ProSoCo news

Summer 1990

Department of Agriculture Reaping Bountiful Harvest with Restoration of Headquarters

The majority of the U.S. Department of Agriculture is housed in two massive buildings in Washington, D.C. The South Building, measuring 458 feet by 944 feet, was once the world's largest office building.

In the last few years, farmers have received a lot of media attention dramatizing their fight to preserve their property and their way of life as the backbone of America.

With less fanfare, the U.S. Department of Agriculture (U.S.D.A.) is also preserving a piece of America with an exterior masonry restoration project of its headquarters in Washington, D.C.

The U.S.D.A. is located in a four-building complex in the heart of downtown Washington. The majority of the department is housed in the Administration and South Buildings, which are on the National Register of Historic Buildings.

The two L-shaped wings of the Administration Building were built from 1904 to 1908 with the center section added in the mid 1920s. The South Building was built during the Depression and, until the Pentagon was constructed, was the world's largest office building. The two buildings badly needed cleaning, said Haren Dhokai, staff architect for the U.S.D.A.

The Administration Building is an ornate facility built of two types of white-gray marble. The wings were constructed of Vermont Imperial Danby marble while the center section was built of denser Cherokee marble.

A combination of auto pollution and weathering had severely soiled the exterior facades. The building's many columns, balusters and carvings had been blackened beyond recognition, said E.J. Holly, president of St. Louis Tuckpointing, the firm that is restoring the Administration Building.

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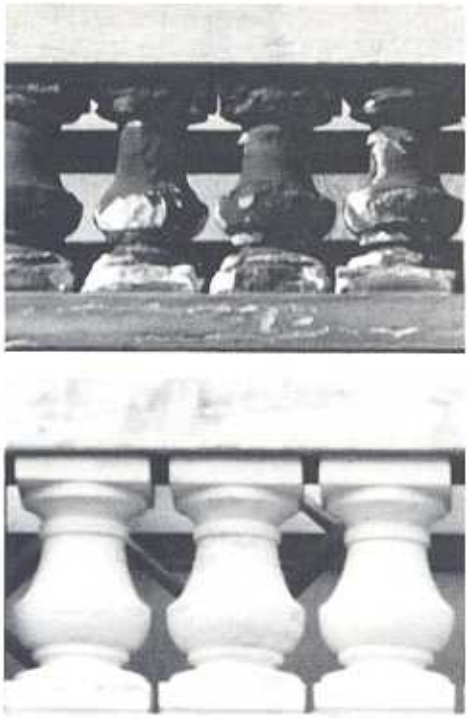
U.S.D.A. (continued)



Balusters of Vermont Imperial Danby marble were deteriorated and severely soiled (top photo) on the Administration Building, before cleaning and patching restored them.

Sure Klean® Heavy Duty Restoration Cleaner was used to effectively remove the atmospheric dirt and carbon from the marble. Sure Klean® Limestone Prewash and Afterwash were used to clean limestone sections connecting the two wings.

The South Building, a more functional building, houses 6,500 U.S.D.A. employees. Other statistics on the building are equally as mind-boggling. The building has 4,500 rooms, 7 miles of corridors, 11,000 miles of structural steel and 12 million bricks.

A large portion of these 12 million bricks, as well as limestone, a granite base and glazed terra cotta trim, were cleaned recently by Melrose Enterprises during phase I of this project. The north facade, which is six stories tall and two blocks long, was cleaned with Sure Klean® Restoration Cleaner and Sure Klean® Limestone Prewash and Afterwash.

A buff-colored Conservare® Breathable Masonry Coating (BMC) was custom mixed and applied to the terra cotta where the original glazed surfaces were missing or repaired. The surfaces were first treated with Conservare® 911 Primer.

The color "blends perfectly," said Dhokai.

BMC offers the highest vapor permeability of any coating available on the market today. Its unique microporous film allows internal water vapor to escape while preventing rain from entering the substrate. BMC's "breathability" will slow further deterioration of the terra cotta and will not blister or peel.

After the cleaning, the column caps on both buildings were covered with Conservare® Pigeon Control to prevent further damage by Washington D.C.'s large pigeon population.

The restoration project also included tuckpointing brick on each building.

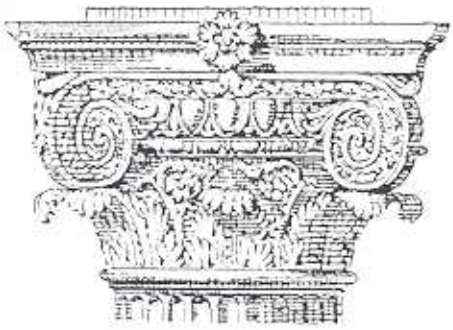
Work will begin shortly on phase II to clean the other facades and the penthouses of the South Building. Work on the Administration Building, which was begun in April, 1989, is expected to be completed by the spring of 1991. ■

ProSoCo Notes

Marilou Infuso will be introducing ProSoCo products to architects and specification writers in the Northeast as a ProSoCo architectural sales representative. Marilou graduated from the University of Oklahoma with a degree in marketing, which she used as a manager for a telemarketing firm. She can be reached at the South Plainfield, NJ office, (908-754-4410).

Paul Arndt has joined ProSoCo as district sales manager for Southern California as well as parts of Arizona and Nevada. Paul brings 28 years sales experience in the painting and masonry industries to the company. He can be reached at the El Toro, CA office, (714-454-9889).

A native of Ireland, Patrick McGreal traveled a long way to get to ProSoCo's laboratory in Kansas City, KS. Patrick conducts laboratory and warranty tests. He previously worked in product research and development for an international pharmaceutical company. Patrick has a degree in environmental science.



Neutralizing Rinses

When restoring a building, contractors often run into the problem of removing multiple layers of paint and graffiti from masonry. These layers are most effectively removed using alkaline paint strippers, which break down or solubilize the paint binder.

ProSoCo usually recommends Sure Klean® Heavy Duty Paint Stripper to remove multiple layers of paint. Heavy Duty Paint Stripper is an alkaline stripper based on potassium hydroxide. Because it remains active on the masonry surface for as long as 24 hours, one application can remove 12 layers or more of paint.

Alkaline prewashes function similarly to alkaline strippers. These prewashes generally break down the soiling material within 30 minutes to one hour. Alkaline prewashes, such as Sure Klean® Limestone Prewash and 766 Masonry Prewash, are effective in removing black weathering "crusts" and carbonaceous material.

Following the dwell period determined through on-site testing, surfaces treated with an alkaline stripper or prewash are thoroughly rinsed using pressure washing equipment. This step, however, does not complete the cleaning process.

Because these strippers and prewashes are strongly alkaline and because the recommended dwell times are sometimes lengthy, it is necessary to neutralize the treated surface with an acidic solution. ProSoCo manufactures several afterwashes such as Sure Klean® Limestone Afterwash, Restoration Cleaner and Limestone Restorer. Selection of the appropriate afterwash should be based on the stripper or prewash used, the nature of the masonry substrate, and soiling conditions.

Residual alkali from the stripping or cleaning operation will react with the acidic afterwash to form compounds that readily rinse from the surface with water. Thorough water rinsing, following the 3 to 5 minute dwell period recommended for the afterwash, ensures complete removal of residual alkali. pH testing before and after stripping or cleaning operations can be used to confirm this. If a second application of the stripper or prewash is required, rinsing and treatment with the afterwash should be made after each application.

When the application of an afterwash solution is omitted or improperly carried out, problems can occur. "Brown staining" can be an unwanted result if iron-containing minerals are present; this staining may then require additional remedial cleaning.

Efflorescence can frequently be a problem. Normally efflorescence is the result of wet/dry cycles where salts within the brick or stone migrate to the surface as the material dries out. Efflorescence can be aggravated when residual alkali from the stripping or prewash operation reacts with material within the masonry to form sulfate, carbonate, or other water-soluble salts. Migration of these salts, followed by evaporation of water, will produce a whitish deposit at the surface. As well as being unsightly, efflorescence indicates migration, dissolution, and subsequent recrystallization of salts below the surface. These salts can damage masonry.

Efflorescence will adversely affect the performance of a water repellent or consolidation treatment. When the masonry surface is to be repainted or treated with a water repellent or conservation treatment, complete removal of residual alkali is critical. Failure to do so can necessitate removal of the coating as well as remedial cleaning operations.

Not only does an afterwash effectively neutralize a treated surface, but it offers an unexpected benefit. An afterwash such as Sure Klean® Restoration Cleaner removes the dirt exposed after the layers of paint have been stripped and finishes the cleaning process begun by the prewash. The result — a cleaner building!

The techniques presented here are general guidelines and may need to be modified. Read the product data sheet and always test before beginning full-scale operations. ■

Introducing "Neat" Silane Water Repellents

ProSoCo introduces an exciting breakthrough in water repellent technology that offers an unbeatable combination — greater penetration and coverage with less volatility — for superior protection. ProSoCo launches its new line of silane water repellents, featuring the highest active silane content on the market today.

SL100 is a 100%-active silane that is ideal for architectural concrete and glass fiber reinforced concrete (GFRC). With 90%-active silane content, SLX100 not only protects against moisture intrusion, but also protects masonry and concrete against oil, food and graffiti.

SL100 and SLX100 are "neat" silanes, because they are not carried in a solvent or water. The problems of evaporation and poor penetration associated with silane water repellents on hot, windy days are reduced with ProSoCo's pure silanes.

SL100 and SLX100 also do not adhere to glass, making application easy. With these ProSoCo silanes, windows don't have to be protected prior to application, resulting in a labor savings.

SL100 and SLX100 offer 2 to 4 times the coverage rate of conventional silane water repellents, which results in decreased material cost per square foot. The small molecular size allows maximum penetration of up to one inch into the substrate.

Both products are formulated to meet regulations limiting the volatile organic content (VOC) of architectural coatings and sealers. The VOC of SL100 does not exceed 350 grams per liter, while SLX100 is 380 grams or less.

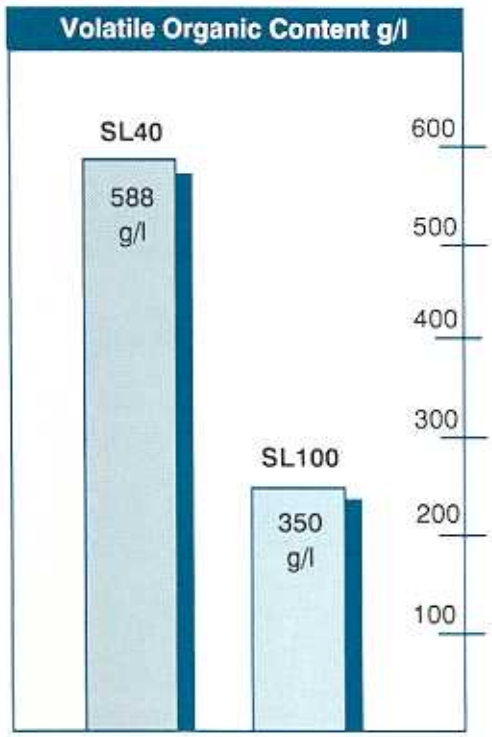
SL100 and SLX100 are part of a wide range of silanes that ProSoCo now offers. For those who don't need the protection that SL100 and SLX100 provide, ProSoCo features two established silane water repellents with 40%- and 20%-active silane content.

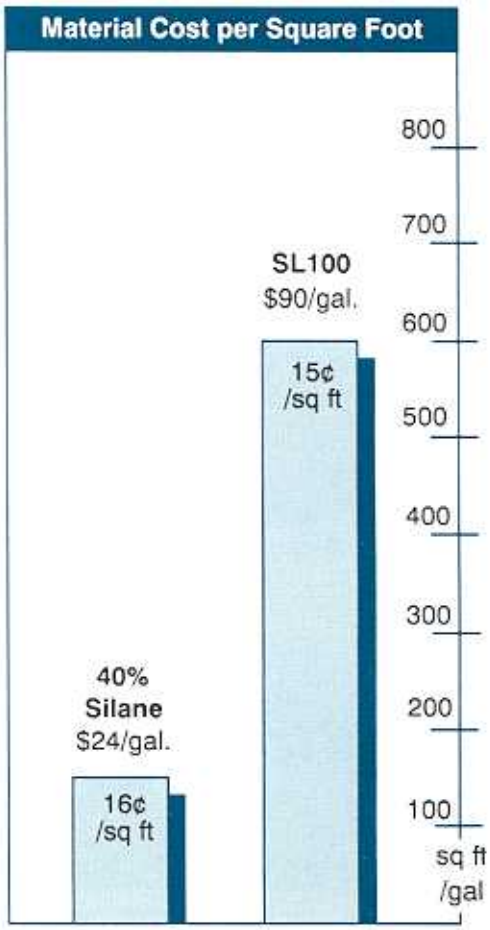
SL40 forms an effective chloride screen while protecting surfaces from moisture. Fast drying, SL40 allows treated surfaces to be reopened quickly to pedestrian or vehicular traffic.

SL20 is an economical, ready-to-use water repellent for concrete and other masonry. It reduces efflorescence, mildew and atmospheric stains as well as helping treated surfaces resist the damaging effect of freeze/thaw cycles, acid rain and salt.

All of these silane water repellents chemically react with the substrate to produce long-lasting repellency without affecting the color of the masonry. These water repellents will not darken or discolor the masonry and do not form a surface film or gloss. Instead, they allow the treated surface to "breathe" so moisture is not entrapped.

ProSoCo silane water repellents complement the company's already extensive line of water repellents. When selecting a water repellent, contact a ProSoCo representative, who can offer the widest range of choices available to ensure the most effective solution to protecting masonry.





The graph on the right compares the material cost of SL100 per sq. ft. to a conventional 40% silane. The graph on the left illustrates the VOC compliancy of SL40 and SL100.

G·A·L·L·E·R·Y

The World of Coca-Cola
Atlanta, GA

Project: Protecting concrete with an oil and water repellent
Architect: Thompson, Ventulett, Stainback & Associates
Contractor: Holder-Russell
Products: Sure Klean® Weather Seal SLX100

It was the "real thing" all right — oil stains on the concrete under the neon sign heralding Coca-Cola's new $15 million pavilion. The 45,000-square-foot building will house more than 1,000 artifacts and memorabilia tracing the soft drink's 104-year-old history.

While delivering finishing touches to the pavilion, delivery trucks also left the unwanted — oil on the new concrete with black aggregate. ProSoCo representatives recommended Sure Klean® Weather Seal SLX100, a new oil and water repellent, for needed protection. It also protects against food and graffiti stains without discoloring the masonry and is VOC compliant.

Scheduled to open in August, "The World of Coca-Cola" is expected to draw 500,000 visitors annually.

DuBourg Hall, St. Louis University
St. Louis, MO

Project: Exterior masonry restoration
Architects: Wilkins, Riedman & Associates
Contractor: Superior Waterproofing and Restoration Co., St. Louis, MO
Products: Sure Klean® Restoration Cleaner
Sure Klean® Heavy Duty Paint Stripper
Conservare® OH Consolidation Treatment
Conservare® H Consolidation Treatment
BMC™ 95

As the first university west of the Mississippi River, St. Louis University is preserving its rich history with an extensive exterior restoration of DuBourg Hall, named after the Catholic bishop who founded the university in 1818.

DuBourg Hall is built of brick and sandstone, which had badly deteriorated. Superior Waterproofing and Restoration Co., the contractor, used Sure Klean® Heavy Duty Paint Stripper to remove the several layers of paint that the university had applied to the sandstone over the last 25 years. The company then sprayed 2 cycles of Conservare® OH Consolidation Treatment to the sandstone to restore the natural binding material that the stone had lost over the decades and helped stabilize the fragile masonry for further work. After the OH had cured for 21 days, Superior patched extensive areas of the sandstone. Conservare® H Consolidation Treatment, which includes a water repellent, was then applied. The H Consolidation Treatment also served as a primer for the Breathable Masonry Coating (BMC) 95 custom color that was applied as a last step.

Superior Waterproofing also cleaned the brick on DuBourg Hall with Sure Klean® Restoration Cleaner.

Q: Why are Weather Seal Siloxane, Consolideck® Saltguard® and Consolideck® SX available in both mineral spirits and alcohol bases? Where would you use alcohol-carried water repellents as opposed to mineral spirits?

A: Each carrier has pros and cons. In cases where bituminous joint material has been used, it is advisable not to use mineral spirits because it will attack the bituminous material. When surface temperatures are below 40°F, mineral spirits become sluggish and penetration of the water repellent into the masonry surface will be limited. In both of these instances, water repellents carried in mineral spirits can cause discoloration on the treated surface and it is preferable to use alcohol-carried products.

Alcohol-carried water repellents have their limitations, too, however. Because alcohol evaporates so easily on a windy or warm day, the water repellent may not penetrate the substrate deeply enough to provide adequate protection. On such days, a mineral spirits product would produce better results.

ProSoCo siloxane water repellents are available in both bases. However, standard products are mixed in mineral spirits, which is less expensive. When ordering, be sure to specify if you wish the water repellent based in alcohol.

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The news articles included in the ProSoCo News represent factual reporting of methods that some contractors have found effective. They are not intended to be a company endorsement of procedures but merely as possible alternatives in individual situations. Additionally, the use of photographs does not constitute an endorsement of the products.

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