

Surface Preparation for Historical Restoration Applications

Sponge Blasting™ System removes contaminants or coating from aged masonry substrates, rough metal alloys, cast iron, copper, tin, and bronze.



Sponge-Jet Sponge Blasting™ System is used to:

- Blast-clean interior and exterior trim, walls, molding, doors, ornaments, finials, statues, balustrades, columns, and stair-treads
- Remove surface contaminants and/or paint on masonry substrates with little harm to granite, brick, slate, and sand stone
- Blast-clean or profile on hard and soft metal alloys: cast iron, carbon steel, copper, tin and bronze

■ **Highly Controllable**

- Remove aged contaminants, stains, exfoliation, soot or graffiti with little harm to the substrate

■ **Environmentally Friendly**

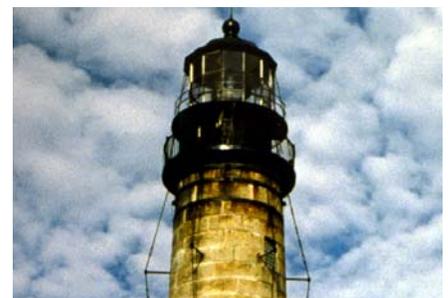
- Clean and strip, adding no leachable constituents, run-off or slurry
- Generate little dust and low media ricochet; minimizing impact on surrounding public activity
- Save on total job costs by recycling abrasive media up to ten-times

■ **Efficient**

- Air-driven technology, is often faster than hand-tooling or manual cleaning

■ **Safe and Easy to Use**

- Low dust and ricochet, non-hazardous, non-reactive, and non-toxic for added safety to equipment operators
- Low dust and low ricochet means easy use in tight, hard to access areas



Visit Sponge-Jet, Inc. at
www.SpongeJet.com
or call **603-431-6435**
to learn more about the
Sponge Blasting™ System

Restoring the Wisconsin State Capitol Building

Sponge-Jet is supplying Sponge Media™ abrasive to clean nearly 525,000 square feet of granite on the Wisconsin Capitol building.



Wisconsin state architects required a cleaning method that could remove exfoliation from decaying granite surfaces of the Wisconsin State Capitol (WSC). The project called for cleaning stone ornaments and statues, balustrades, columns, walls, stair-treads, and one of the world's three granite domes.

The architects and project manager set very high restoration standards due to the high profile of the building:

- **Environmentally Friendly** - The project, centered in the "green" state of Wisconsin, meant the process would have to be environmentally safe.

- **Safe for Workers and Employees** - The large number of state employees and the high level of visibility necessitated integration between project activity and ongoing building operations.

- **Process Sensitivity** - State architects and geologists would accept nothing less than a process which had the ability to clean the sensitive, Vermont granite without removing healthy, uncontaminated granite.

- **User Friendly** - The large size of the building required highly mobile, ergonomic cleaning equipment capable of blasting as high as four stories.

Results affirm that the Sponge Blasting System preserved the delicate substrate, produced minimal dust, was easily containable, mobile and recyclable.

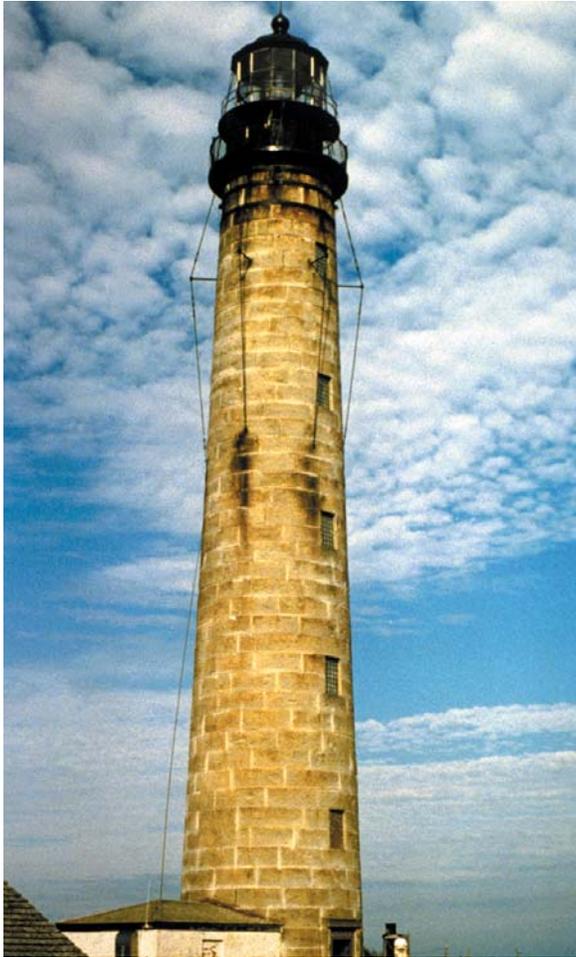
Original, carved-stone designs are now visible. Project managers and architects, WSC building employees and the general public are all astonished with the way the stone looks - and the way the project's dust has been contained during building operation.



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Renovating Petit Manan Lighthouse, Coastal Maine

Restoration contractor blast-cleans historic lighthouse; strips lead paint from cast iron, steel, copper and bronze, two-hundred feet high, without effecting environment



The US Coast Guard decommissioned the Petit Manan Lighthouse, located in a National Fish & Wildlife bird sanctuary, three-miles off the coast of Maine. Renovation of the lantern required stripping lead-based marine and hydro-poly-urathane coatings from steel and cast iron; cleaning bronze and copper on the roof deck, and removing rust and black stains from the structure's granite block. Even though conventional abrasives were specified, the project contractor chose the Sponge Blasting™ System:

- **Blasting Controlability** - Sponge Media™ abrasives are sensitive on bronze, copper and masonry substrates, yet more aggressive on steel and cast iron substrates - a range most conventional abrasives do not offer.
- **Environmentally Friendly** - Removing toxic, lead-based paint, meant the process had to be dry and easily containable. Status as a National Fish and Wildlife bird sanctuary, also required the blast media be easily recoverable and non-appealing to birds, unlike most agricultural abrasives.
- **Recyclable Media** - The high cost of transporting both abrasive media and spent media to and from the lighthouse, made recyclable Silver Sponge™ Media abrasive the favorite

because it lowered the total required volume; lowered transportation costs; lowered media handling and disposal costs.

The contractor was able to blast two-hundred feet high, recycle Sponge Media abrasives up to seven times - restoring the lighthouse to its original condition.



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Sponge Blasting System Cleans 17th Century Chimney

Renovation contractor uses Sponge Media™ abrasives to selectively remove deposits of creosote, pitch and lignum from antique Dutch building.



During a Gorinchem, Netherlands building renovation, the contractor was required by the building architect to selectively remove heavy deposits of creosote, pitch and lignum from the main chimney. The contractor chose Brown Sponge Media™ abrasive in place of wet blasting or hand-tooling to remove the contaminants from the chimney. The contractor made the choice based on the location and age of the chimney and the Sponge Blasting technology characteristics:

- **High Productivity Cleaning** - Sponge Blasting is an air-driven technology, which is often faster than hand-tooling or manual cleaning. The project was completed in just thirty-five minutes, yielding nearly two square feet per minute.
- **Easily Containable** - Part of the chimney was exposed to a busy public street, which meant dust suppression was critical and the entire cleaning process would have to be well contained.
- **Environmentally Safe** - Sponge Blasting is a low dust process. It captures potentially harmful pollutants, lowering risk of exposure to equipment operators and pedestrians.

■ **Controlability** - Unimpaired visibility allowed the blaster to control cleaning performance at the surface, and blast-clean without doing damage to the sensitive substrate.

As a result, the heavy deposits of creosote, pitch and lignum were removed without causing substantial damage to the 400-year old brick. In addition, black stains were removed leaving a completely rejuvenated finish.



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Cleaning and Graffiti Removal on an Amsterdam Brick Building

Maintenance management of an Amsterdam, Netherlands apartment building use Sponge Media abrasives to restore and clean environmental contaminants and graffiti from exterior brick walls



Typical of the early 20th century, a brick apartment building in Amsterdam, Netherlands suffered from environmental contamination. The exterior brick walls and granite blocks of the building accumulated thick, black material and suffered from vandalism.

High pressure wet blasting systems once used to restore the brick and mortar substrate are now being prohibited in fear that associated waste water may contain dangerous chemicals or heavy metal components, which could contaminate surrounding ground water. As a result, Brown Sponge Media™ abrasive, with Dupont® Starblast®, was chosen, by the project contractor, to strip-clean, and rejuvenate the surfaces:

■ **Blasting Controlability** - By varying the blast pressure and media/air mixture, the Brown Sponge Media abrasive was sensitive to the brick and mortar substrate, yet aggressive enough to remove aged, black contamination and graffiti.

■ **Ease of Handling and Clean-up** - The location of the project, in close proximity to surrounding buildings and

pedestrians, required a low rebound, easy to handle medium. The ability to recycle Sponge Media abrasive while blasting meant less accumulation of debris and easier cleanup.

The restoration contractor was able to selectively blast areas of graffiti and discolored brick and stone, with no problems. The optimal blast pressure was between 30 and 45 pounds [2.5 to 3 BAR], with stripping and cleaning rates between four to six feet per hour.



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Historic Restoration and Soot Removal from New York Church

Restoration contractor uses Sponge-Jet® Sponge Blasting™ System to blast-clean soot and accumulated dirt from decorative sandstone walls and trim in deco-gothic church.



Church officials searched for a quick, dry, sensitive process that would remove fire damage and aged contaminants from walls, ceilings and trim of the New York City landmark.

A local area restoration contractor was hired to evaluate and determine the most effective process. In place of manual cleaning or pressure washing, the Sponge Blasting system was chosen, based on several process characteristics:

■ **Sensitive** - Project engineers were concerned with maintaining acoustical and structural properties of the sandstone block, so the cleaning process would have to be sensitive. Pliant Sponge Media products absorb collision impact at the surface, lowering damage or stress-cracking. This highly controllable process, by which the cleaning agent hits the surface, also limits damage to the acoustical nature of such substrates.

■ **Clean and Easy to Pick-up** - The church would remain functional, thus requiring a clean, quick to set-up and clean-up process. Porous Sponge Media abrasives, on surface impact, flatten and expose its bonded cleaning agent, trapping most of what would have become airborne dust. Therefore the process is easy to contain and quick to pick-up.

■ **Fast and Efficient** - Air-fed Sponge Blasting is normally faster than manual cleaning because of the uniformity of media spray and ease with which blasting occurs.

Due to the superior surface finish, additional areas were cleaned and the project was still completed on time. Church officials, engineers, and the contractor were surprised with the speed of cleaning and the return of the beautiful, brown sandstone color.

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