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Preservation Tips

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Special points of interest:

- OSHA has provided a publication specially geared to ensuring that buildings are designed to promote fire protection.
- The Fluke 975 AirMeter provides temperature, RH, air velocity, and CO_2 levels in one instrument.
- Concern only with operations costs leads to mold problems according to ASHRAE study and policy paper.

Inside this issue:

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Preserving the Past for the Future

OSHA Offers New Publication on Building to Survive Fire

OSHA has a new publication, *Fire Service Features of Buildings and Fire Protection Systems*, that helps integrate fire safety features in buildings design. This publication can museum, library, and archives designers better understand how to integrate fire safety features into building design. It can also help ensure that staff responsible for the preservation of these collections better understand how fire service operations.

Chapters include information on the building and site design, sprinkler design, standpipe operation, fire alarms and communication systems, emergency power systems, and building ventilation. The design chapter provides critical information to architects – and it also helps staff better understand the needs associated with fire protection. For example, the publication explains the interaction between fire hydrants and the different types of equipment used in the fire service. This helps make clear how critical proper fire hydrant locations are to the protection of cultural heritage institutions.

In terms of critical evacuation issues, the publication help designers and staff alike better understand stairway access. While stairways are critical to evacuate staff and patrons, they are also essential to allow fire service personnel reach the fire with necessary equipment. Thus, stairs must not only be sufficient to get people out of your institution, but also adequate to allow fire fighters to enter the building at the same time.

The chapter on sprinkler systems doesn't cover the typical ground of discussing the different types and evaluating their suitability for museums, libraries, and archives. Rather it provides a quick introduction and provides the reader with the relevant standards.

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Product Spotlight — Fluke 975 AirMeter

The Fluke 975 AirMeter combines five critical air monitoring tools into one rugged and easy-to-use device. It is designed to help building personnel optimize HVAC ventilation settings for ASHRAE 62 recommendations, monitor conditions that are critical to a good environment, and quickly address occupant concerns with environmental conditions.

The equipment measures air temperature, air velocity, relative humidity, and CO_2. Less likely to be used in museum, library, or archive settings is its ability to measure CO levels (although this could be handy in some situations).

Accuracy is about 1°F and 2% RH — adequate for most preservation needs.

The downside — a $2,500 price tag that probably limits this equipment to larger institutions. Accessories such as a velocity probe ($400) and a calibration kit ($550) further add to the cost.

For more information, http://us.fluke.com/usen/products/Fluke+975.htm.

Fire at the Owensboro, Kentucky Fine Arts Museum.

Building to Survive Fire, cont. from pg. 1

It also discusses design issues such as zoning, water supply control valves, and fire pumps.

The material in *Fire Service Features of Building and Fire Protection Systems* is appropriate for all fire service organizations. Many of the discussions can help during responses for other emergencies, such as hazardous material releases, emergency medical care, non-fire rescues, and terrorist events.

This is an excellent publication that should be on the must-read list of every building committee and architect. It provides plenty of examples that illustrate how poor design and inadequate thought has rendered critical life (and collection) saving provisions virtually useless – hydrants that are placed so fire lines must be kinked (with a reduction of water), standpipe connections that are impossible for the equipment to reach, drives that are inaccessible to fire equipment, access points that hinder fire personnel from getting through with their equipment, and signage that is impossible to read in emergency conditions.

Hopefully, this publication will also remind museums, libraries, and archives of their responsibilities to provide a safe and healthful workplace for their employees. Other employer responsibilities include training in fire emergencies and evacuation.

The publication is available online at http://www.osha.gov/Publications/fire_features3256.pdf.

Gaps in Disaster Preparedness

Consistent failures include not updating plans, failing to test plans . . ., and failing to train staff.

A survey was recently commissioned to discover trends in disaster-preparation efforts in several large industries — commercial real estate, healthcare, energy, chemical, entertainment, and transportation. While museums, libraries, and archives weren't included, we can still learn from the results. Key findings include:

- Within the past year 77% of all respondents had updated their disaster-response and recovery plans.
- In commercial real estate 40% had never conducted exercises to test their plans.
- More than a quarter (28%) in commercial real estate fail to train employees; in the entertainment industry over 37% had never trained employees.
- While employees at large companies (100,000+ employees) were the most satisfied with their plans, even there only 44% were satisfied.

This reveals that even large business has the same problems as museums, libraries, and archives. Consistent failures include not updating plans, failing to test the plans to ensure they actually work, and then failing to train employees to know what to do, how to do it, and when to do it.

The consequences of inadequate moisture control in a historic structure can be severe.

Control Mold . . . Or Control Energy Costs?

A consistent criticism of a preservation environment has been the associated cost. Unfortunately that often leads to mold . . . and significant damage to collections.

One means of responding to this myopic view is to cite the findings of ASHRAE — the American Society of Heating, Refrigerating, and Air-Conditioning Engineers. Realizing that too often energy conservation goals conflicted with sound moisture management, resulting in significant mold damage, ASHRAE issued a position document that explains that sound moisture management must take precedence over energy cost savings.

The document includes a number of recommendations, including that buildings be designed to resist water penetration, that building system integrate methods of drying to prevent moisture accumulation, that buildings have proper ventilation, that building design take into account occupant uses, that buildings have operation and maintenance plans, and that humidity be controlled.

The document, *Minimizing Indoor Mold Through Management of Moisture in Building Systems*, is an essential place to begin both the planning of new systems and also understanding how to recover from current problems

The document is available online at http://www.ashrae.org/doclib/20058285945_347.pdf.