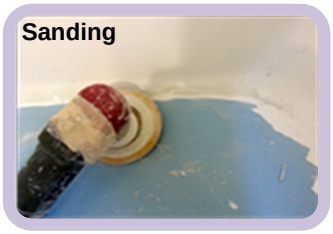
Successful Bathtub Stripping using Sanding as an Alternative to Methylene Chloride

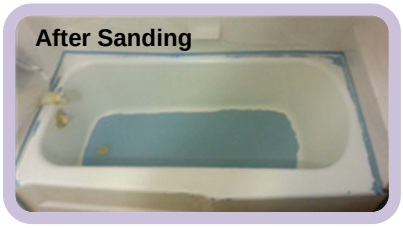
Eliminating a potentially fatal health hazard



Jon, owner of The Seattle Bathtub Guy, has successfully grown his small bathtub refinishing business using scraping and sanding to prepare bathtubs instead of chemicals like methylene chloride that can be extremely hazardous. Methylene chloride (MC), a common ingredient in consumer and industrial strippers, is known to have caused the deaths of 13 workers during bathtub stripping[1]. This is the second small business profile in a series[2] exploring alternatives to methylene chloride-based strippers.

Sanding: A chemical-free approach to bathtub stripping

Jon's approach to stripping bathtubs is rooted in his experience sanding and spray painting vehicles in the auto collision repair industry. His method relies on the fact that the breakdown of a bathtub's finish comes from impact or wear of the finish, not failure of the finish itself. According to Jon, unless there is a widespread problem, only damaged sections need to be removed. Loose or peeling sections of the topcoat are initially removed with a razor blade. Using either an orbital sander or hand sanding, the damaged edges are feathered with 180 grit sandpaper and sprayed with water to control the dust. In some cases, when the topcoat does not feather well, adhesion of the finish is considered poor and the entire bathtub is sanded with 40 to 80 grit sandpaper. Full removal of the top coat is needed only about 10% of the time. Jon notes that sanding will not damage porcelain or enamel-coated bathtubs, but that fiberglass bathtubs require care when sanding. Debris is removed with wet towels, while dust is removed with a damp shammy and tack cloth. Sanding and preparing the surface typically takes 1 to 1 ½ hours.



Bathroom ventilation and personal protection

While scraping and sanding does not use hazardous chemicals for stripping, chemicals in the topcoat still require:

- Portable ventilation. Air contaminated with dust and chemical vapors should be vented outside the home.
- Respiratory protection. Full-face supplied-air respirators are the best.
- Chemically resistant gloves appropriate for your chosen top-coat.
- Tyvek clothing when appropriate.

Benefits of scraping and sanding

1. **Reduce health hazards**. Scraping and sanding eliminates the odor and health risk associated with chemical strippers that may contain chemicals like MC or the reproductive hazard N-Methyl-2-Pyrrolidone (NMP).
2. **Less toxic mess**. Stripping a bathtub will produce some mess no matter which method is used. Dust and debris generated from sanding can be controlled using water, shammies, and local exhaust ventilation.
3. **Improve efficiency**. Chemical strippers take time to work, often require multiple applications, and may require some sanding for complete removal of the finish. Scraping and sanding allows the experienced professional to quickly determine how much time and effort is necessary to prepare the bathtub. Full stripping on all jobs is not needed.
4. **Reduce cost**. Jon's experience is that scraping and sanding is "faster, simpler, safer, and therefore less expensive". The safety standard for MC-based strippers (WAC 296-62-07470 'Methylene Chloride') is extensive and costly, in part because medical surveillance and annual physical exams may be required. With MC alternatives, like scraping and sanding, these costs are avoided.

Get Help: Free assistance from WA State Department of Labor & Industries' SHARP Program, 1-888-66-SHARP or L&I's Division of Occupational Safety and Health (DOSH) Consultation 1-800-423-7233

[1]CDC, Fatal Exposure to Methylene Chloride Among Bathtub Refinishers – United States, 2000-2011. MMWR 2012; vol 61(7): pp119-122. http://www.cdc.gov/mmwr.
[2]SHARP, Successful Bathtub Stripping with Benzyl Alcohol as an Alternative to Methylene Chloride-based paint strippers. (#81-8b-2012) www.lni.wa.gov/Safety/Research/Pubs/#General.

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