Technical Note

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Keywords:

Polyvinyl Chloride (PVC)
Polyethylene (PE)
Colors
Printing
RoHS
NEC 820 / NEC 830
Plenum
Riser
General Purpose
Limited Use

MOCSY7

Jackets - Protection for Coaxial Cable

High quality jacketing is used to protect MOCSY™7 cable both from the rigors of installation and the environment. PCT drop cable products typically employ polyvinyl chloride (PVC) jacketing for indoor, house wrap and aerial installations but polyethylene (PE) for direct burial (underground) applications.

Colors Available

By far the most popular PVC jacket colors are black, white and neutral. Customers often choose from white or neutral to match the colors of building walls. Our headend cables come in nine additional colors for easy identification in a headend application (gray, pink, yellow, orange, red, violet, blue, green and brown).

Underground PE jacket colors are black or orange. High visibility orange helps to prevent accidental damage for temporary drops on grass and may be required to identify the service provided by the cable.

Jacket Printing

MOCSY7 cable jackets are printed for identification of the manufacturer (PCT) and cable type. Also, applicable agency approvals are printed along with a lot number and meter mark. Custom printing is available if required.

Sample print (A660-BVV)

PCT MOCSY(TM)7 A660-BVV SERIES 6 CABLE
3092080(ETL)us CATV OR CM OR BM 150V 18 AWG 10809171 0000001m

Notice the lot number (example: 10809171) which provides traceability of our product to a unique inspection report and date of manufacture. The printing is repeated every meter with the meter count incrementing for the entire lot.

Mechanical Performance

Precision control of the jacket dimensions are provided by state of the art jacket extrusion lines and continuous monitoring of diameter using a laser gauge. Only the highest quality 100% virgin jacket materials are used to ensure the highest performance in the industry.

Temperature range
Cold weather extremes are no problem for PCT MOCSY7 drop cables. All CATV/CM/BM rated and aerial PVC jackets are verified to withstand cold bending at -40°F (-40°C) and cold impact at 5°F (-15°C) without damage. All PE jackets are verified to withstand cold bending at -67°F (-55°C) and cold impact at -22°F (-30°C) without damage.

UV (sunlight) resistance
PCT jacket materials are formulated to remain UV resistant for the life of the product. Without this protection, the jacket color could fade or yellow and the jacket could become brittle and crack. Black cable incorporates carbon black for UV resistance while other cable colors use clear or white UV stabilizers to provide the same level of protection. All PCT MOCSY7 drop cable colors have been verified to meet the UL 1581 paragraph 1200 sunlight resistance test and they are suitable for use outdoors.

RoHS compliance
At PCT, we pride ourselves on being an environmentally friendly and aware producer and manufacturer. Some of our competitor's jackets contain Lead which can be released into the environment. All PCT MOCSY7 cables are compliant with the EU directives on the Restriction of the use of certain Hazardous Substances (RoHS).

A product is defined as RoHS compliant, if the lead, mercury, cadmium, hexavalent chromium, PBB or PBDE content in the homogenous materials of the products does not exceed the following concentration values:

Lead	0.1% by weight
Mercury	0.1% by weight
Cadmium	0.01% by weight
Cr^{6+}	0.1% by weight
PBB, PBDE	0.1% by weight

National Electrical Code (NEC), NFPA 70

Proper selection of jacket material is critical to compliance with the NEC. The purpose of the code is the practical safeguarding of persons and property - protection from accidental electrical shock and from the spread of fire. Cable installers in the U.S. (and other countries) are required to comply with this code and possibly other local codes. There are two articles in the code which apply to broadband drop cable:

1) Article 820 - Community Antenna Television and Radio Distribution Systems
2) Article 830 - Network-Powered Broadband Communications Systems

Underwriters Laboratories (UL) has written standards for the construction, marking and testing of cables to show compliance with the NEC. Compliance testing and listing can be done in the U.S. by either UL or ETL; PCT uses ETL and the cables are marked accordingly. In Canada the Canadian Standards Association (CSA) performs a similar function. UL and CSA have harmonized their test methods so that UL or ETL can perform all of the testing required for the CSA mark.

Applicable UL standards are:

1) UL 1655 Community-Antenna Television (e.g. CATV applications)
2) UL 444 Communications Cables (e.g. Satellite applications)
3) UL 2261 Network-Powered Broadband Communications Systems

Installations are divided into a hierarchy for flame safety. Higher rated cables can be substituted for lower rated applications.

Plenum cables (CATVP) - installed in a duct, plenum, or other space used to transport environmental air without the cable being enclosed in raceway.

Riser cables (CATVR) - installed in vertical runs in a shaft or for vertical runs that penetrate more than one floor.

General-Purpose cables (CATV) - general application commercial use.

Limited-Use cables (CATVX) - limited to installation within 1 or 2 family dwellings or in nonconcealed spaces within multiple-family dwellings.

In general, as you go up in the hierarchy, the cable cost increases because the jacket must be made more flame retardant with expensive additives. For plenum use, the dielectric is also flame retardant FEP. Currently PCT does not have the capability to manufacture plenum cables. Note: PE jackets are not flame retardant and should not be used indoors (e.g. BMU rated per UL 2261).

The tables below indicate the marking used to identify intended use:

NEC820 Rating Chart

	UL 1655	UL 444	CSA
Plenum	CATVP	CMP	FT6
Riser	CATVR	CMR	
General Purpose	CATV	CM	CMG / FT4
Limited Use	CATVX	CMX	FT1

NEC 830 Rating Chart

	UL 2261
Plenum	BLP
Riser	BMR
General Purpose	BM
Limited Use	BLX
Underground	BLU or BMU