ADVANTAGE

Diplomax℠
The Insurance Package for Private Education

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Protecting Systems from Winter Freeze-ups

The potential for freezing is a serious problem in most parts of the country, and a definite concern in the Northeast where temperatures fluctuate daily around freezing and often dip far below that point. The consequences of freezing are plentiful. Burst pipes can cause tens of thousands of dollars in property losses and loss of occupancy for months. Valuable documents and other papers may be damaged or destroyed. Precious works of art may be damaged. Food stocks may have to be discarded. Computers and other electronic equipment may require lengthy rehabilitation or replacement.

Fire protection may be compromised. Revenues may be lost. There will be the inevitable disruption and extra expenses. No one should discount the affect on personnel and morale.

Fortunately, the Diplomax insurance program typically will pay most of the costs associated with

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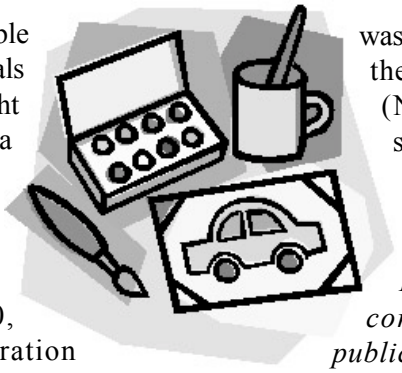
Artwork and Other Decorative Materials

The dangers posed by combustible decorative and acoustical materials was prominently brought to everyone's attention a few month's ago by the spectacular fire at The Station nightclub in West Warwick, Rhode Island, February 20, 2003. That conflagration resulted in the deaths of a hundred people. Sixty years earlier a fire at another nightclub, Boston's Cocoanut Grove, took the lives of 492 people. A major cause of the loss of lives in that fire was also attributed to decorative materials, including fake palm trees and draperies. The November 28, 1942, fire was the principal inspiration behind the national Life Safety Code (NFPA 101), which is used statewide in all of the New England states. *(The latest version of NFPA's Life Safety Code and LSC Handbook is 2003. For a comprehensive list of NFPA publications, visit their Web site www.NFPA.org.)*



The severity of fires involving decorative materials is almost always preventable. This article discusses loss prevention techniques and best practices to mitigate the hazard of fire in schools, dormitories, and resident halls. The Diplomax package program

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Inside this Issue:

Happenings!

Diplomax Welcomes 12 New Members!

The Diplomax program is pleased to announce twelve new members as of July 1, 2003 to our private school insurance program. With many school budgets under pressure today, we are pleased they have chosen Diplomax to service their insurance needs in the future. Welcome all new members!!

Diplomax is growing strong, now with

174

members throughout all six New England States!

Protecting from Winter Freeze-ups, cont'd

losses, but the best approach is to be prepared and avoid the hazard through reasonable proactive measures. Policy coverage is contingent on occupancy and reasonable care to prevent losses such as maintaining heat or draining systems when temperatures might cause freezing. Loss control should always be a priority.

Recommendations to Avoid a Freezing Loss
A sound loss prevention program is essential to minimizing the probability of a preventable freezing loss. As a minimum we recommend you take the following steps to protect your property.

- Before the winter season, inspect all insulation throughout the facility for damage and proper sealing. That includes building insulation, piping, windows and doors, weather-tight hardware, skylights, water tanks, and heating systems. Broken glass and damaged roof tiles or shingles should be replaced.

- Clean, inspect, and test the heating system and flues. Ensure that all ventilation dampers, switches, and controls are in working order. Lubricate equipment where necessary. Replace corroded or damaged components. This work should be performed only by a qualified maintenance staff or a licensed HVAC contractor. Fuel supplies should be sufficient for at least one week.

Locate all areas where the temperature may fall below 40^{0}F. Equipment and piping in these areas are at risk of freezing.

- Emergency generators should be inspected and tested according to the manufacturer's instructions. Fuel should be fresh and tanks full.

- Determine if any pipes are in unheated, unprotected spaces where freezing may occur. Either provide area or direct heat or insulate the

pipes to prevent freezing. If necessary, drain these systems. Pipes in unheated attics can cause a lot of damage to all floors of the building. Check crawl spaces, stair towers, interior and exterior roof drains, areas beneath false floors or above false ceilings, and all unoccupied areas.

- Monitor all areas to ensure a minimum temperature of 40^{0}F. Sensors and alarms may be used in less frequented areas.

- Identify control and sectional valves on all systems so that, in the event of a heating failure, they can be shut off and critical systems drained.

Sprinkler Systems
Automatic sprinkler systems are crucial for life safety and property conservation. To be effective, they must be properly designed, installed, maintained, and periodically tested. If you are installing a new system, there will be various permits and inspections required by code enforcing authorities.

One of the criteria will inevitably be assurance that the system is properly protected from freezing. But mistakes do happen. We suggest that you do not rely entirely on the project architects and engineers. Get closely involved in the process; after all, who is best qualified to know how your facilities will operate? Will the heat be turned off in the gym or dormitory during the winter break? What will happen if there is a power failure for three days in the middle of a winter blizzard? Will such circumstances cause sections of the sprinkler

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Artwork & Decorative Materials, cont'd

covers fire and related property losses. However, there can never be enough coverage for injuries, loss of life, or damage to reputation. Thus it is most important that attention be directed towards minimizing combustible displays and decorative furnishings wherever possible.

Code-setting organizations, such as the National Fire Protection Association (NFPA) and the International Code Council – Building Officials and Code Administrators (BOCA) – have established standards for adoption by government agencies, including state and local authorities. These rules are frequently adopted as official building codes, often with some state or local modifications. Rules may be revised by the standard setting organizations, but local authorities may not have adopted the latest revisions. Older structures may be grandfathered to an earlier version of the standard; even so, consideration may be warranted to bringing the facility up to the latest code requirements, regardless of the grandfather provisions. It is important to check with the local authorities to ensure compliance with local or state codes.

Because codes vary from jurisdiction to jurisdiction, we cannot specify exactly what each school must do. However, as a general practice, decorative materials, including artwork, should meet the following widely accepted criteria (be sure to check with code administrators for specifics).

- Flammable materials, wall coverings, furnishings, decorations, or paints should not be used. Shellac and lacquer are considered highly flammable.

- No materials, coverings, furnishings, decorations, or paints should be used if by their nature or amount they would endanger egress by causing a rapid spread of fire, heavy smoke, or toxic gases.

- If items are treated with flameproofing or fire-retarding agents, NFPA standard 701 should be followed. Permanent records of the agent, treatment procedure, date, and materials treated should be kept in the school along with a flameproofing certificate, where applicable. In some cases, testing may be required.

- No more than ten percent (10%)* of a wall surface in a classroom, shop, or laboratory should be covered with combustible coverings or hangings, including artwork, draperies, and curtains. If larger areas are to be covered, flame-retardant or non-combustible materials should be used.

- Loosely attached wall coverings, draperies, and cloth hangings in hallways, stairwells, and exitways should be noncombustible or treated with fire-retarding agents. In some jurisdictions, no combustible materials may be used in assembly areas.

- Curtains and draperies should meet the NFPA 701 standard. Only non-combustible or flame resistant materials should be used. Fabrics treated for stain resistance may impair flame retardant treatment. Dry cleaning may diminish the effect of previous flame resistance treatments. The age of the fabrics is also a factor; as the fabrics age, the treatment may become less effective. Some currently manufactured draperies and curtains are made from fire resistant synthetic fabrics that never lose their fire retardant properties, even after dry cleaning. Draperies and curtains should have a flame retardant label approved by the local code authority.

- Seasonal decorative materials, e.g., corn stalks

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Caution!

Minimize the amount of combustible materials in all school and dormitory occupancies and common areas.

and be aware.....

Fire retardant agents may lose their effectiveness over time or with cleaning.

Protecting from Winter Freeze-ups, cont'd

system to freeze?

Some facilities may have been built many years ago. Have they been modified? If so, are the sprinklers adequate for the current configuration? Will sections of the sprinkler system that were once safe from freezing freeze in the current environment under certain circumstances?

Protecting Sprinkler Systems from Freezing
In general, all components of automatic sprinkler systems are usually installed in heated areas to prevent the water in the system from freezing. In some situations, small sections of the system may run through unheated areas — generally defined as capable of dropping to temperatures below 40^0F. When that is the case, those sections of the system may be protected by an antifreeze system.

Antifreeze systems, while logical from a fire protection point-of-view, may not be permitted in some jurisdictions where there is the possibility of contaminating the public water supply. When permitted, antifreeze systems are typically restricted to 40 gallons or less. In these subsystems, the system components in the small, unheated areas are filled with an antifreeze solution and connected to a water supply. The initial discharge from an open sprinkler is the antifreeze, followed shortly by water from heated areas.

For public water supplied systems, the most

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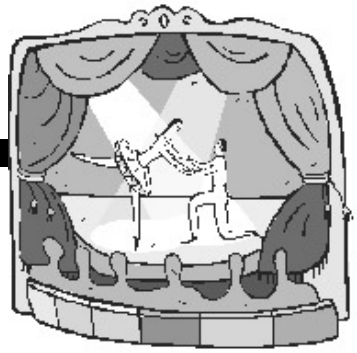
If Freezing Occurs.....

Thawing pipes and equipment should only be done by qualified persons. Severe injuries and fires may result from improper work.

Use electric heaters or non-flame devices whenever possible. If torches or other open flame devices must be used, take the following precautions:

- ☛ Notify a superior that you will be using a torch to heat frozen pipes. Get permission. Notify the fire department if there is any chance that a fire might ensue before thawing the pipes, or if required by local fire codes. Do not use open flames if flammables, e.g., gasoline, are present.
- ☛ Remove all combustibles from the area. Use flame retardant sheets or blankets where removal of combustibles is impossible, e.g., to protect nearby wood walls.
- ☛ Have one or more fire extinguishers rated 2-A, 10-BC nearby and between you and the exit from the area.
- ☛ Keep a fire watch for at least a half hour after all flames have been extinguished. Inspect the area before leaving. If there is smoke, find the source and extinguish any smoldering combustibles, if you can do that safely; otherwise, call the fire department immediately. Do not leave the area prematurely.



Artwork & Decorative Materials, cont'd

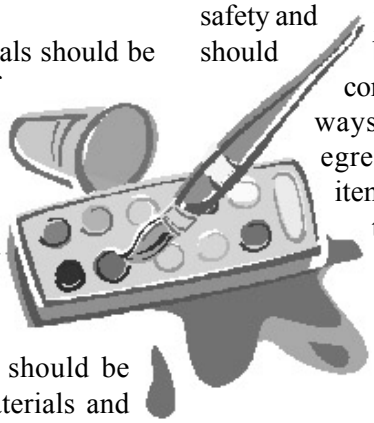
Training, inspections, and security are critical for fire and life safety.

or vines, and plastics and foam must meet the same standards as other decorative items. Artificial wreaths may be used indoors if fire retardant; natural wreaths may be used on exterior building walls and doors. Consult with the local authorities before using plastics – including Christmas trees – foams, acoustical materials, or agricultural products in school or dormitory facilities.

- Art paper used in classrooms should not be purchased unless it is certified to be flame resistant.

- Decorative materials may not be placed over or conceal exits, exit signs, exit lights, fire alarm stations, fire extinguishers, or doorways.

- Where possible, decorative materials should be restricted to the center sections of walls, leaving at least four feet or twenty-five percent (25%) of the wall on either end, whichever is greater, as free as possible of decorative materials to mitigate the spread of flames to adjacent walls.



- Clearances of two feet or more should be maintained between decorative materials and ceilings and three-feet or more from doors and windows, unless approved otherwise by a local code authority. No decorative materials should be placed directly on the ceiling.

- Where feasible, student artwork or faculty-provided materials should be two dimensional and firmly affixed to the wall.

Private schools with resident halls or dormitories should take additional steps to minimize the fire hazard. We strongly advocate that the schools have written safety policies and procedures and that they train all resident advisors and others who supervise these facilities to recognize, look for, and correct or report fire hazards. Formal inspections should be conducted at least once a semester using checklists provided by the school. Inspections should include explosives, flammable and combustible materials, sources of ignition, operational status of emergency lights and equipment, smoke detectors, fire extinguishers and sprinkler systems, faulty wiring, disabled equipment or alarms, fire escapes, blocked means of egress, fire doors, excessive or unapproved decorative materials, electrical equipment, HVAC and cooking equipment, and special problems or conditions.

Residential students should be instructed on life safety and proper housekeeping. Students should be prohibited from installing combustible or flammable materials in ways of egress or blocking ways of egress, and from keeping hazardous items in their rooms including halogen torchi?re lamps, which can reach 1,400^{0}F near the bulb, space heaters, hot plates, smoking materials, and candles. A policy should be in place that provides for discipline, fines, or expulsion for any student that knowingly creates a life-threatening hazard or situation.

Each building should be equipped with a floor diagram outlining routes of egress. Periodic fire drills should be conducted in every building. The frequency of such drills may be mandated by state or local codes.

Finally, we would be amiss if we did not relate that arson is a leading cause of school fires. To lessen the possibility of arson, strong security measures should be enforced in all school facilities.

Protecting from Winter Freeze-ups, cont'd

acceptable antifreeze solutions are pure glycerine (U.S.P. 96.5 percent grade) or propylene glycol-water mixtures. A 50/50 glycerine water solution will protect to temperatures of –15^{0}F; a 70 percent glycerine/30 percent water mixture will protect to temperatures of –40^{0}F. A 30 percent propylene glycol/70 percent water solution will protect to a temperature +9^{0}F; a 50/50 mix protects to –26^{0}F; and a 60 percent propylene glycol/40 percent water mix protects to –60^{0}F. If an antifreeze solution is used, test it with a hydrometer or equivalent device for proper concentration (specific gravity) before the winter season. Add concentrate if needed to protect to the desired freezing temperature.

For larger areas, where system components may be subjected to temperatures below 40^{0}F, the appropriate way to protect against freezing is to use a dry-pipe or engineered preaction system. Preaction systems maintain pressurized or unpressurized air in all components and piping in unheated areas. Sensors detect fires, open valves, and allow water to flow in the sprinkler piping, thereby providing water to any open sprinkler heads.

Unless otherwise indicated, wet systems should be used in all areas where the temperature in the piping can be maintained at a minimum of 40^{0}F. If dry or preaction systems are necessary to keep some sections of the sprinkler system operational, they should be used in conjunction with wet systems in other areas. Wet systems are quicker to respond to open sprinkler heads and thus provide the best opportunity to suppress a fire in its incipient stage.

In some instances, automatic sprinkler piping or components pass through unheated passageways, cold rooms, or other cold areas. This is especially true for system risers, feed mains, and similar hardware. In such cases, these system components should be insulated or otherwise protected to prevent freezing.

Sprinkler and standpipe systems should have self-draining devices, especially for water gongs and fire department connections. Inspect them to ensure they are functioning properly.

Hydrants too may freeze. If a hydrant at or near your property is leaking, it may freeze in the winter and become unusable. Report it to the fire and water departments.

All sprinkler valves and controls should be tagged and tested regularly by a competent servicing and inspection contractor. Service records should be maintained on file at the school and by the service contractor.

Before designing, constructing, modifying, or operating any sprinkler system, consult with the local authorities to ensure code compliance. Fire and health codes, while somewhat standardized, are not uniform around the country.

Despite periodic official city inspections, we think it is safe and wise to advise our clients to have an independent property protection survey or inspection conducted of all facilities.

Risk Management Programs & Workshops

Session	Date	Location(s)
Boiler Maintenance		
Hartford Steam Boiler	October 21, 2003	Holiday Inn, Dedham, MA
Mold		
Mold Symposium	October 22, 2003	Holiday Inn, Dedham, M
Employment Seminars		
Employment Practices	November 20, 2003	Holiday Inn, Dedham, MA
Discrimination	December 4, 2003	Holiday Inn, Dedham, MA
Workers' Compensation Clinic	tbd*	
Minimizing Abuse & Molestation Exposure	tbd*	

***Please note:** Check our website - www.metrogard.com - for new dates and/or changes. Be sure to enroll and RSVP for specific topics and dates, as seminars fill quickly. Massamont will attempt to post any notifications of last-minute changes and/or cancellations on the site as well, so please check prior to your departure. Thank you.

Non-Diplomax members are welcome to attend!!

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