
CONSERVATION TALK

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Questions from the Field: More Cleaning, Setting Compound, Preservation Assessments and Films from the National Center for Preservation Technology and Training (NCPTT)

Rotary Brushes for Cleaning Stone?

I'm still getting questions on cleaning. One that I include in this month's column deals with rotary scrubbers. An AGS member wrote asking me about a firm that is advertising using "only plastic bristle brushes." Yet the "brushes" are actually Nyalox rotary brushes used on electric drills. They claim such brushes are safe and the member wanted a second opinion. Another individual wrote about a local company that uses "a fine diamond studded pad" to clean stones and wanted to know if this pad was safe. Another asked about using the various 3M sanding sponges.

This answer is simple. No, none of these products is safe to use and no, none should ever be used on historic stone. Cleaning a stone is not the same as removing the surface of the stone. Unfortunately there are always contractors with no training in conservation who talk a good game. They like abrasive products because they are cheap, require no training, are easy for unskilled labor to use and maximize their profits. To avoid such companies, ensure that you hire a trained, professional conservator. Local stone companies are not conservators and do not have the training or knowledge to do this kind of work.

Back to those Nyalox rotary brushes. What is the rpm (revolutions per minute) of a typical electric drill? Most are variable speed, so from 0 to 3,000 rpm. What is the rpm of the human arm and hand? I timed a couple of people and it was around 60 rpm. Sure, you can go that slow with a drill, but will most people be satisfied? I'm betting not.

More importantly, take a look at the manufacturer's web site for Dico Nyalox. It turns out that this is a nylon with abrasive grit impregnated throughout each bristle. It is a nylon pad with resins holding some grade of silicon carbide mineral—an abrasive. What does the manufacturer recommend to be done with these brushes? Well, things like sand wood, remove paint, and round edges. Using these brushes is just like sand blasting your stone.

This harsh approach has significant potential to damage stones, especially those that are friable, sugaring, flaking, spalling, or have other problems. All abrasive techniques, including high pressure water and sandblasting are to be avoided. Contractors recommending them should be similarly avoided.

Use of Pressure Washers

Another question I received had to do with my recommendation to never use a pressure over 90 psi to clean stone. The individual asked whether a pressure washer could be used as long as the pressure remained below 90 psi.

My advice was based on typical municipal water supply pressures of between 50 and 100 psi. Obviously, a sugaring marble or spalling sandstone will be damaged even at 90 psi. In contrast, a new polished granite can easily withstand 90 psi. Yet, even the least expensive pressure washers for sale at big box stores typically advertise pressures of 1500 psi and commercial models can attain pressures of 7000 psi. I can't image anyone with a pressure washer having sufficient restraint to not operate it at full force. Also, if you can clean with simple water pressure, why spend the money, time, and effort to lug around a pressure washer?

Like abrasive pads, pressure washers speed the process and maximize the profits. They abrade the surface of the stone. Quick, simple, easy . . . and disastrous.