

ARCHITECTURAL precaster



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PRESIDENT'S MESSAGE

Nick Carosi IV, Arban & Carosi, Inc.

Greetings to all fellow producers, associates and professional members:

This is my first message in 2022 and I want to take this opportunity to thank each of you for your support the past two years during the pandemic. This has been a challenging time with supply chain issues, material escalations, work-force challenges, but luckily it seems most producers are busy and working through these challenges. The APA stands with our producers and hopes to provide aid and benefit to our members to work through these challenging times.

We are moving full steam ahead with the APA Spring Workshop and the 2022 Annual Convention in Long Beach, California. Kiley Marcoe from Metro Precast & Stone Services conducted the Spring Workshop on

patching & finishing at Arban & Carosi in Woodbridge, Virginia.

For the Annual Convention, our Education Committee is working on great educational programming, fun activities and plant tours. Please mark your calendars for October 14 – 17, 2022 at The Westin Long Beach, California.

I hope that you, your families and employees are still doing well and I very much look forward to seeing you in Virginia and/or California!

Nick Carosi IV



**2022 SAVE
THE DATE!**

**2022 APA ANNUAL
CONVENTION**

OCTOBER 14-17

**The Westin,
Long Beach, California**



An In-Depth Look at an APA Award Winning Project

PROSPER TOWN HALL & LIBRARY

ADVANCED ARCHITECTURAL STONE

2020 CRAFTSMANSHIP AWARD WINNER



Overview

The Prosper Town Hall & Library is a building clad in antique red brick with traditional cast stone, natural limestone and metal accents. Large columns and entablatures mark distinct entrances to the Courts, Library & City Hall Complex which is 30 miles due north of Dallas, TX. Advanced Architectural Stone in Ft. Worth, TX was selected to manufacture the cast stone for the project.

Randall Scott Architects (RSA) was tasked with the design of a Town Hall & Library that reflected the character of the small, local, but historic, downtown. The fabric of the existing buildings downtown consisted of the type brick, metal and stone accents used in the project. RSA's exterior design focused around timeless Beaux Arts government vocabulary with oversized arched Richardsonian windows and highly detailed brickwork borrowed from the adjacent historic downtown structures.



By the Numbers

- 2,200: pieces produced
- 11,000: cubic feet of cast stone
- 1,800 lbs.: weight of the pieces comprising the large dentil entablature

The Project

One innovative feature of the building is its ability to expand into dedicated shell space provided on each floor and onto third floor roof terraces on the east and west ends of the building. Until such time as the building needs to expand, these roof terraces provide unique amenity spaces for staff and the public to enjoy.

The building massing steps back at the third floor to provide roof terraces and verandas with views in all directions. The building sits atop an elevated podium with the top of its cupola standing over 100 feet above ground. Inside, the building is a Great Hall which

espouses a two story colonnade capped with 25-foot wide arches framing coffered ceilings appointed with historically accurate luminaires.

The decorative fluted columns and enormous entablature draws the focal attention to the frequently traveled entry ways. The cast stone veneer and water table at the projected pilasters enhances the brick projections significantly.

Craftsmanship

The craftsmanship needed to execute this project is notable.

The architect's specific detailing on the decorative column capital required the skill of an artist that left nothing untouched in her carving.

continued on next page



The fluted column molds were cut from a CNC machine and assembled in 3 pieces enabling us to make several pieces per day.

The decorative capitals and columns both required a clay replication and extensive CNC work.

In addition to the extensive detailing needed on this project, Advanced had to ensure the custom color would blend with the natural stone site material.

Advanced Architectural Stone's commitment to quality and helping the design team achieve its objective is evident in this beautiful facility. The recognition they received for this award winning project is well deserved.

Prosper Town Hall & Library

Architect: Randall Scott Architects

Contractor: Pogue Construction

Manufacturer: Advance
Architectural Stone



The Seay Management Human Resources Management Checklist consists of 24 key HR flash points that will help to ensure that you are up to date and in compliance with employment regulations enforced by state and federal agencies and that you are implementing HR “Best Practices” in terms of policies, procedures, manuals and documents to hire and retain good employees and motivate them to superior performance.

1. **EMPLOYEE HANDBOOK** - This is your fundamental employment document because it describes how you will handle work issues that arise with your employees. To meet that goal, it should be comprehensive and detailed. Some of the policies you need include:
 - **EEO policy** – this should include the protected category of “genetic information.” Also, some states have additional protected categories. Check your state regulations or call your Seay Management consultant to make sure you have them all covered.
 - **Dress Code** – address extreme hair color, potentially offensive tattoos, scents and aromas that bother other employees, and body piercings in places that could be distracting. Be sure to include a provision for accommodating your dress code based on the religious beliefs of an employee or candidate.
 - **Cell Phone Use** – talking or texting at work, even if set on vibrate, taking pictures and safety issues involved while driving on employer business.
 - **Social Relationships at Work** – a supervisor dating an employee is Trouble Waiting to Happen (TWTH).
 - **Email/Internet Use at Work** - We should train employees on how to compose emails and what Internet sites should be avoided and inform them that the email system is the property of the employer and that all emails are subject to being retrieved.
 - **COVID** - While we hope never to have a COVID event again, or at least in our lifetimes, it is a good idea to have a policy covering the employer’s response to pandemic situations.
 - **Working Remotely** - More and more employees are working remotely so a Remote Work policy should be included in your employee handbook which would cover working time, accidents at home, accountability.



Improved urban sections of the Little Sugar Creek Greenway in Charlotte, North Carolina, help bring nature closer to where city dwellers live and work. Photo courtesy of Lucas Concrete Products

Between a Rock and a Hardscape: Precast offers solid solutions that don't break the bank

By Stacey Enesey Klemenc

Precast concrete in today's often elaborate landscapes has come a long way from planters and pavers that dominated its presence not so long ago.

Thanks to the technology of today's CAD programs and CNC machine capabilities, precast concrete can achieve more complicated shapes in an array of sizes, colors and textures. With careful planning and design execution, "It gives you a way to get cost-effective results with highly customized shapes that help define open space," says Rod Johnson, owner of Lucas Concrete Products in Charlotte, North Carolina. "It can give a project continuity as well as variability."

The forms needed to make these shapes can get expensive, says Johnson, so the key to being profitable

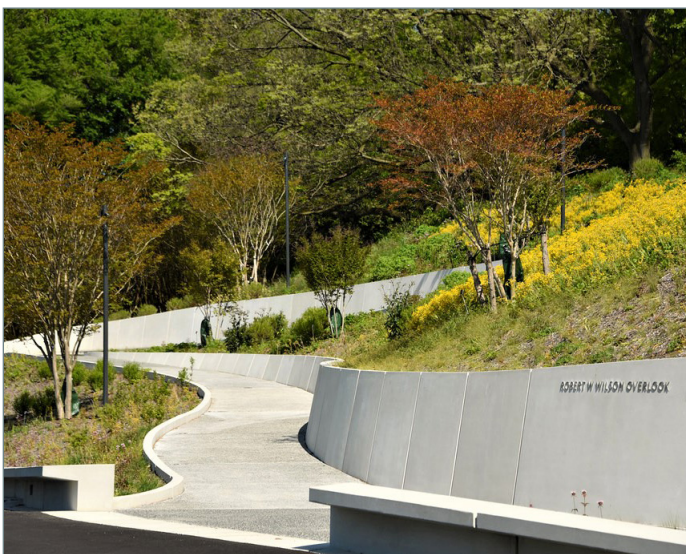
is repeatability. That's where precast concrete product manufacturers can come into play, he points out.

For example, his company used the same mold to create a water flume that ran through a botanical garden. "It turned in five different directions," he says. To achieve the design, his team varied arc lengths to produce longer or shorter curves that still fit within the constraints of geometry. "This made the project more affordable," he says.

In the design phase, "We can come up with molds that can make something that looks like a one-off, but four or five things can be made from it," Johnson says. For instance, you can create a sunburst series design with various-sized radial curves by blocking off sections of the same mold. "Each sunburst doesn't need its own mold."

Hardscapes abound

Much of the younger generation is choosing to work and live in higher density areas but they still want landscaped open spaces nearby, Johnson says. Compared to the older generations, many of these millennials and Gen Zers aren't driving as much or at all. Consequently, hardscaped amenities and features are included in areas within walking distance to make them more appealing. These include everything from urban courtyards and city gardens to municipal common spaces and private business parks.



The Robert W. Wilson Overlook in New York City's Brooklyn Botanic Garden is equipped with beautifully landscaped switchback pathways lined with precast concrete retaining walls. Photos courtesy of Southside Precast Products

Hardscapes made from precast concrete are no longer limited to horizontal applications, says Joe Schmadel, president of Sun Precast in Beaver Springs, Pennsylvania. "Concrete is more than just flatwork." It can be molded into complex shapes that add to a project's architectural features and tie in with nearby structures.

In addition to its endless shape-molding qualities, "So many finishes and colors can be achieved with precast concrete," says Schmadel. "It's much more versatile than natural materials like stone and less expensive."

With the variety and quality of pigments available today and the addition of aggregates, colored glass and similar materials, colors can vary from natural looking whites, grays and tans all the way up to brighter reds, blues and greens.



When the senior class of Bucknell University in Lewisburg, Pennsylvania, was shopping for something unique to donate to the school as its legacy, the students chose a 6-foot-tall letter B made of polished precast concrete and glass. Today, the gift sits near the university's apartment complex on campus and is a popular photo opp destination. Photo courtesy of Sun Precast Co. Inc.

Cost advantages continue

Different degrees of acid etching create textures in precast concrete that range from smooth to rough. And materials such as wood and metal can easily be incorporated into unique precast architectural designs.

“Historically, the alternative to concrete was natural stone which costs more and is heavier to work with,” says Rick Workman, president of Southside Precast Products in Buffalo, New York. Now, people are discovering that precast concrete also offers cost advantages compared to cast-in-place concrete.

“If you take into consideration the number and sophistication of the molds required for extensive designs on site, precast is cheaper,” says Workman.

Off site in a controlled environment, the precast molds and framework can be reused and tweaked. Plus, Schmadel adds, the savings multiply when you subtract the labor costs charged in many big cities that would have been paid to onsite workers.



Originally, the Robert W. Wilson Overlook in Brooklyn Botanic Garden called for cast-in-place seating walls. Planners looking for a value-engineered alternative determined precast concrete provided the garden with curved seating that had a better architectural finish and was cheaper to produce. Photo courtesy of Southside Precast Products

Collaboration expands

In the past, manufacturers of landscaping elements typically didn't see project proposals until it came time to bid on a job. Now, more than ever before, that's starting to change.

“We're experiencing more collaboration with architects who are reaching out to us during the design phase,” says Schmadel of Sun Precast. Early on, more and more want to know if a design will work and if elements are feasible within budget constraints.

“It really helps to get with the architect on the front end of the design before you go down the wrong path,” says Johnson of Lucas Concrete Products.

This back-and-forth dialogue is good for business, Schmadel asserts. “It makes for a better and smoother project as it goes forward,” he says. After all, “Design has to match reality. A design isn't any good if a piece can't be manufactured.”

Outdoor gatherings are in



A popular feature in today's hardscapes involves precast concrete custom seating in the form of seat walls and stepped configurations, such as what was installed at Cornell Tech, located on Roosevelt Island in Manhattan, New York City. Design and photo courtesy of James Corner Field Operations

“One of the biggest things this pandemic taught us is that we need a place to gather outdoors,” says Schmadel. These places run the gamut from intimate conversation pits to roomy outdoor classrooms. “And I think that trend will continue.”

A popular feature in today’s hardscapes involves precast concrete custom seating in the form of seat walls, stepped configurations and custom benches. Often these seats vary in height and double as retaining walls. Other times curved seating that resembles oversized steps can also serve as amphitheater seating.

When it comes to seating, one practical request involves incorporating features to discourage skateboarders. Many precast concrete manufacturers recommend screwing in bronze or stainless-steel guards that raise up and keep skaters off.



One of Sun Precast’s recent projects involved polished concrete benches — to the tune of 45 truckloads — for Cornell Tech in Manhattan. The ones here are equipped with metal skateboard deterrents. Design and photo courtesy of James Corner Field Operations

Whereas Johnson also employs this technique to deter skaters, he prefers another that involves casting recesses in the concrete that create gaps larger than normal joints. “Skaters prefer a long smooth surface to slide on,” he says. By incorporating voids into the design, “you

eliminate that smooth expanse and guarantee their ride will be less than spectacular.”

He prefers this method over metal deterrents because he’d rather mold the concrete instead of adding something that sticks out. “It’s cheaper to cast and more comfortable for the user. You can sit anywhere on the cap,” he adds.



Another method to discourage skateboarders from riding on built-in seats is to incorporate recesses in the concrete rather than adding something that protrudes. Photo courtesy of Lucas Concrete Products

Future looks bright

What’s the future hold for precast concrete hardscapes? In addition to more wood and metal incorporated into designs, expect to see more integrated lighting, says Schmadel.

His company recently supplied wood and concrete benches equipped with channel molding and LED lighting integrated into the face of the seating. This helps light up the area and makes the tops look like they’re floating at night.

Decorative fountains will continue to accentuate urban parks for form and function. Many will incorporate lighting in creative ways to enhance nighttime visits.

continued on next page



Lighting integrated into benches made with precast concrete and wood by Sun Precast help to illuminate areas at night at Cornell Tech. Design and photo courtesy of James Corner Field Operations

Also, expect to see more precast concrete bollards strategically placed throughout a design to prohibit vehicular traffic. "I think we'll also see more functional seating that doubles as protective barriers," says Workman of Southside Precast Products.



Fountain Park, Rock Hill, South Carolina.

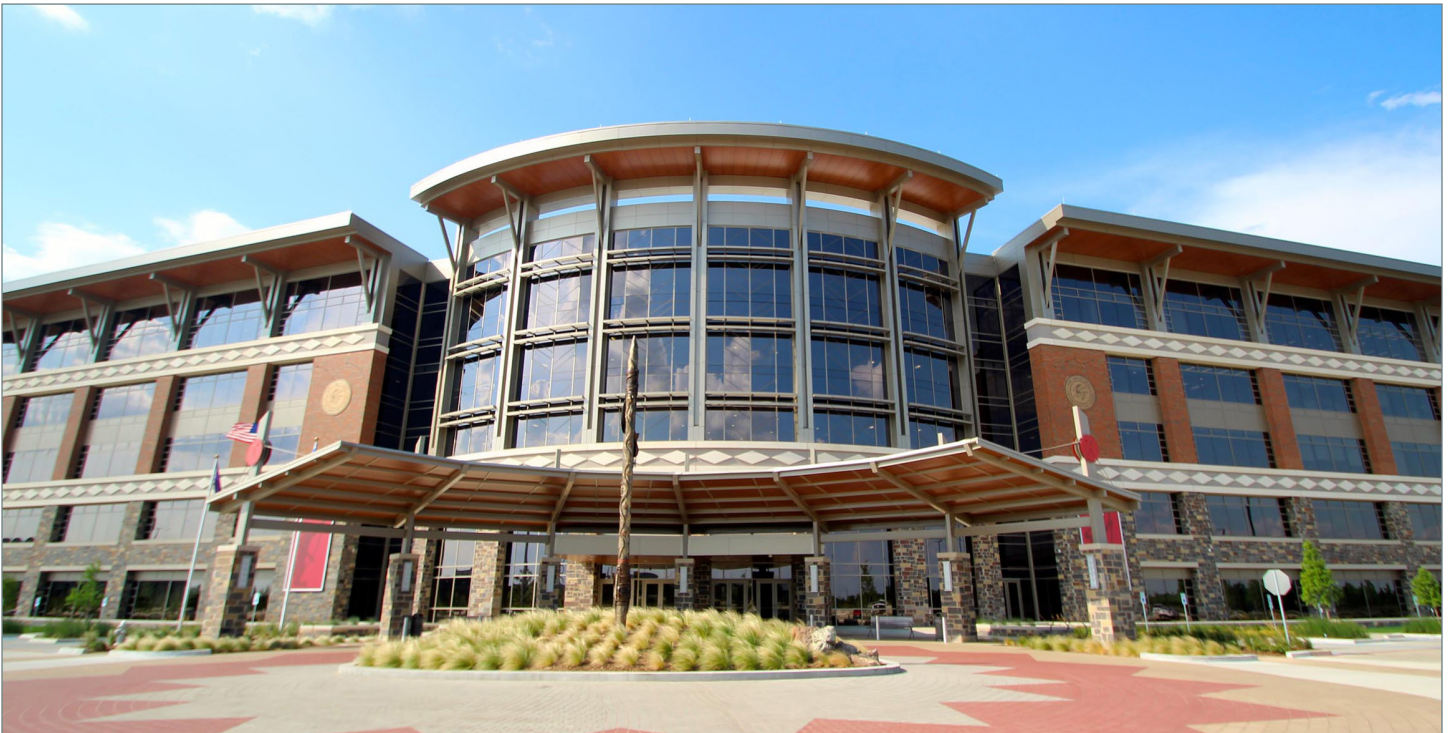
As for design, the possibilities are unlimited, he continues. Ever-evolving 3D modeling programs are helping manufacturers create designs that allow transitioning shapes to effortlessly tie into one another. "We'll continue to see more open-space gathering places, partly because of COVID but mainly because the trend to add more green space to urban areas was already heading in that direction," he says.

"We'll continue to see business parks and those in the private sector continue to grow and contain a variety of amenities and hardscaping that encourages people to live, work and play," says Johnson of Lucas Concrete Products. Areas for pickle ball, bocce ball, wi-fi connectivity ... "things like that that promote the urbanization of our society."

Workman predicts that the use of ultra-high-performance concrete will continue to rise. "UHPC has yet to be totally explored," he says. "It's continually evolving. UHPC is helping us push the limits to get thinner designs than what we can achieve with standard concrete."



Located in what was once considered the ugliest parking lot in Rock Hill, South Carolina, Fountain Park is now a destination green space for residents and visitors alike. The public park's crowning achievement centers on a precast concrete fountain with an interactive water jet display. Photos courtesy of Lucas Concrete Products



Choctaw Nation of Oklahoma Headquarters

An Interview with Eric Sutliff, General Manager, DeVinci Precast

Can you tell us a little about yourself and your background in precast?

I joined DeVinci Precast in 2016, to explore my interest in the use of cast materials in construction and architecture. With my background in engineering, construction, and manufacturing, as well as extensive experience in the steel casting industry, the precast business seemed like a great career move. Inside DeVinci's amazing facility and alongside its highly skilled personnel, I was able to bring my knowledge and experience, contributing to the improvement and advancement of the business. Every project continues to provide an opportunity to increase my knowledge of precast and its use in innovative applications.

Can you give us a brief history of the company?

DeVinci Precast, originally named Structural Stone, has been making architectural precast, GFRC and cast

stone since 1998. DeVinci was born from necessity when a masonry company, Advanced Masonry, needed to satisfy a demand for quality cast stone required on their projects.

From the beginning and till this day exceeding customer expectations has been the paramount goal of the DeVinci team. Our customers are our long-term partners and deserve exceptional service in all areas, from design to install, helping their organizations to grow. Over the years, DeVinci supplied countless cast stone elements for Advanced Masonry or AMI and expanded to provide materials for many other masonry companies in Oklahoma. After the acquisition of DeVinci by BBPN Precast Solutions, LLC in July of 2020, the company was able to break free from ties to a sister masonry company and eliminate conflicts that previously



existed when supplying to competing installers, while retaining the install knowledge to incorporate in design and manufacture. With this recent change, the focus has been on expanding DeVinci's customer base to include much of the United States.

What is your favorite project that your company has produced?

With our participation in so many wonderful projects, it is hard to pick a favorite. Greenwood Rising Museum in Tulsa was special due to its historical significance and daring design; Dustin R. Womble Basketball Center, for Texas Tech University, challenged us with its size and level of detail; OSF Medical Center in Peoria IL required GFRC replacement to match existing and historic terracotta. In addition to Choctaw Nation of Oklahoma Headquarters tested us with two tone geometrical patterns on large scale radius panels, but most satisfying overall was the Amon G. Carter stadium expansion. From drafting to shipping, the project demanded creativity and innovation to deliver the buildings different features. The need for careful sequencing to utilize steel erection cranes for parapet installation, reproducing existing geometrical patterns, and the massive scale of the pieces all created unique challenges. For the two entry reliefs, the DeVinci team produced two of the largest brush on rubber molds ever created in our facility, showcasing star players.

What are some of the challenges you are facing as a precaster?

Increasing material cost and availability of raw goods and supplies continue to challenge us. Transportation cost fluctuation has also been difficult to mitigate over the past year. It is often difficult to quote delivered prices only to have the price to ship double before the materials are cast and ready. Although DeVinci has put measures in place to offset these issues and difficulties, they can still occasionally hinder projects.

Another challenge is that architects frequently provide files for seals, reliefs, and other elements with a high level of detail that are not adequate for programming and cutting the detailed features. Graphic design images suitable for general presentation often lack vital

information, such as: surfaces, lines, and other geometry required to produce patterns or molds on our CNC equipment. We have utilized digital artists working on platforms like ZBrush to create the required files for review, approval, and manufacture.

With the use of 3D design software becoming the standard in architectural planning, GFRC and precast continue to feature more and more complex geometries and conditions. I think we will continue to be challenged by such designs, as well as architects' desires to combine materials for faster panelized installation of building exteriors. Research and development, along with continued education, are critical to our team's keeping pace with the changing demands of the industry.



Greenwood Rising Museum in Tulsa



OSF Medical Center in Peoria IL

Congratulations to Unlimited Designs for being recognized for their work on the Western Wall and Ceiling Contractors Association 2021 Arizona Project of the Year.



UNLIMITED DESIGNS



On March 1, 2023 all APA plants will have at least one employee with an APA certification (QC I, QC II or Batch Plant Operator) who will have to submit verification of their 12 hours of Continuing Education (CE) requirement.

A list of qualifying CE options and the CE Log Form are on the APA website and can be found at: www.archprecast.org/personnel-certification

If you have questions please call 850.205.5637 or e-mail to jbrewton@executiveoffice.org.

Welcome back, in this addition of the APA Precaster we will cover the different options for cleaning architectural precast.

Cleaning Architectural Precast

By Kiley Marcoe, Metro Precast & Stone Services, Inc.

The biggest mistake made in stain removal efforts is to attempt to clean stains with either a pressure washer or to use muriatic acid to clean every type of stain. Attempting to remove stains with a pressure washer will result in wand marks and damage to the architectural finish. Pressure washing should be limited to removing light soils such as dirt, boot prints, and pollution. Power washing equipment should be limited to 1000 psi or less and never for stain removal. Cleaning stains with muriatic acid will result in altering the texture or exposing the large aggregate. Muriatic acid is only effective in dissolving cement-based material and should be limited to etching and blending repair work.

Pressure washing

The below image shows panels before pressure washing to clean general soil and dirt.



The below image shows panels after pressure washing.



Stain removal does not have to be difficult or frustrating if you take advantage of the variety of commercial cleaning agents developed for cleaning architectural concrete products. All chemical manufacturers have a product selection chart to make purchasing the correct cleaning agents fool-proof. The chemical manufacturers also provide wastewater disposal and neutralization procedures along with video training for many of their products.

The image on the next page is a typical product selection chart.

Restoration Cleaning	
Stain	Product
Algae, lichen	BioKlean™ BioWash
Asphalt, tar	Asphalt & Tar Remover SafStrip
Carbon crust	766 Limestone & Masonry Prewash/Afterwash
Clear coatings	Fast Acting Stripper Heavy Duty Paint Stripper SafStrip and SafStrip 8
General light soiling	2010 All Surface Cleaner Light Duty Restoration Cleaner Restoration Cleaner Saf Restorer
Graffiti	Graffiti Wipe Heavy Duty Paint Stripper Safety Peel 1 SafStrip SafStrip 8
Lime run	Heavy Duty Concrete Cleaner (unpolished surfaces) Custom Masonry Cleaner
Moderate to heavy carbon	Restoration Cleaner Heavy Duty Restoration Cleaner, Saf Restorer EK Restoration Cleaner 766 Limestone & Masonry Prewash/Afterwash

Paint & Coatings Removal	
Coating	Product
Elastomeric coatings	Fast Acting Stripper Heavy Duty Paint Stripper Safety Peel 1 SafStrip
Graffiti-resistant coatings	Fast Acting Stripper Heavy Duty Paint Stripper SafStrip and SafStrip 8
Latex/house paint	Fast Acting Stripper Heavy Duty Paint Stripper SafStrip and SafStrip 8
Lead-based paint	Heavy Duty Paint Stripper SafStrip and SafStrip 8 Safety Peel 1
Multiple layers/ heavy accumulation	Heavy Duty Paint Stripper SafStrip and SafStrip 8
Oil-based paint	Fast Acting Stripper Heavy Duty Paint Stripper

Graffiti Removal <i>Unprotected surfaces</i>	
Stain	Product
Graffiti shadows	Graffiti Wipe SafStrip

Stain Removal

Stains not removed by general cleaning can be removed successfully through either mechanical means or one of various commercial cleaning agents developed specifically for a particular type of stain. Today's commercial cleaning agents will not affect the delicate architectural finish thus will not alter the texture or color. Cleaning agents range from tar removers to paint removers along with a variety of poultice products developed to remove deeply penetrated stains.

On projects that do not allow chemical cleaning, abrasive blasting with a soda media is the perfect option. Soda blasting can be very effective in stain removal without altering the texture or creating a silica hazard.

In the next two pictures a biological cleaner was used to remove the mold and algae. You can clearly see the before and after results.





In the below picture a silicone digestant was used to remove the caulking.



In the below picture a phosphoric acid based concrete cleaner was used to remove the beverage spills



In the below picture a copper stain remover was used to remove the copper.



In the below picture an adhesive dissolvent was used to remove the adhesive.



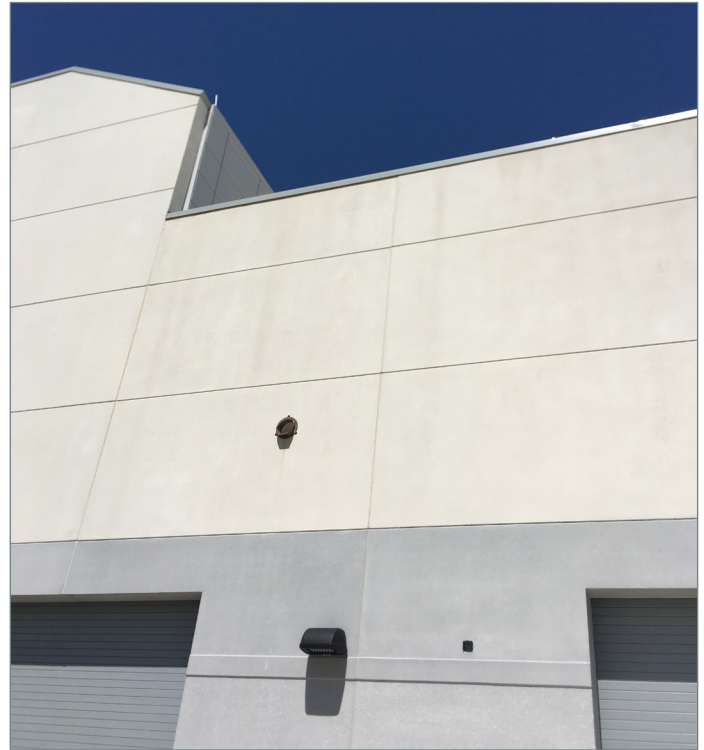
In the below picture a phosphoric acid was used to remove the efflorescence.



In the below picture a graffiti remover was used to remove the paint.



In the below picture a phosphoric acid was used to the remove rust



In the below picture an asphalt and tar remover was used to remove the tar.



Abrasive Blasting

Abrasive blasting can be performed utilizing baking soda equipment which is a non-destructive method for stain removal. Most chemicals pose safety issues, but soda blasting is the better option for the worker and the environment. Soda blasting quickly removes staining without damaging the finish or altering the texture of architectural precast. Soda blasting equipment comes in a variety of sizes from 15 pound to 400-pound pots making them easy to use on jobsites or in the yard.

The below image shows a precast sign before soda blasting to remove graffiti.



The below image shows sign after soda blasting cleaning.



The below image shows masonry before soda blasting.



Until next time, Kiley Marco
Metro Precast & Stone Services, Inc.
<http://www.metroprecast.com/>



Metro Precast & Stone Services, Inc.

*Restoring the architectural beauty of commercial properties
since 1990*