

Cable Lore

UL Listed Interlocked Armor Cables

TYPE MC, TYPE MV, TYPE MV OR TYPE MC, AND TYPE TC

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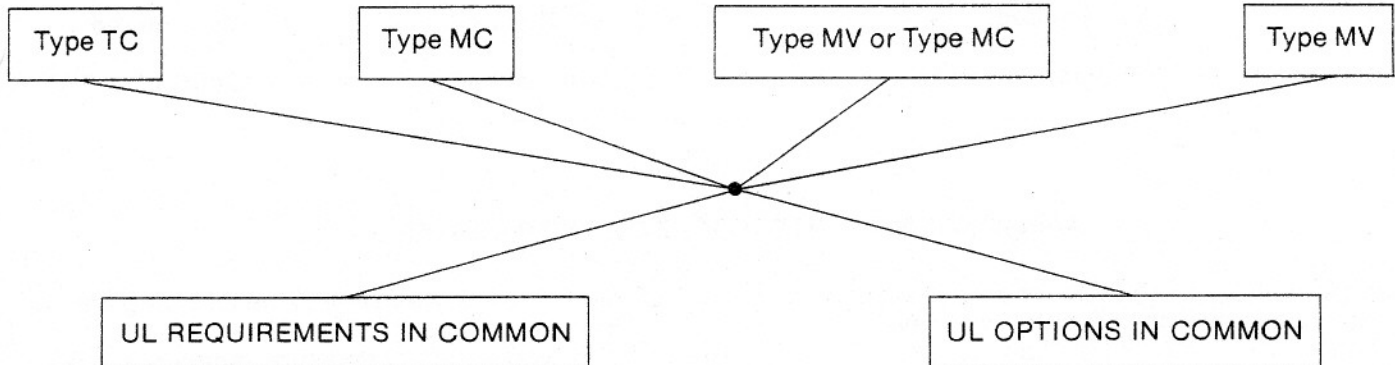
by Power Cable Engineering and Research

ANACONDA Industries 
Wire and Cable Division

Article 334 of the 1978 National Electrical Code outlines the requirements for the construction and installation of Type MC, Article 340 for Type TC, Article 326 for Type MV.

By definition, a metal clad (Type MC) cable is a fabricated assembly of insulated conductors in a flexible metallic enclosure. Type TC is a multiconductor power and control cable having a flame retardant jacket. Type MV is a medium voltage (2-35 kV) cable. Anaconda manufactures four (4) styles of interlocked armored cables which are listed by UL so the user can easily comply with OSHA requirements and have the benefits of interlocked armoring.

1. Type TC— A multiconductor cable having a flame retardant overall jacket with interlocked armor underneath.
2. Type MC— An interlocked armored cable with 600-2000 volt rated conductors.
3. Type MV— A Medium Voltage cable having interlocked armor but not meeting Type MC requirements.
4. Type MV or Type MC— A dual listed Medium Voltage Cable having interlocked armor and also meeting Type MC requirements.



- (1) Listed, or approved for the purpose, conductors
- (2) Galvanized Steel or Aluminum Alloy Interlocked Armor
- (3) Armor Tightness Test
- (4) Flexibility Test
- (5) Connector Pull-Out Test
- (6) UL Labels
- (7) Maximum Conductor Size 1000 MCM (kc mil)
- (8) Multiple Conductor

- (1) Jacket or covering over individual conductors
- (2) Jacket under the armor
- (3) Jacket over the armor (required for TC)
- (4) Fillers
- (5) Markings:
 - (a) Direct burial— for aluminum Type MC only
 - (b) Sunlight Resistant
 - (c) For Cable Tray (CT) use
 - (d) Oil Resistant

SPECIAL REQUIREMENTS AND OPTIONS FOR ANACONDA'S INTERLOCKED ARMOR CABLES

	Type TC	Type MC	Type MV or Type MC	Type MV
1. Voltage Rating	600 Volts	600 - 2000V	5000 - 35,000 Volts	
2. Conductors	a. RHH or RHW (EP/CP) b. XHHW c. FREP	a. RHH or RHW (EP/CP, XLP, FREP) b. XHHW	a. UniBlend b. UniShield c. Durasheath EP 5 kV nonshielded	
3. Flame Test on overall jacket, per UL 854 (similar to VW-1)	Not required	Required		Not Required
4. Grounding Wires	Optional*	Required		Optional
5. Binder over core	{ Optional for RHH/RHW Required for XHHW Required for FREP	Required		Optional
6. Crush Test	Not required	Must Pass		Not required
7. Impact Test	Not required	Must Pass		Not required
8. Flame Tray Test	Required	Optional		Optional

APPLICATION OF INTERLOCKED ARMOR CABLES

The authority having jurisdiction for enforcement of the Code (usually the local inspector) will have the responsibility for making interpretation of the rules, for deciding upon approval of equipment and materials, and for granting the special permission allowed in a number of rules. The authority, having jurisdiction may waive specific requirements in the National Electrical Code and permit alternate methods (See NEC Section 90-4).

The following gives a general guideline for application of interlocked armor cables:

- A. Branch and feeder circuits in both exposed and concealed work where not subject to physical damage.
- B. Partially protected areas, such as cable trays and the like, in dry locations.

- C. Wet locations, when any of the following are met:
 - (1) A lead sheath or moisture impervious jacket is provided under the metallic covering.
 - (2) The insulated conductors under the metallic covering are approved for use in wet locations.
- D. Hazardous areas, in accordance with NEC Article 500.
 - (1) Class I, Division 2: vapors: see NEC 501-4(b)
 - (2) Class II, Division 2: dust: see NEC 502-4 (b)
 - (3) Class III, fibers: see NEC 503-3

*Expected to become mandatory in near future