be fastened in an approved manner at intervals of not more than 450 mm (18 in.). Cable supports and fasteners shall be steel.

760.25 Abandoned Cables. The accessible portion of abandoned fire alarm cables shall be removed. Where cables are identified for future use with a tag, the tag shall be of sufficient durability to withstand the environment involved.

Abandoned cables increase fire loading unnecessarily and, if installed in plenums, can affect airflow.

See also

Article 100 for the definition of the term *cable, abandoned (abandoned cable)*

760.30 Fire Alarm Circuit Identification. Fire alarm circuits shall be identified at terminal and junction locations in a manner that helps to prevent unintentional signals on fire alarm system circuit(s) during testing and servicing of other systems.

One way to facilitate circuit identification is to use a terminal cabinet with permanently mounted and labeled terminals, such as the one shown in Exhibit 760.4. Another common method is to paint fire alarm system circuit junction box covers red and/or label them with the words "FIRE ALARM." Some jurisdictions require that all conduits carrying fire alarm system circuits be red. Other jurisdictions require a red stripe every 10 feet or red fittings where specific lengths of conduit are joined for fire alarm system circuit conduits.

Δ **760.32 Fire Alarm Circuits Extending Beyond One Building.** Non–power-limited fire alarm circuits and power-limited fire alarm circuits that extend beyond one building and run outdoors shall meet the installation requirements of Parts II, III, and IV of Article 805 and shall meet the installation requirements of Part I of Article 300.

N **760.33 Supply-Side Overvoltage Protection.** A listed surge-protective device (SPD) shall be installed on the supply side of a fire alarm control panel in accordance with Part II of Article 242.

EXHIBIT 760.4 Fire alarm terminal cabinet. *(Courtesy of JENSEN HUGHES, Warwick, RI)*

760.35 Fire Alarm Circuit Requirements. Fire alarm circuits shall comply with 760.35(A) and (B).

(A) Non–Power-Limited Fire Alarm (NPLFA) Circuits. See Parts I and II.

(B) Power-Limited Fire Alarm (PLFA) Circuits. See Parts I and III.

Power source limitations for power-limited fire alarm circuits used by testing laboratories are found in Chapter 9, Tables 12(A) and 12(B). Table 12(A) covers alternating-current (ac) source limitations, and Table 12(B) covers direct-current (dc) source limitations.

Part II. Non–Power-Limited Fire Alarm (NPLFA) Circuits

760.41 NPLFA Circuit Power Source Requirements.

(A) Power Source. The power source of non–power-limited fire alarm circuits shall comply with Chapters 1 through 4, and the output voltage shall be not more than 600 volts, nominal. The fire alarm circuit disconnect shall be permitted to be secured in the "on" position.

This section correlates with *NFPA 72, National Fire Alarm and Signaling Code*, which requires the circuit disconnecting means to be accessible only to authorized personnel. Limiting access decreases the chance that the power to the fire alarm system is turned off.

Δ **(B) Branch Circuit.** The branch circuit supplying the fire alarm equipment(s) shall supply no other loads. The location of the branch-circuit overcurrent protective device shall be permanently identified at the fire alarm control unit. The circuit disconnecting means shall have red identification, shall be accessible only to qualified personnel, and shall be identified as "FIRE ALARM CIRCUIT." The red identification shall not damage the overcurrent protective devices or obscure the manufacturer's markings. This branch circuit shall not be supplied through ground-fault circuit interrupters or arc-fault circuit-interrupters.

NFPA 72, National Fire Alarm and Signaling Code, requires that the power to the fire alarm system be supplied from a branch circuit dedicated to the fire alarm system. The dedicated circuit can be used to power other equipment that is part of the system, but this power circuit cannot be used to power other equipment, such as telephone switches, computer stations, and other equipment that is not directly associated with the fire alarm system functions. Further, *NFPA 72* requires the location of the branch-circuit disconnecting means to be permanently identified at the control unit.

To minimize interruption of the normal ac power, non–power-limited fire alarm equipment is not permitted to be supplied by a branch circuit protected with a GFCI device or with an AFCI device. The AFCI protection requirements apply to outlets supplying single- or multiple-station smoke alarms where the smoke alarm outlet is located in an area covered by the requirements of 210.12(A). These smoke alarms are supplied by a branch circuit covered by the requirements of Article 210, not by the fire alarm control panel. In new construction, single- and multiple-station smoke alarms are required by *NFPA 72* to have a backup battery