

# Fire Prevention in the Classroom

## Questions and Answers

**I have upholstered furniture in my classroom from sources outside the school for the purpose of creating a relaxed atmosphere in which my students can read and study. Do you see any problem with this?**

Yes. Upholstered furniture in classrooms is not recommended. Sanitation and flammability are the major concerns here. Let's consider sanitation first. Upholstered furniture can harbor a multitude of problems such as molds, mildews, allergens, bacteria, biological contaminants and the like which are easily transferred from student to student. It's impossible to eliminate these contaminants with household methods. Professional cleaning and decontamination on a regular basis is required in order to eliminate and control these contaminants. Second, we have the fire issue. Residential upholstered furniture was never intended to serve in an educational occupancy. The standards for this type occupancy are much higher than residential use. In order for residential upholstered furniture to be used in an educational occupancy, it must be professionally treated with an UL/FM approved fire retardant. (Ref. 806.2.5 Fire-retardant coatings. Required flame spread or smoke-developed classification of surfaces shall be permitted to be achieved by application of approved fire-retardant coatings, paints or solutions to surfaces having a flame spread rating exceeding that permitted. Such applications shall comply with NFPA 703 and the required fire-retardant properties shall be maintained or renewed in accordance with the manufacturer's instructions.) To achieve these requirements can be time consuming and costly. In addition, with or without proper documentation, local fire officials may still require its removal.

**Can decorations, plants and teaching materials be displayed or attached to the lay-in tile ceilings of our classrooms?**

No. The hanging and displaying of decorative materials is prohibited from acoustical (lay-in) ceiling systems that are part of a fire resistance rated floor/ceiling or roof/ceiling assembly according to article 703.3 of the 2002 edition of the NC Fire Prevention Code.

**Can the extra space in boiler, mechanical and electrical rooms be utilized for storage of school teaching supplies, files and equipment?**

No. Combustible materials cannot be stored in boiler, mechanical or electrical equipment rooms according to article 315.2.3 of the 2002 edition of the NC Fire Prevention Code.

**During the year we like to brighten up our school by decorating our corridor walls and doors, is this acceptable?**

The decorating of classroom doors and corridor walls is a common issue throughout the state. Though imaginative and attractive this practice does create a potential hazard to the overall fire safety picture with respect to the classroom. The addition of a combustible material (i.e. paper, cloth & plastics) to an egress door not only degrades the effectiveness of the doors fire resistance rating, but also has the potential for introducing flame directly into the room (or face) of whomever opens it. Section 803.1.2 Fire-retardant coatings & 803.3.2 Artwork, of the 2002 edition of the NC Fire Prevention Code address this as follows:

"Fire-retardant coatings shall be maintained so as to retain the effectiveness of the treatment under service conditions encountered in actual use."

"Artwork and teaching materials shall be limited on walls of corridors to not more than 20 percent of the wall area."

With this said, the decorating of classroom doors is not allowed and walls should be kept to the above code or less.

As an option (obtain prior approval of your school system Maintenance Director first) walls of corridors can be painted (with appropriate water based paint) with decorative scenes or murals.

**During the school term classrooms and offices sometimes get cold. During these times I use a portable space heater. Is this a problem?**

Yes. Though not specifically banned by the fire codes, their use in a classroom or office is definitely a fire hazard. With this in mind, the Insurance Fund does prohibit the use of portable space heaters in educational facilities. The reasons are many. First, these devices produce a heat source capable of igniting many combustible materials found in offices and classrooms. Secondly, often times the devices are left un-attended while still on. Third, a lot of them are being used improperly such as with, undersized, un-grounded or un-approved extension cords, to close to combustibles or placed under desk, tables and the like. Fourth, some older (and newer) models do not have the required automatic "tip over" shut off switches. Fifth, the energy consumption requirements and strain placed on building electrical systems. Should it be necessary to have supplemental heat in an office or classroom, the school system Maintenance Director should be contacted for heating corrections, or the proper installation of temporary supplemental heating.

**I like the effects of aroma and fragrance candles in my classroom are there problems with using them?**

Yes. Open flames are a real hazard, especially in the classroom setting. Not only does the Insurance Fund prohibit the use of lighted candles, the 2002 edition of the NC Fire Prevention Code addresses this in 308.3 Open Flame as well. This section states: "A person shall not utilize or allow to be utilized, an open flame in connection with a public meeting or gathering for the purpose of deliberation, worship, entertainment, amusement, instruction, education, recreation, awaiting transportation or similar purpose in assembly or educational occupancies without first obtaining a permit in accordance with section 105.6".

The reason for this is that they are lighted and at times left un-attended, placed to close to combustible materials, placed on un-stable surfaces or in areas where they can be easily disturbed. Some have even been found lighted on lower shelves of bookcases. In any of these situations a major hazard to life and property exist from fire.

**Due to limited electrical receptacles in our classrooms, we have plugged power strips & surge protectors together or are using "multiplug" adapters to provide adequate receptacles for equipment. Is this acceptable?**

No. The devices you have mentioned are referred to as "relocatable power taps". According to the 2002 Edition of the NC Fire Prevention Code, "605.4.2 Power supply. Relocatable power taps shall be directly connected to a permanently installed receptacle." When connected as you describe, the safety features do not function as designed, thus a creating a fire hazard. As for the "multiplug" adapters I refer to " 605.4 Multiplug adapters. Multiplug adaptors, such as cube adaptors, un-fused plug strips or any other device not complying with the ICC *Electrical Code* shall be prohibited."

**Due to limited electrical receptacles in our classrooms, we use an extension cord through the door to an adjacent classroom or other area to access power. Is this acceptable?**

No. This is a very un-safe practice. Not only does it present a possible tripping hazard (cords in walkways), it also creates an electrical shock / fire hazard as well from either crushing the cord or tearing the insulation. According to the 2002 Edition of the NC Fire Prevention Code, " 605.5 Extension cords and flexible cords shall not be a substitute for permanent wiring. Extension cords and flexible cords shall not be affixed to structures, extended through walls, ceilings or floors, or under doors or floor coverings, nor shall such cords be subject to environmental damage or physical impact. Extension cords shall be used only with portable appliances." Also, " 605.5.4 Grounding. Extension cords shall be grounded when serving grounded portable appliances." In addition, two wire extension cords are not allowed in NC Public Schools by the Insurance Fund due to their constant miss-use of being overloaded, plugged together and used with grounded adapters. A request for additional receptacles should be made through your Principal to your Maintenance Director.

**Is it acceptable to have our Vocational or Maintenance Department fabricate extension cords with multiple receptacles for us to use?**

No. Non UL/FM listed or labeled electrical appliances (this includes extension cords & power taps) are not allowed by the Public School Insurance Fund for use in N.C. Public Schools. This is also reinforced by the 2002 Edition of the NC Fire Prevention Code "605.7 Appliances. Electrical appliances and fixtures shall be tested and listed in published reports of inspected electrical equipment by an approved agency and installed in accordance with all instructions included as part of such listing".

**The receptacles in our classrooms are not conveniently located for our equipment. In order to supply power we have attached cords and strips to the walls, floors and ceilings in order to reach them. Are we in compliance?**

No. In your situation several things could be done. 1. If at all possible, you should re-arrange the room in order to eliminate the cords/strips if possible. 2. If re-arrangement is not feasible, request relocation to a more suitable area within your facility, or. 3. Submit a request through your Principal to your Maintenance Director for the installation of additional receptacles in the room. The 2002 Edition of the NC Fire Prevention Code is very specific about the attachment of electrical devices. It states in "605.5 Extension cords. Extension cords and flexible cords shall not be a substitute for permanent wiring. Extension cords and flexible cords shall not be affixed to structures, extended through walls, ceilings or floors, or under doors or floor coverings, nor shall such cords be subject to environmental damage or physical impact. Extension cords shall be used only with portable appliances".

**I have heard that there is a limit on the amount of time an extension cord may be used. Is this true?**

Yes. If the cord is being used as a replacement for permanent wiring, then there is a time limit. This limit is set forth in the 2002 Edition of the NC Fire Prevention Code, "605.9 Temporary wiring. Temporary wiring for electrical power and lighting installations is allowed for a period not to exceed 90 days. Temporary wiring methods shall meet the applicable provisions of the ICC *Electrical Code*".

**In an effort to cut down on the wear and tear, along with the noise of doors slamming in the corridors and stairwells we have placed "chocks" under, or tied open these doors. Is this acceptable or can something else be done?**

No. This is not acceptable, and yes something else can and should be done. First the ties & chocks should be removed immediately! The fire and smoke doors should remain closed at all times unless automatically controlled by the fire alarm system. If not, then "door release magnets" controlled by smoke detectors and the fire alarm system should be installed. These doors are in place for one purpose, Life Safety. Their purpose is to prevent, or at least control, the spread of smoke and fire. By holding them open with non-approved methods (chocks, cords, wire, etc.) you are preventing them from performing a vital function. In addition, the 2002 Edition of the NC Fire Prevention Code states in "1005.3.5.2 Opening protectives. Fire doors in horizontal exits shall be self-closing or automatic-closing when activated by a smoke detector installed in accordance with Section 907.11. Opening protectives in horizontal exits shall be consistent with the fire-resistance rating of the wall. Such doors, where located in a cross-corridor condition, shall be automatic-closing by activation of a smoke detector installed in accordance with Section 907.11".

**What are the rules regarding the doors and windows in classrooms?**

The doors and windows opening directly into open outdoor areas (not enclosed courtyards) are for secondary emergency exit in case the primary corridor exit is not accessible due to fire, smoke or "lock down". In these instances, exit through the primary corridor may not be possible due to an eminent danger. Therefore the following from the 2002 Edition of the NC Fire Prevention Code applies, "1011.2 Reliability. Required exit accesses, exits or exit discharges shall be continuously maintained free from obstructions or impediments to full instant use in the case of fire or other emergency, 1011.3 Obstructions. A means of egress shall be free from obstructions that would prevent its use, including the accumulation of snow and ice. 1011.4 Furnishings and decorations. Furnishings, decorations or other objects shall not be placed so as to obstruct exits, access thereto, egress there from, or visibility thereof. Hangings and draperies shall not be placed over exit doors or otherwise be located to conceal or obstruct an exit. Mirrors shall not be placed on exit doors. Mirrors shall not be placed in or adjacent to any exit in such a manner as to confuse the direction of exit".

**Due to security concerns we have installed "dead bolts" or "pad locks" on room doors throughout the school. Is this acceptable?**

Only in certain cases. Occupants need to be able to quickly and freely exit classrooms, locker rooms, gymnasiums, shops and the like during an emergency. With this in mind, a simple rule to follow would be "you can lock people out, but you can not lock people in". Having said this, the 2002 Edition of the NC Fire Prevention Code confirms this with, "1003.3.1.8 Locks and latches. Egress doors shall be readily openable from the egress side without the use of a key or special knowledge or effort". And, "1003.3.1.8.1 Bolt locks. Manually operated flush bolts or surface bolts are not permitted. Exceptions: 1. On doors not required for egress in individual dwelling units. 2. Where a pair of doors serves a storage or equipment room, manually operated edge- or surface-mounted bolts are permitted on the inactive leaf".