OVERVIEW

The National Electrical Code (NEC) is a set of electrical safety requirements published by the National Fire Protection Association (NFPA). The code covers all types of electrical equipment and apparatus for installations in both residential and nonresidential buildings. The 1999 edition has recently been published and distributed. This technical note describes the type of cables that can be used for various applications per the NEC.

GENERAL REQUIREMENTS INSIDE BUILDINGS

In addition to requirements governing various installations, methods and materials, the code sets forth different levels of fire, flame, or smoke performance for communications cables. These requirements may be adopted by state or local building codes and would then fall under the jurisdiction of local electrical, building, or fire inspectors. Coaxial cables which conform to the code requirements (NEC, Article 820, Community Antenna Television and Radio Distribution Systems) must be marked accordingly after having been listed by an organization such as Underwriters Laboratories which conducts product evaluation and con-formance testing, periodic inspections of production facilities, and publishes lists of those products found to meet the requirements for a specific classification.

In descending order of fire, flame, or smoke performance, the categories are summarized and listed below. All applicable building codes should be reviewed and electrical, building and fire inspection organizations consulted prior to the selection, installation and operation of any cable product.

REQUIREMENTS FOR OUTSIDE BUILDINGS

There are no NEC cable requirements for outside of building applications.

Summary - 1999 NEC Article 820 - Cable Requirements Within Buildings

Notes: When the length of cable within the building does not exceed 50 feet (15.2 m) and the cable enters the building from outside and is terminated at a grounding block (inside the building), no cable requirements apply to the entry cable within the building. However, the ground block shall be located as close to the point of entry as practicable.

Designation	Application
CATVP (Plenum)	Type CATVP, Plenum Cable shall be used in ducts, plenums and other spaces used for Environmental air.
Note:	Types CATVP, CATVR or CATVX cables installed in compliance NEC Section 300-22 of the NEC.
CATVR (Riser)	Type CATVR, Riser cable shall be used in vertical shafts and from floor to floor in multistory buildings.
Note 1:	In one-family and two-family buildings, CATV or CATVX cables may be used.
Note 2:	In commercial and multifamily buildings, CATV or CATVX cables may be used if installed in metallic conduit or noncombustible tubing or if the vertical shaft is fireproof with fire stops between floors.
CATV (V-Rated)	Type CATV cable shall be suitable for general purpose use with the exception of Plenums and Risers.
CATVX (X-Rated)	Type CATVX cable, less than 0.375 inch in diameter shall be limited to use in residential dwellings (not commercial buildings) or where the cable is non-concealed and the internal length of the cable is less than ten feet.

Cable Substitutions

Cable Type	Permitted Substitutes	Cable Type	Permitted Substitutes
CATVP	None	CATV	CATVP, CATVR
CATVR	CATVP	CATVX	CATVP, CATVR, CATV

ALL LISTED CATV CABLES MUST BE MARKED

NOTE: *ALL APPLICABLE BUILDING CODES SHOULD BE REVIEWED AND ELECTRICAL, BUILDING AND FIRE INSPECTION ORGANIZATIONS CONSULTED PRIOR TO THE SELECTION, INSTALLATION AND OPERATION OF ANY CABLE PRODUCTS.*