean, and they also all like the look of the PVC panels after installation. The PVC walls reflect light really well and give an old carwash a new, bright shiny look.

PVC panels are relatively lightweight, easy to install, can be used on the ceiling, exterior and interior walls and can be attached to cover just about any building material. The rigid PVC does not buckle like FRP panels and contains UV inhibitors to prevent yellowing. Panels can be installed in any climate area, even in extreme hot and cold climates.

There are two main manufacturers of this product that are serving the carwash industry: **Extrutech Plastics, Inc.** in Manitowac, Wisconsin, and **Royal Building Systems**, headquartered in Ontario, Canada. Both companies manufacture very similar PVC panels for covering and rehabbing existing



The brilliant white wall rehab using Extrutech PVC panels at the All Star Carwash has gotten rave reviews from Jimmy Allen's customers in Radcliff, Kentucky — "the bays now look like operating rooms!"

bay walls. Recent price quotes indicate that the Extrutech Plastics panels cost about \$1.50 per square foot (material only). The panels are 1/2 inch thick, 12 inches wide and can be purchased in any length up to 20 feet.

Royal Building System's ReNew panels cost between \$2 to \$2.50 a square foot (material only). They're 14 inches wide and can be obtained custom cut to any length up to 20 feet.

My personal interest in this type of wall covering product has increased for a couple reasons. First, PVC panels have been creating a real growing "buzz" in the SS community over the last couple years — a lot of operators are talking about it, and quite a few have been installing it. And secondly, I have had a PVC door at one of my washes for 5 years and have been more than happy with the results. It faces the truck bay so it is always getting dirty from the trucks and it's always wet. I had to replace two metal doors in 10 years and was look-

ing for something that would hold up to the abuse of being right next to my truck bay. The PVC door is washed down daily with the hi-pressure gun and I clean it once a month with 409 using a nylon brush. After 5 years, it still looks as good as the day it was installed!

Jim Allen in Radcliff, Kentucky had the Extrutech panels installed on his All Star Carwash concrete blocks walls almost one year ago. He had tried paint and FRP board but was not happy with the results. He spent approximately a total of \$20,000 for material and labor to have the Extrutech installed on the walls of his 6 + 2 carwash. Jim said, "I installed all new equipment, signage and have 4 lights in each bay along with putting up the PVC panels. A night the bays look like operating rooms they are so bright! My customers all tell me it looks great!"

Jim used anchor lag bolts to install the signage and tightened them down just before the panel starts to dimple. He hasn't had any damage to the panels except for one freaky incident. Pigeons had been chronically splattering his pristine, sparkling wash bays with their doo-doo. One day, Jim had enough and he went after one of the mess making birds — swinging a broom handle like a Louisville slugger. He missed the bird, but whacked the heck out of the PVC and put a small dent/hole into it.

Bob Ivory (owner of Buggy Bath Carwashes in Utah and Arizona) also installed the PVC wall panels and at the same time changed out his light fixtures. While most operators remodeling decide to add higher watt fixtures or put up more fixtures, Bob made the decision to reduce the wattage in his bays. He was using two 400 watt fixtures per bay which were replaced with only two 175 watt fixtures per bay. His canopy was using six 400 watt fixtures and he reduced that to

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ExtruTech PVC panels are the latest "rising star" in carwash wall covering materials — easy to install and maintain as well as a good way to really brighten up a bay.



six 250 watt fixtures. He reduced his electrical load almost in half — from 8000 watts down to 4300 watts. And yet Bob is happy to report that the bays reflect about double the light! Saving almost 50% on his electrical bills should pay for the panels in a few years time. He's become a very enthusiastic convert to and proponent of PVC panels. Beyond utility savings, Bob's really gung-ho on the fresh, new and super clean look his bays have now.

Three years ago, Lorie Cady and Pete Mosteller, (MoCady Carwash in Colorado) installed the Extrutech panels on just one wall of their automatic bay. That one interior wall on an end bay had degraded badly. To save the wall, they had to stop it from being wet all the time. It took Pete about 6 hours to install the panels himself. Lorie said "After 3 years, the panels still look good and our wall is doing just fine. I really like the fact that ice doesn't build up anymore. The only drawback I see, is if you had to replace one of the panels for some reason, it's tongue-in-groove so you would have to remove several panels to get to the one you need to replace. But that's not all that much of a concern. We plan to put up more Extrutech ... certainly on the other side of the automatic bay."

(Editor's Note: in case an Extrutech panel should ever need replacing, there a pretty easy technique to do so. Check out the sidebar column on the right of this page regarding Panel Replacement.)

Installing ExtruTech

Greg Pack, MetroWash in Alabama has a variety of wall coverings at his washes - FRP, brick and painted concrete block. He made the decision to go with the PVC ExtruTech panels because he like the look of it and the lower maintenance aspect of keeping the walls clean. Greg with the help of his

brother and another worker installed the panels in less than a week on his 4 + 2 carwash.

They started by drilling holes and using the recommended fasteners. However, Greg figured the job would require them to drill 2,000 holes in the concrete block — time for a new power tool! He bought a propane Ramset fastening tool for \$600. It shot zinc plated fasteners (check the manufacturer's website for the recommend fasteners) into the concrete block and it really sped up the process. Before he got the tool it was taking just too long to install the furring strips. Greg said the installation went pretty smoothly after that except for the last J-trim piece was really hard to get in. He's happy with the results of their

hard work though. It cost about \$8,000 in materials (plus the new power tool) to install.

As noted above, Extrutech panels are very competitively priced. But beyond an appealing price point, the Extrutech Plastics company wants people to know that, "... we take great pride in manufacturing products that are all 100% American-made, and our committment to provide good jobs to hundreds of folks right here in Wisconsin." Chances are that the many operators who have told us over the years (especially since 9/11) that "buying American is important to me" would like to know that fact.



You Can Easily Replace ExtruTech Panels. Here's How:

The Extrutech walls panels are tongue-in-groove, so removing and replacing a panel might seem challenging. At the recent WCA convention, Scott Charles of Extrutech showed us how. It's not a difficult process. With just a little patience and practice, it's fairly easy to do. Because this supposed "replacement problem" seems to be a concern for some operators, we've described the correct procedure as follows ...

To replace a damaged panel, you'll need a utility knife, two 3" putty knives, and a saw. Then follow these 8 steps:

1. Cut the bad panel down the middle the long way. Use a reciprocating saw or skill saw set at 9/16".
2. The half with the tongue will pull out easily. Pull it out and discard.
3. The section remaining will be the side with the nailing fin. To remove this piece, take a sharp utility knife and score the nailing fin right at the splice. You may have to score the fin several times to free the bad panel.

4. Pull on the remaining half and it should release from the fin. If not, score the fin again with a little more pressure.

5. Once the second half is removed, you are ready to prepare the new panel. Take the new panel and remove the nailing fin. You may accomplish this by scoring it with a utility knife or cutting it off on a table saw.

6. Next, slit the back of the panel down the middle, from one end to the other. **Do not cut through to the front face!** This cut will allow you to bend and "cup" the panel.

7. Once the fin is removed and the panel is slit, take the new panel and start at one end (top) and place groove side into the tongue of the existing panel. Cup the panel slightly and place tongue of new panel into groove of the opposite existing panel on the wall.

8. Work the tongue and groove of new panel in as you go down to the floor. You may wish to use wide putty knives on each side to help snap the panels into place.

Royal's Renew

Tony Baker decided to use the Royal Building Renew wall panels at his Village Carwash in Louisville, Kentucky. Tony decided on using the Renew panels because they appeared thicker, more durable. He also like the ease of replacing them if they became damaged. Renew wall panels are reversible. If one side is damaged, it is easily removed

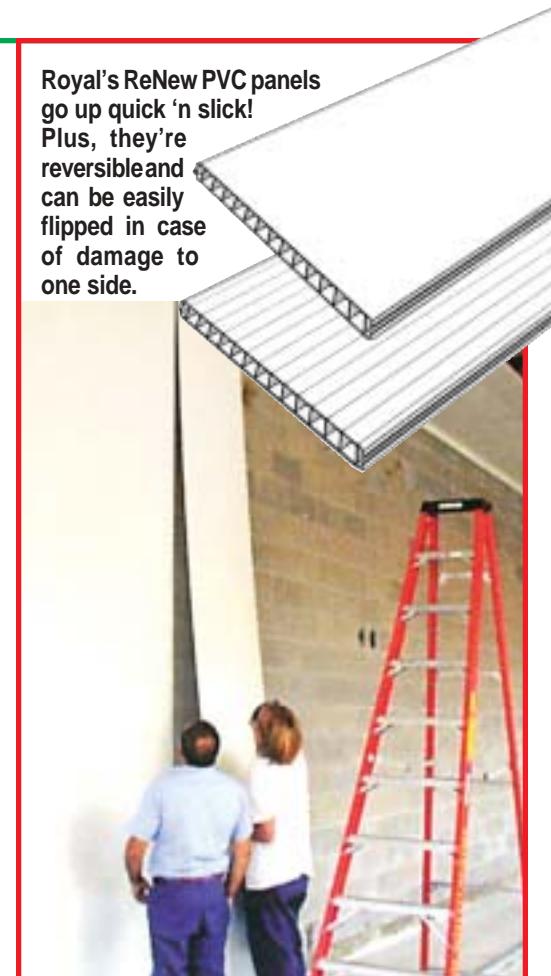
and can be turned around and reinstalled. Tony has had 2 holes put in the panels since he installed them one year ago. He just removed the panel, turned it around and it looked good as new. He used the panels to cover concrete block walls that had been painted in 1996 with latex epoxy paint that hadn't held up very well. He cleans the bays daily with the

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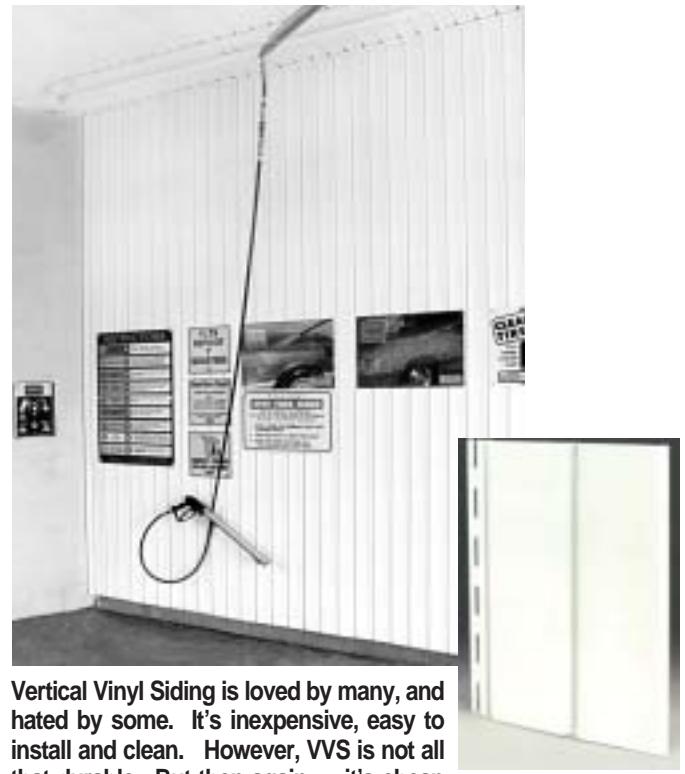


Royal Building System is credited with more than "just" fine rehabs via its Renew PVC panels. Their semi-modular wall forms are now being used in many spectacular new construction projects too.

Royal's ReNew PVC panels go up quick 'n slick! Plus, they're reversible and can be easily flipped in case of damage to one side.



“Interesting” Alternative Walls



Vertical Vinyl Siding is loved by many, and hated by some. It's inexpensive, easy to install and clean. However, VVS is not all that durable. But then again — it's cheap and easy to replace. Will it work for you? Only you can say.

Metal walls?!! Yes, we've seen a number of new rehabs (as above) that may not be the “step backwards” many might assume. Monitor Buildings has coated steel products they say can now stand up to the rigors of the SS environment. We'll see. The wash below is one we discovered many years ago that used the “Ultimate metal” on its walls — stainless steel! For whatever reason, that was both the first ... and the last.



These extraordinary flag stone bay walls (in San Antonio, Texas) are truly monumental in their presentation, and offer durability that's quite literally “rock hard!”



Glass walled carwashes offer another way to make a very spectacular presentation ... especially at night. They demand, however, more cleaning much more often than more “forgiving” wall materials.

Stucco walls are still “out there” but they have become quite rare. They provide a wash with great “texture and character” but they do have a nasty habit of “biting” onto overspray scum and holding it. Stucco is also rather prone to cracking and spalling ... especially in the freeze zone.

hi-pressure spray. For a more thorough cleaning, he uses one part pre-soak to 8 parts water, uses a soft-bristle brush, and then rinses clean with hi-pressure water. He said they still look exactly like they did when he installed them 1 year ago. He paid \$15,000 for material and about \$10,000 in labor to have the panels installed at his 4 + 3 carwash. Tony had previously paid \$13,000 to have the latex epoxy painted on his walls and he thinks the Renew panels will look a lot better for a lot longer while being easier to keep clean.

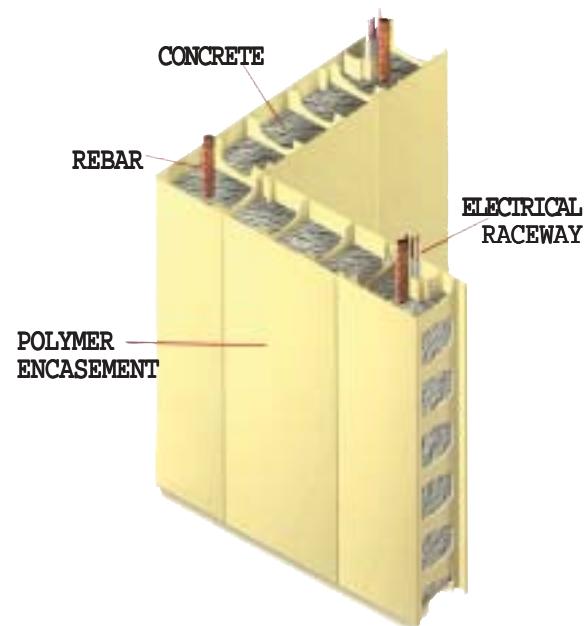
Tony also decided to have his menu signs made up on a vinyl decal. He went to the sign shop and showed them what he wanted. He just sticks the decal to the panel. He didn't want to put holes in his new walls and by using the decals he can update them easily. The vinyl can also be used on the panels as a decorative stripe to add color to the walls.

We would be remiss if we did not mention that Royal Building Systems is probably best known for developing very innovative PVC wall forms that is comprised of solid

concrete encased in rigid and durable polymer forms and is used primarily for new construction. Royal says that with their semi-modular PVC wall system, construction time for a typical carwash can be as much as 2/3 less than conventional concrete masonry construction. And that overall cost with their system is about 20% less. The wall components are available in four standard colors: tan, gray, light gray and white. All trim, window and door frames are available in white only. You can apply stucco to the exterior walls and add vinyl graphics for designs on the bay walls.

Chris Mathews in Concord, New Hampshire acted as his own general contractor to build his new 4 + 2 Integra Carwash using the Royal Building wall system. He discovered the product at the ICA's convention in Las Vegas. He liked that it didn't require painting and was low maintenance. Another deciding factor was that the building went up quickly compared to concrete block buildings.

Chris cleans the walls using his bays tire and engine cleaner and then rinses off



with hi-pressure rinse. During construction, a 4 x 4 section of the building was damaged by equipment. He used the manufacturer's recommended product to repair the damage, sanded it down and painted it. Chris said you can't tell where the damaged section was.

My PVC Torture Test

I had a sample of the PVC paneling, so I decided to do a few tests to see how well the material holds up to "torture" in a real world carwash. My customers may be a little more rowdy than some, so I wanted to see how well the panels held up doing the various things my customers and vandals have done to my walls over the years. My tests included: using a permanent black marker, spray paint, crayon, wood stain, adhesive spray, joint compound, wood glue, hammer and golf club, wand tip, screw driver, grease, and graffiti paint remover spray. I even tried to set it on fire using a lighter and kept it in the freezer overnight.

I had heard from all the operators that dirt, soap and wax buildup was very easy to remove, so I didn't bother trying to do that. Besides, for that sort of test to be really valid it would have required letting overspray buildup and cure on the wall material for several weeks or so. But, again, I trust the consensus of experienced opinion from operators who have actually had PVC on their walls.

Please note, there are recommended products to clean the walls. So before using any cleaners you should check with the manufacturer to find out if it will damage the panels. I started by trying wiping off the material with my hand, then moved on to a moist cloth, then to using the recommended products to clean, and finally used non-recommended products to see what it would do to the panel. Note: I do not consider this a truly scientific test! But it at least provided me with some tangible evidence as to what I might expect from this material after some pretty tough SS carwash vandalism and "torture".

Results

As shown by the previous SSCWN test done on spray-on fiberglass ...

Permanent Black Marker is one of the most (if not THE most!) difficult substance to remove. I started with a water-based cleaner as recommended. I used the popular, multi-purpose stain remover Goof-Off which smeared the ink. I reapplied and let it sit for a few minutes. I had to keep wiping it down with a cloth and using the Goof-Off, but eventually most of it came off with just a shadow of the marker readable. I also used a citrus based cleaner with better results and also acetone. Both got most of the marker off, but these are not recommended products and over time would dull the finish.

Spray Paint was sprayed on and left overnight to dry. I then used just a water wetted cloth and with my fingernail pressed on the cloth, I got the majority of the paint off easily! I used Goof-off to remove the last trace of the paint with no damage to the surface at all.

Crayon rubbed off very easily with just my thumb. I buffed with a dry cloth to remove all remaining color.

Wood Stain was a dark mahogany which I applied and let dry overnight. It came off with only a wet cloth and buffed up well with a dry cloth. No remaining stain.

Adhesive Spray: I used 3-M Adhesive Spray and let it dry for a few hours. There is a reason this stuff is good — it really is sticky! I started trying to wipe it off with a cloth, but it wouldn't budge. I then used Goof-Off and a cloth. It took a bit of time and effort, but finally all glue was removed without damage to the panel.

Wood Glue (water based) wiped off easily with my thumb.

Joint Compound: I have a lot of dry-wall companies coming to my carwashes so I get this a lot of that stuff splattered on the walls. It's a big pain to remove dried joint compound from block walls, but the PVC wiped off easily just using my thumb.

Grease: Most of it came off with a dry cloth rub. I then used the water-based cleaners to remove the remaining residue.

Screw Driver: I took a common, small slot screwdriver and hit the panel. With just a couple of hits the screwdriver penetrated the panel easily. I also used the screwdriver tip to write my "tag" (name) on the panel. The damage was easy to do and noticeable. Plugs can be purchased from the supplier to fix small holes, but I do not know of any remedy for gouging scratches.

Hammer and Golf Club: I had to whack the hammer on the panel several times before getting a good dent in it. I also helped myself to my husband's golf bag and took his sand wedge and I banged the panel hard a few times with that too. It dented it, but didn't break the panel. The golf club survived too, but let's keep the fact that I used my husband's club just between us, okay?

Wand: I tried using the wand against the panel like a customer if they just accidentally hit the wall. It either showed no damage or just a slight scratch. If a customer really intended to damage the wall, they could use the wand to dent up the panel. And after three attempts to do so, I was able to put a hole in it.

Graffiti Remover: This is a product from Klean-Strip that is used for removing graffiti off of concrete and masonry surfaces. It is not recommended for plastic. My employees don't seem to remember this. Even though I've written "DO NOT USE ON SIGNS!" in bright blue bold letters, they still do so occasionally. I used it on the panel and it damaged the finish of the panel just like it said it would on the label of the graffiti remover.

Lighter: Tested by holding a lighter right next to the panel first for 5 seconds. There was black residue and slight melting of

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the panel. Most of the residue wiped off easily with Goof-Off but there remained a light burn mark and slight damage to panel. Then tested for 10 seconds. The panel started to blister at 9 seconds, residue did not come off and panel was damaged (blistered) but did not melt through. The panel never caught on fire in either test. (See the manufactures specs for more details on meeting the fire codes.)

Freezer Test: I left the PVC panel overnight in the freezer with some water poured on it. The ice came off very easily, but it was also 80 degrees in San Diego so that's really not a fair test. The panel did seem a little stiffer, but not brittle. And when I tried hitting it, I didn't notice any difference than when it was at a normal temperature. I spoke to several operators in cold climates and there did not seem to be a problem using this panels in the cold weather. In fact, it was mentioned several times how the ice was easy to remove from the panels.

Every operator has their own experience with their customer base. I told other operators how much painted graffiti and scratched names I find on everything — stainless steel vacs, signs, pole covers, meter boxes, etcetera, etcetera. But I find those problems not a real big problem for the majority of SS operators I've talked to. I would encourage you to request a sample of the panels and run your own test on the problems you encounter to help determine if this is a good choice for a wall covering for your operation. All the operators I spoke to were very happy with the choice they had made and were planning on installing it at their other washes.

Contact

Both of these companies have very good websites with detailed information on how to install their products, pictures, specs, and how to maintain them. If you are interested in these products, check out the websites or contact them by phone.

Extrutech Plastics, 888-818-0118, at www.epiplastics.com.com

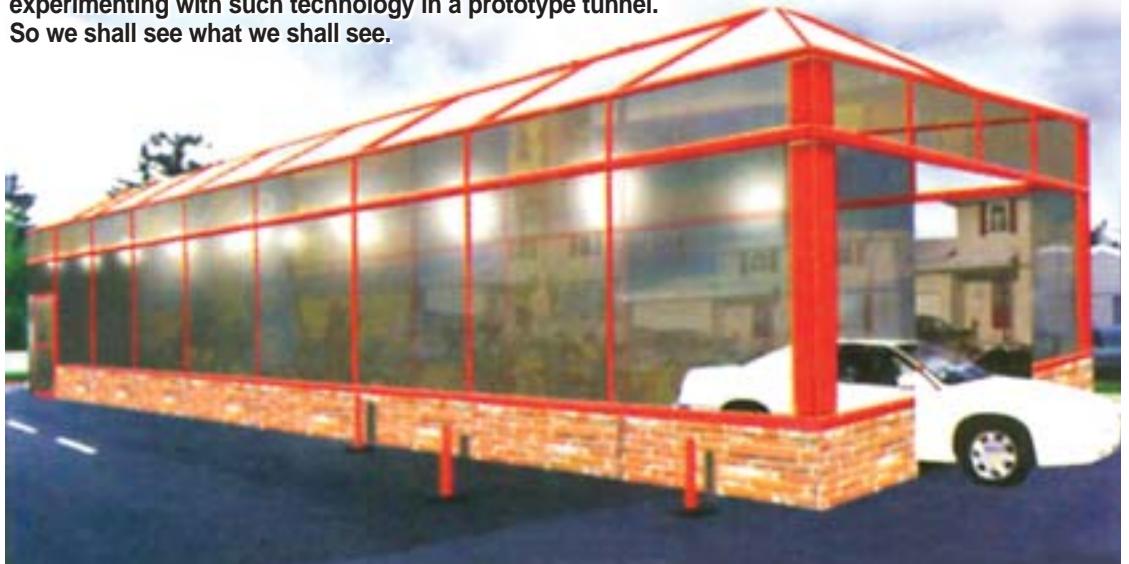
Royal Building Systems, 877-747-9255 at www.rbsdirect.com

HDPE Panels

Somewhat in-between FRP board and the PVC panels is a product an operator suggested we look. It's called PolyMax and is made out of HDPE plastic (High Density PolyEthelene) which is used for many diverse and often quite rugged applications such as outdoor furniture and dairy farms. PolyMax comes in rolls and a wide variety of different sized panels. It can be found at a farm supply company at www.Farmtekcatalog.com. The information is on page 67 of their catalog.

Apparently, PolyMax is an especially popular choice for dairy stalls and has been used by many rural carwash owners on their bay walls too. Every now and then, over the years the SSCWN has been told by such op-

"SELF Cleaning Glass Walls in your future?!!" — could be. The Illuminator Company is currently experimenting with such technology in a prototype tunnel. So we shall see what we shall see.



erators that they use a product highly esteemed by their associates in the dairy farm industry. In the past, the SSCWN assumed that they were just talking about an FRP product. Apparently, we were mistaken and that this hi-density plastic PolyMax may very well be what they were actually referring too.

It only comes in white, but is available in a half dozen thicknesses and as many different sized panels. PolyMax panels are affixed to walls pretty much as is FRP. It's quite inexpensive — an 1/8 inch thick, 4 X 8 foot sheet suitable for carwash apps only costs about 90¢ a square foot. We don't know as much about PolyMax as we'd like, so we hope some of our "Gentlemen Farmer/Carwash Operator" readers will get back in touch and fill us in sometime in the near future. Speaking of the future ...

Looking to the Future

The PVC wall systems are certainly beginning to create a buzz in the industry that will linger and evolve further. I'm confident that we're going to see more varieties of space-age plastic polymers adapted to self serve carwash walls in the future — even more durable, slicker, stylish, colorful, with great creative design potential, easy to clean ... and, hopefully, inexpensive.

I should add that glass walls have been a interesting development in the carwash industry over the last few years. They are very unusual, dynamic looking structures that compel people to take notice of them ... especially at night. Glass walls are mostly used for developing conveyor washes, but Lighthouse Carwash Systems (800-204-4358) has also de-

veloped really spectacular looking SS carwashes that have glass walls.

Without a doubt, glass repels virtually all dirt and cleans relatively easily. Glass, however, is not at all forgiving — a little dirt and film on glass can look like a lot. I know I don't like to clean my own windows at home. So the idea of having to keep clean a whole building that's almost "all windows" sounds quite daunting. However, there is also new technology that has been in the housing market for several years, and is just now being tried out in the carwash industry. Illuminator Building Company (800-542-7221) is currently in the process of building a glass conveyor that has self-cleaning glass! The glass uses the UV energy from the sun to keep the glass clean naturally. Wow, that sure sounds good to me! The SSCWN will keep you posted as to how well that technology actually works and if it will be of potential benefit to our segment of the industry. Hmmmm ... if someone would only come up with a way to make self-serve carwashes self-cleaning, my husband and I could finally go on that two month vacation to Europe we dream about.

Let me close with an expression of sincere appreciation to the operators, manufacturers and companies across the country that took the time to help with this article.

About the author —

Lisa Lyons has an exceptional SS resume and credentials. She's a second generation SS carwasher who was virtually born into the coin-op industry as the daughter of SS pioneer, Frank Piersall. Lisa "cut her teeth" in this business as co-manager of her Dad's chain of washes in Southern California. She has independently owned/operated her own 3 washes in the San Diego area for 15 years. Lisa has been on the Western Carwash Association Board of Directors for 5 years, a member of the International Carwash Association's SS Advisory Council, and is also currently on the ICA Board of Directors.

