



COMPACT FLUORESCENT LIGHT BULBS (CFL'S)



The New York State Division of Homeland Security and Emergency Services Office of Fire Prevention and Control, (OFPC), has recently received inquiries concerning potential fire safety hazards presented by Compact Fluorescent Light bulbs also known as CFL's. These questions arose from recent postings found on the Internet and inquiries to OFPC from fire officials raising potential concerns of fire hazards associated with certain CFL's. The OFPC Arson Bureau investigated these concerns with the following findings:

Two manufacturer's recalls were identified pertaining to CFL's and their fire safety hazards.

GLOBE Electric - recall involved a limited number of 13 watt CFL's manufactured between 2002 and March of 2003. These bulbs were NOT sold in the USA and there were no confirmed cases of fires involving the recalled units. The history of the recall including the problem and corrective actions taken, as well as the affected date codes can be viewed at the Globe Electric website www.globe-electric.com

TRISONIC - recall involved their 15, 20, 22 and 25 watt CFL's manufactured in 2007 and 2008. These bulbs were sold at discount stores for \$1.00 - \$1.50 each. The units were recalled over concern of a condenser over heating in the base causing the base to break apart. Two fires were reported. The problem was corrected with the placement of a fuse in the base of the unit which is used to protect the condenser. This technology is now used throughout the CFL industry. The history of the recall including the model numbers affected can be found at www.trisonic.com

In addition to researching the two noted recalls, further information was obtained relating to the applicability of Underwriters Laboratory [UL] listing and testing of CFL's to include the following points.

- UL listing of CFL's is not mandatory. Manufacturers of any product including CFL's, may submit their product to Underwriters Laboratory for a product review in accordance with specific UL criteria. If determined to be compliant, UL will list the device and allow the UL listing logo to be placed on the product.
- In regard to CFL's, UL does have established criteria for such devices, including a requirement that all bases be made of non-combustible materials. CFL's meeting UL criteria will display the trademark UL seal on the exterior of the bulbs base housing, [example photo]. Further information on the UL listing process and associated criteria for CFL can be obtained by contacting UL at 1-877-854-3577 or accessing their website at www.UL.com.

GENERAL INFORMATION REGARDING CFL'S

Firefighters, Fire Investigators and the public need to be aware of the "normal and expected" signs as a CFL nears the end of its life span or burns out as this information can be misinterpreted as a "problem" with the bulb.

- Some behavior and failure modes will be different from those experienced with incandescent bulbs. CFL's should be replaced at the first sign of odor, smoke, discoloration or erratic behavior. (3)
- When CFL's stop working, some will simply stop emitting light while others will create a "pop" sound and then vent a distinct odor and visible smoke. (1)

- The base of the bulb will discolor with age and may even show a black spot. This is a result of the breakdown of the bulb's ballast which is located in the base. Melted plastic, where the coil connects to the ballast/base is a sign that the heat has escaped from the ballast which is a design feature of the bulb. (2)
- As CFL's reach the end of their life span they may grow dim and overheating at the end of tubes and the darkening of the plastic where the tubes enter the base may be noted. The normal life span of a CFL may be reduced when used in fixtures which are frequently turned on and off. (1)(4)
- Follow the manufacture's recommendations when using CFL's to include looking for the Underwriters Laboratory UL listing or other laboratory testing seal when purchasing. CFL's should not be used with dimmers unless specifically labeled and listed by the manufacturer for such use. (1)(3)

TIPS FOR THE FIRE INVESTIGATOR

- When investigating a fire where a CFL or lamp is suspected of being a fire cause, ensure the power to the light was on at the time of the fire.
- Determine if the bulb is intact in the fixture and if the fixture is in the area of origin of the fire.
- Attempt to determine the manufacturer of the bulb and check that specific product for recalls. CFL's often have an extended life expectancy and therefore older bulbs which may have been subject to recall could still be in use.
- Identify the combustible material which would have served as a fuel package for the bulb or lamp to have come in contact with and have resulted in a fire. CFL's generally exhibit a much lower surface temperature than incandescent lamps. (1)
- As with all fluorescent lamps CFLs contain small amounts of mercury therefore appropriate caution should be exercised when handling or disposing of such items.

Information Source:

- (1) Underwriters Laboratory
- (2) National Geographic's Green Guide
- (3) National Electric Manufacturers Association
- (4) SYTEK Consultants

Copies of this Technical Alert Bulletin can be downloaded from the NYS Division of Homeland Security and Emergency Services OFPC website. An audio podcast may also be obtained by referring to the NYS Chiefs of Police website www.nychief.org

Further information may also be obtained by contacting the OFPC Arson Bureau at (518) 474-6746.



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