Department of Licensing and Regulatory Affairs
Bureau of Fire Services

Fire Marshal Bulletin – 3

ENERGY CONSERVATION PRECAUTIONS

Continuously rising costs of heating fuels and concern over depleting some of these resources has caused greater focus on energy conservation.

Programs on the federal, state, and local level have been implemented to upgrade insulation, air handling and glazing in many facilities. However, fire safety has not been properly addressed in all cases and due to some improper installations, building occupants are being exposed to unnecessary danger from fire.

The following information should be of assistance to anyone anticipating building alterations to increase energy efficiency.

Insulation

1. Additional insulation is not permitted when it violates the integrity of a required time rated assembly of materials or the combustible and flammable classification required.
    a. A time rated structural assembly, for example, is tested under exacting conditions. The application of additional insulation above or within such an assembly would retain more heat during a fire and cause premature failure of the structural system.
2. The application of combustible insulation which also serves as an interior finish is a vital concern. It is imperative that the finish requirements for the area of installation be maintained to prevent the rapid spread of fire.
3. All insulation applied to ducts and plenums (inside and outside) must be class "A" or noncombustible.
4. For requirements of time rated materials, assembly of materials, and interior finish refer to applicable construction and fire codes.

Air Handling

Changes in the air handling systems in facilities are often necessary to increase energy efficiency. Care should be taken to provide properly installed approved fire dampers at penetrations of time rated fire resistive enclosures as required by applicable fire safety regulations.

Changes in the air handling system may also change the need for installation of a smoke detection system within the duct work which also must be installed in compliance with the proper fire safety regulations.

Glazing

Glazing improvements may be made with the following considerations in mind:

1. If glazing is to be of a combustible material, the installation must be in compliance with the applicable fire safety regulations for interior finish requirements.
2. If windows are being reduced in size or number, the requirements for ventilation and emergency escape must be maintained if required.
3. Special glazing, such as wired glass, is sometimes required to protect other exposures within a building. This protection must not be compromised.
4. Care should be taken that required combustion air is not cut off.

Flue Restriction Devices

Extreme caution should be exercised when installing flue restriction devices on fuel fired heating units. Only those devices approved for use by the manufacturer of the heating unit should be installed on that unit.
Faulty installation or use of an improper flue restriction device may cause a fire or result in asphyxiation.
The following facilities specifically come under the jurisdiction of the Bureau of Fire Services; however, we are concerned with fire safety in all facilities:

- Hospitals
- Nursing Homes
- Homes for the Aged
- Freestanding Surgical Out-Patient Facilities
- County Medical Care Facilities
- Facilities for Mentally Retarded
- Alternate Intermediate Services for Mental Retarded (AIS/MR)
- Adult Foster Care Homes
- Schools
- Colleges
- Universities

The Bureau of Fire Services approval is required prior to alteration of any of the above facilities. In most cases an architect or professional engineer is required by law to design and supervise the work being done.

Any questions concerning the above facilities, in most cases, should be directed to the Bureau of Fire Services Regional Office in your area.

Questions concerning other occupancies should be directed to your local fire department or building division.

If you have any questions regarding this bulletin, please contact the Bureau of Fire Services Plan Review Division at (517) 241-8847.