City of Henderson Fire Safety Engineering Informational Bulletin

Issue 074

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CPVC - It's All in a Foot



QUESTION:

How close can CPVC Pipe be routed to a heat source?

ANSWER:

The minimum distance for CPVC to be run near a heat source (e.g., canister light, incandescent lamp, etc.) is 12-inches. This was determined after reviewing installation manuals for the 4 major CPVC pipe manufacturers (Tyco, Spears, Victaulic & Harvel). The maximum temperature for the CPVC piping allowed by all 4 manufacturers is 150° F.

FYI, the surface of a 40-watt incandescent bulb can reach a temperature of 252° F. (see attached table/diagram)

The 12-inches shall be measured from the heat source to the edge of the pipe the heat source.

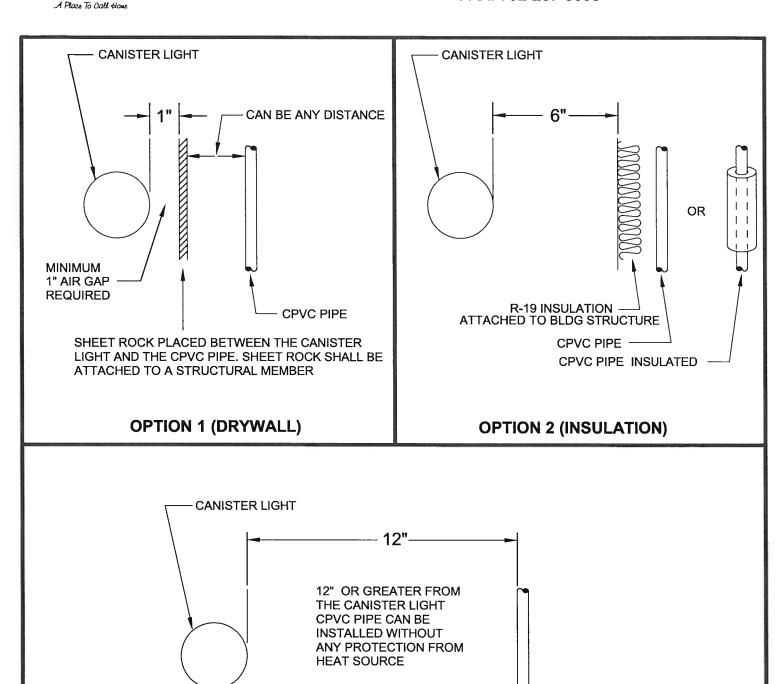
the edge of closest to





FIRE SAFETY ENGINEERING

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OPTION 3 (AIR SPACE)

DRAWING NAME:

INSTALLATION REQUIREMENTS FOR CPVC PIPE IN CLOSE PROXIMITY TO CANISTER LIGHTS

DRAWING NO:

CPVC PIPE

FE-1

MARCH 2009

INCANDESCENT LAMP TEMPERATURE

Wattage	Bare Bulb Tem	perature
25 Watts	110°F	43°C
40	252	122
60	260	127
100	261	127
200	307	153
300	374	190
500	389	198

Note: the above temperatures are based on mounting with base up, in a 77°F (25°C) ambient. The temperatures vary, however, depending on the mounting position and the particular point on the bulb. For example: A 200 watt bulb would reach 307°F (153°C) with base up mounting; with a side mounting the bulb could reach 493°F (256°C).

Temperature of filaments in the globe:

40-100 Watts	4424-4676°F (2440-2580°C)
150-200 Watts	4712-4730°F (2600-2610°C)
300-500 Watts	4784-4838°F (2640-2670°C)

This diagram shows the various hotspots of a lightbulb mounted in various positions. Note that when a lightbulb is mounted in the upright position, the tip of the lightbulb can reach temperatures in excess of 446°F (230°C). The tip of the same lightbulb mounted horizontally will probably only reach 194°F (90°C).

