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Spongeblasting

*Article by Edwin Heathcote of Church Building Magazine.*

The notion of spongeblasting seems to contain an internal contradiction. Somehow, of all materials which one could blast with, sponge seems among the most unlikely. In fact this rather absurd juxtaposition of terms is precisely what makes this new cleaning technique a significant development in restoration and conservation.

There has recently been much criticism of abrasive cleaning techniques and many forms of blasting have now been almost completely abandoned in the light of findings which show that not only do they remove much material from the surface but that the abrasion can also reduce the ability of the cleaned surfaces to resist water and frost by removing the stabilising layer. Other techniques have taken their place and although effective they often produce a considerable mess as a by-product of the process, whether in terms of dust particles or water. This is where this new addition to the restorer's armoury scores highly against its competitors. Where churches and other historic buildings are often packed with valuable and sensitive items from fabrics and paintings to organs and furniture, a cleaning process, which involves very little dust and mess, will be a very welcome arrival.

The technique is simple and its name, spongeblasting, is a very literal description of the operation. The surface to be cleaned is bombarded with particles of a sponge medium. The particles are mixed with compressed air and propelled through a standard blasting hose and nozzle. The sponge particles have an open-cell structure and as they collide with the substrate, they flatten into a compressed shape. Bouncing back at low velocity from the surface and reforming their original shape they take the dust, dirt and particles while the sponges themselves are easily gathered, fed through a grader to release the particles, and subsequently can be reused up to ten times. Abrasive materials can be added to the sponges to give higher grades of cleaning, these can include plastic, chips, garnet and aluminium oxide.

The illustration shown here are the doors of Whalley Abbey in Lancashire, which were recently the subject, cleaning using the spongeblasting technique. The Abbey underwent extensive

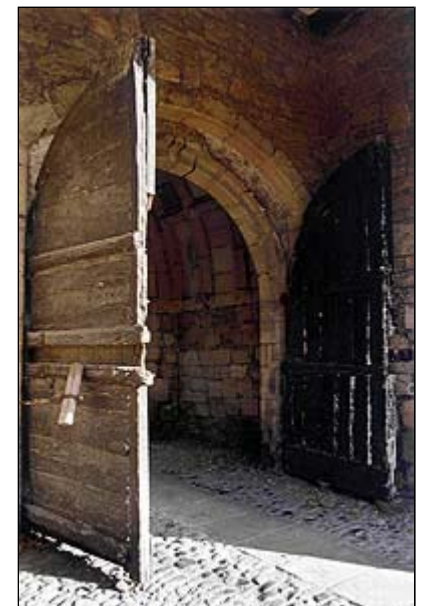
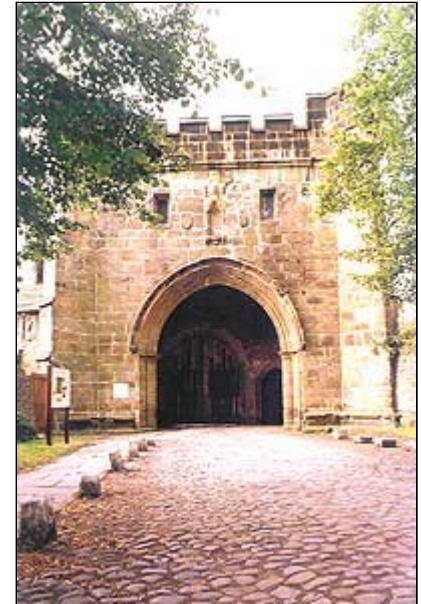


restoration as part of celebrations of 700 years of worship there. The gates themselves date from the 14th Century and are of oak, which has been heavily coated with bitumen and lime. Both wear and attack by wood boring beetle had inflicted considerable damage on the material.

Specialist conservation architect Peter Skinner decided to use the new technique of spongeblasting to clean the doors and expose the iron hinges and the delicate surface of the original timber. The architect contacted David

Blenkinship of Spongeblast, one of the UK's leading operators of the technique and employed spongeblasting as an alternative to sandblasting which could have been too drastic an approach. The doors were treated using a light etching sponge for the timber and etching sponge applied to the wrought-iron door furniture. The architect's satisfaction with the technique is shown by his use of spongeblasting on a new job at Great Budworth Church in Cheshire, which is also having, its doors treated. The technique can be used for removing graffiti, contaminants and corrosion products, smoke damage, epoxy varnish and paint. It can be applied to surfaces from protective industrial coatings (It has been used on offshore work and within the nuclear industry) to those as sensitive as wallpaper.

Much can be made of spongeblasting's environmental friendliness. Unlike chemical cleaning and other techniques, it does not create by-products, which are hard and costly to dispose of, or damaging to the environment. It is free of leachable halogens and volatile organic compounds, neither does it leave residue which can be responsible for subsequent corrosion on a newly exposed surface. New wonder solutions are a frequent occurrence on the conservation front



and spongeblasting has to be added to their ranks. It is early to judge its claims as the solution to all architectural cleaning problems, but, from the existing evidence and its fine record as a clean solution, in both immediate and environmental terms, it would seem to be a sensible solution for a lot of jobs. Furthermore, the necessity of moving objects and furnishings which might be damaged using messier techniques has obvious cost implications which may be enough to swing the argument in its favour in many cases. It seems to be a valuable new tool.



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