TABLE 830.154 Cable Substitutions

Cable Type	Permitted Cable Substitutions
BM	BMR
BLP	CMP, CL3P
BLR	CMP, CL3P, CMR, CL3R, BLP, BMR
BL	CMP, CMR, CM, CMG, CL3P, CL3R, CL3, BMR, BM, BLP, BLR
BLX	CMP, CMR, CM, CMG, CMX, CL3P, CL3R, CL3, CL3X, BMR, BM, BLP, BRP, BL

830.160 Bends. Bends in network broadband cable shall be made so as not to damage the cable. The radius of the curve of the inner edge of any bend shall not be less than 10 times the diameter of the cable.

Informational Note: See ANSI/TIA-568.0-E *Generic Telecommunications Cabling for Customer Premises*, for information on bend radii of network broadband cable during different types of installation conditions.

Part VI. Listing Requirements

830.179 Network-Powered Broadband Communications Equipment and Cables. Network-powered broadband communications equipment and cables shall be listed and marked in accordance with 830.179(A) through (C).

Exception No. 1: This listing requirement shall not apply to community antenna television and radio distribution system coaxial cables that were installed prior to January 1, 2000, in accordance with Article 820 and are used for low-power network-powered broadband communications circuits.

Exception No. 2: Substitute cables for network-powered broadband communications cables shall be permitted as shown in Table 830.154.

(A) General Requirements. The general requirements in 800.179 shall apply.

(B) Network-Powered Broadband Communications Medium-Power Cables. Network-powered broadband communications medium-power cables shall be factory-assembled cables consisting of a jacketed coaxial cable, a jacketed combination of coaxial cable and multiple individual conductors, or a jacketed combination of an optical fiber cable and multiple individual conductors. The insulation for the individual conductors shall be rated for 300 volts minimum. Cables intended for outdoor use shall be listed as suitable for the application. Cables shall be marked in accordance with 310.8. Type BMU cables shall be jacketed and listed as being suitable for outdoor underground use.

An insulation rating of 300 volts is necessary for the following reasons:

1. This rating coordinates with protector installation requirements.
2. Primary protectors are designed to allow voltages below 300 to pass.
3. Network-powered broadband communications circuits typically operate in a voltage range up to 150 volts root-mean square (rms).

(C) Network-Powered Broadband Communication Low-Power Cables. Network-powered broadband communications low-power cables shall be factory-assembled cables consisting of a jacketed coaxial cable, a jacketed combination of coaxial cable and multiple individual conductors, or a jacketed combination of an optical fiber cable and multiple individual conductors. The insulation for the individual conductors shall be rated for 300 volts minimum. Cables intended for outdoor use shall be listed as suitable for the application. Cables shall be marked in accordance with 310.8. Type BLU cables shall be jacketed and listed as being suitable for outdoor underground use.

ARTICLE 840 Premises-Powered Broadband Communications Systems

Part I. General

Δ **840.1 Scope.** This article covers premises-powered broadband communications systems.

Informational Note: A typical basic system configuration consists of an optical fiber, twisted pair, or coaxial cable to the premises supplying a broadband signal to a network terminal that converts the broadband signal into component signals, such as traditional telephone, video, high-speed Internet, and interactive services. Powering for the network terminal and network devices is typically accomplished through a premises power supply that might be built into the network terminal or provided as a separate unit. In order to provide communications in the event of a power interruption, a battery backup unit or an uninterruptible power supply (UPS) is typically part of the powering system.

Although similar to Article 830, which addresses network-powered broadband communications systems, Article 840 covers premises-powered broadband communications systems.

Premises-powered broadband communications systems provide a wide array of subscriber services, including voice, video, data (such as Internet access), and interactive services, through an optical network terminal (ONT).

Article 840 contains requirements for wiring both the inside and the outside of buildings. Other articles cover the wiring derived from the ONT into the premises.

See also

Article 725, which covers wiring of Class 2 and Class 3 circuits

Article 760, which covers the wiring of fire alarm systems

Article 770, which covers the installation of optical fiber cables

Article 800, which covers general requirements for all communications systems

Article 820, which covers coaxial cable installations for television signals