



## Controlling Fire and Smoke Damage In Educational Institutions

Fires can cause devastation in any building, but educational buildings are particularly vulnerable. Even though the direct fire damage may be contained in a small area, super-heated smoke can carry contamination throughout the building, creating the need for prolonged clean-up as well as great expense before the building is safe to reoccupy.

### What can you do to control the problem at your educational institution?

**Prevent the fire.** Make every effort to prevent a fire from occurring in the first place. Promote good housekeeping practices, ensure that mechanical equipment works properly and receives preventive maintenance, properly control flammable liquids, and ensure that the electrical system is in good condition and working properly.

**Protect against fire and smoke spread.** Evaluate your building(s) and take measures to contain heat and smoke should a fire occur.

- Many school buildings are compartmentalized by concrete walls and non-combustible construction, which offer substantial barriers to fire. Make sure these barriers are in good condition and that wall/ceiling openings are properly protected. Seal the areas around penetrations for piping and electrical conduits using approved materials to help contain smoke. Larger openings may need a fire shutter equipped with a fusible link for proper protection.
- During a fire the heating-ventilation-air conditioning (HVAC) system can spread smoke throughout the building just as easily as it circulates fresh air during normal conditions. In many schools, the ventilation system is interconnected and shuts down its fan motors when the fire detection system activates. This is a critical feature but it is only part of the solution because the ductwork still provides a path for smoke to spread. Installing smoke dampers that close and effectively seal the ducts when the fire alarm activates will provide optimum protection.
- Fire and smoke doors should also be part of your protection system. Be sure the doors operate properly and that they are kept closed. If hallway traffic requires that smoke doors be kept open, the doors should be held open by electromagnetic devices interconnected to the fire detection system.

**Provide early detection.** To successfully limit damage, it is important to detect the fire early and effectively transmit the fire signal to a central station alarm company that will in turn notify the fire department.

Begin by evaluating your detection system. If your detection system covers only a portion of the building, extend the system to provide 100% coverage because a fire can start anywhere. Also ensure that the fire alarm is in working condition and require staff members to check the annunciator panel daily. Consult with a qualified alarm service contractor to set up a schedule for weekly, monthly and semi-annual testing. In addition to heat/smoke detectors, make sure your testing regimen includes smoke doors, dampers and the HVAC interconnect. Always be sure to promptly correct system problems to help maintain system effectiveness!

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Consult an attorney or other specialist to obtain advice with respect to any particular issue or problem.

