

**FYI No. 10**

**BURNING THE PAINT OFF**

The Dangers Associated with Torches, Heat Guns,  
and other Thermal Devices for Paint Removal

Updated July 2000

Buildup of old paint on wooden, masonry, or metal surfaces can inhibit the ability of new coats of paint to adhere. Buildup of paint on millwork can diminish the texture and depth of the historic materials. In some cases, excessive layers of old paint can inhibit a building's ability to breathe. Many rehabilitation and restoration projects, accordingly, call for removal of old paint as preparation for new finishes. Some contractors find that thermal devices, including heat plates, heat guns, and open-flame butane or propane torches, are effective tools for paint removal.

These methods are extremely dangerous. Buildings catch fire because of these practices. Irreplaceable historic buildings have been destroyed and lives have been threatened. Despite the continued warnings of the State Fire Marshall's office, the Department of Historic Resources, and the Department of the Interior, the number of important buildings threatened, damaged, or destroyed by this practice keeps growing:

--In January 1990, workers were using torches to remove exterior paint from St. John's Church in Richmond. The building caught fire. The workers had secured the necessary permit, and they had a fire hose ready, which they used to extinguish the blaze. Fortunately, damages to the building were limited to \$1,000, and there was no personal injury.

--On 28 February 1990, a worker was using a propane torch to remove paint from interior woodwork in the Executive Mansion in Richmond. The heat buildup set off the building's smoke detectors. Although the architectural specifications for the job had been carefully written to prohibit the use of torches, the worker disregarded instructions. Fortunately, Governor Wilder was not in the building, and there was no personal injury. Firefighters were on the scene in time

to prevent any damage.

--On 24 April 1990, a worker was using a torch to remove paint from a metal cornice of the Stonewall Jackson School in Richmond. The torch ignited the wood backing behind the metal cornice, and the roof of the building was destroyed in the subsequent blaze. Damages were estimated at \$1.2 million. One firefighter was injured.

--On 1 December 1990, a contractor was using a blowtorch to remove paint from a window frame in the White House in Washington, D.C. The old wood ignited and a fire started in the room adjacent to the Oval Office. Fortunately, President Bush was not in the building, and prompt action by firefighters prevented any significant damage. There was no personal injury.

The Virginia Fire Prevention Code prohibits the use of torches and other open-flame tools for paint removal without a permit. When such a permit is granted, workers are required to have an approved fire extinguisher or fire hose at hand. Workers are also required to stay on the scene for one hour after the paint burning is completed. Even under ideal circumstances, though, when permits have been granted and the workers take appropriate precautions, the danger inherent in the use of open-flame tools is extreme. Property owners are advised never to use open-flame tools, or to allow the use of open-flame tools on their buildings. Architects are advised never to allow use of open-flame tools in projects under their supervision, and to write project specifications banning the use of such tools. Contractors and craftsmen are advised never to use such tools.

The danger is greater on old buildings. Flammable debris, including animal nests, sawdust, lint, and cobwebs, accumulates in joist pockets, attics, and other recesses. This debris can be easily ignited by blowtorches, and it can also be ignited by the lower temperatures created by heat plates or heat guns. Fires started in such recesses can smolder for hours before flames break through to the surface.

Even if the surface to be stripped of paint is a non-flammable material, such as metal or masonry, torches or heat guns can ignite nearby flammable materials. The fire at the Stonewall Jackson School was caused when torches ignited the wood backing behind the metal cornice.

If paint removal is indicated, property owners should specify safer measures for removing paint. The Department of the Interior's Preservation Brief no. 10, "Exterior Paint Problems on Historic Woodwork," is available without charge from the Department of Historic Resources. This publication describes the advantages and disadvantages of a wide range of paint removal techniques.

The Department of Historic Resources can answer questions on safe paint removal procedures. Contact Bill Crosby at (804) 367-2323 for additional information.