



TECHNICAL SERVICES DEPARTMENT

BULLETIN

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SELECTION AND INSTALLATION OF TYPE MC-PCS CABLE

This Bulletin is intended to assist in the specification of the proper wiring method where electric light and power conductors are installed in the same cable or raceway with Class 2 or 3 conductors.

Section 725.136 of the NEC[®] requires that Class 2 and Class 3 circuit conductors shall not be contained in the same cable or raceway with conductors of electric light, and power unless separated within the cable or raceway. In recognition of the need for a cable to address the required separation, UL has listed an MC Cable where the control conductors are contained within a flexible tube (30 mil PVC jacket) and are then cabled with the power conductors under an overall metallic armor covering. The UL designation for this cable is Type MC-PCS and the cable is marked to indicate that the cable complies with NEC 725.136(I)(1).

By way of background, standard Type MC Cables and Fixture Whips are permitted for power and control circuits. These circuits are permitted to operate at power and control voltages within the same cable or raceway (whip) based on NEC Section 300.3(C)(1) (all conductors insulated for the highest voltage in the cable or raceway). However, where the control conductors within the cable or raceway are part of a Class 2 or Class 3 circuit they must be separated from the power conductors according to NEC 725.136. The Type MC-PCS cable construction provides the required separation. Standard MC cables and Fixture Whips do not.

Type MC-PCS Cable must be secured to the box or enclosure with a connector/fitting that listed for use with Type MC Cable and is of the correct size to accommodate the cable.

The first step is to remove the required length of metal armor with an appropriate tool for cutting the armor. The specific length will depend upon the application.

Insert the cable fully into the connector/fitting ensuring that the armor doesn't extend beyond the end stop of the connector/fitting. Secure the connector/fitting to the box or enclosure

Strip the ends of the power conductors and terminate as done for any other job.

The jacket should remain on the twisted pair of control conductors until reaching the point of termination.

Remove the minimum amount of jacket and make the low voltage termination inside the box or enclosure.

The acceptance of the installation is subject to the approval of the local Electrical Inspector or Authority Having Jurisdiction (AHJ) and the AHJ should be consulted for any questions.

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