

# Continuing Education from *Plumbing Systems & Design*

Kenneth G. Wentink, PE, CPD, and Robert D. Jackson

Do you find it difficult to obtain continuing education units (CEUs)? Through this special section in every issue of *PS&D*, ASPE can help you accumulate the CEUs required for maintaining your Certified in Plumbing Design (CPD) status.

## Now Online!

The technical article you must read to complete the exam is located at [www.psdmagazine.org](http://www.psdmagazine.org). The following exam and application form also may be downloaded from the Web site. Reading the article and completing the form will allow you to apply to ASPE for CEU credit. For most people, this process will require approximately one hour. If you earn a grade of 90 percent or higher on the test, you will be notified that you have logged 0.1 CEU, which can be applied toward the CPD renewal requirement or numerous regulatory-agency CE programs. (Please note that it is your responsibility to determine the acceptance policy of a particular agency.) CEU information will be kept on file at the ASPE office for three years.

Note: In determining your answers to the CE questions, use only the material presented in the corresponding continuing education article. Using information from other materials may result in a wrong answer.

## About This Issue's Article

The September/October 2006 continuing education article is "Automatic Sprinkler Systems," Chapter 8 of *Fire Protection Systems* by Justin Duncan. This chapter discusses the different types of sprinkler systems and where to use them; system design requirements including water pressure and temperature, piping, area limitations, drainage; sprinkler temperature ratings; installation parameters; and alarm systems. The information is based on NFPA 13: *Standard for the Installation of Sprinkler Systems*. Factors to consider when selecting a sprinkler system, as well as care and maintenance tips, are included.

You may locate this article at [www.psdmagazine.org](http://www.psdmagazine.org). Read the article, complete the following exam, and submit your answer sheet to the ASPE office to potentially receive 0.1 CEU.

## CE Questions—"Automatic Sprinkler Systems" (PSD 135)

- In cases where the sprinklers were ineffective, studies show the reasons for failure include \_\_\_\_\_.**
  - improper water supply or system was not adequate
  - a valve was in the wrong position (closed vs. open)
  - the system was taken out of operation without temporary replacement
  - all of the above
- A cross main is connected to \_\_\_\_\_.**
  - sprinkler branch lines
  - riser nipples
  - feed main
  - all of the above
- An antifreeze sprinkler system contains \_\_\_\_\_.**
  - closed sprinkler heads
  - an oil-based solution in the piping distribution network
  - a fast-acting deluge valve
  - a supplemental detection system
- The sprinkler head is \_\_\_\_\_.**
  - a thermo-sensitive device that is automatically activated when an area reaches a predetermined temperature
  - one of the most important components of a sprinkler system
  - fed from overhead piping
  - all of the above
- A deluge-type sprinkler system consists of \_\_\_\_\_.**
  - closed glass bulb sprinkler heads
  - closed fusible link sprinkler heads
  - open pipe ends
  - open sprinkler heads
- Frangible-bulb restraining elements are constructed of liquid-filled glass. The colored liquid \_\_\_\_\_.**
  - may be selected to match the decor of the room where it is installed
  - indicates the temperature rating
  - completely fills the bulb
  - is of no importance to the operation of the sprinkler as it is only a manufacturer's trademark
- NFPA 13 requires sprinkler coverage as follows \_\_\_\_\_.**
  - light hazard: 130–225 ft<sup>2</sup>
  - ordinary hazard: 100–168 ft<sup>2</sup>
  - extra hazard: 90–130 ft<sup>2</sup>
  - none of the above is correct
- Premature sprinkler operation could occur in a fusible link-type sprinkler system because \_\_\_\_\_.**
  - the duration of the above-normal room temperature is excessive because the link begins to lose its strength before the actual melting point is reached
  - they are considered substandard and are rarely used
  - the exact operating temperature can not be determined
  - they are unreliable
- The first automatic sprinkler system was invented in \_\_\_\_\_.**
  - 1852, b. 1864, c. 1876, d. 1888
- The number of sprinkler heads expected to operate in case of a fire depends on the \_\_\_\_\_.**
  - fire pump capacity
  - water pressure in the street main
  - type of sprinkler system used
  - pipe size
- Extra-high temperature classification for fusible link sprinklers are color coded as \_\_\_\_\_.**
  - blue or red
  - red or green
  - green or orange
  - none of the colors noted are an exact match for this question
- NFPA standards \_\_\_\_\_ and \_\_\_\_\_ cover sprinkler systems for storage areas that require specific arrangements and specialized sprinklers.**
  - 13 and 13R
  - 105 and 105B
  - 231 and 231C
  - none of the above

