

(3C) INTERLOCKED ARMOR POWER CABLE, 5000/8000 VOLTS

Three Conductor, EPR Insulated, Shielded, 5kV - 133% or 8kV - 100% Aluminum or Steel Armor
Type MV-105 or Type MC, CT Use

APPLICATION:

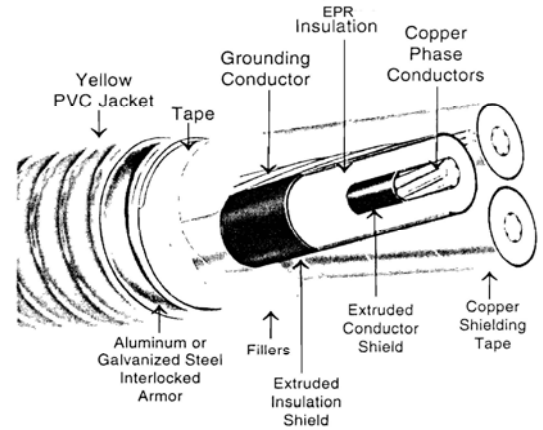
As armored Type MV-105 cable for installation aerially, rack, tray, trough, cable trays, or direct buried; for power circuits not exceeding 5000 volts 133% insulation level or 8000 volts 100% insulation level volts in manufacturing and processing plants, substations and generating stations. May be used in NEC Class I and II, Div. 2 and Class III, Div. 1 and 2 hazardous locations.

STANDARDS:

1. Listed by UL as Type MV-105 per Standard 1072.
2. Also listed for use as Type MC per Standard 1569.
3. Overall jacket UL listed as Sunlight Resistant.
4. Cables pass UL and IEEE-383 ribbon burner flame tests and are UL listed For CT Use.
5. Cables pass IEEE-1 202/CSA FT4(70,000 BTU/hr) cable tray flame test.
6. Cables pass ICEA 210,000 BTU/hr Ribbon Burner Flame Test.
7. Cables UL listed for Direct Burial.
8. Conforms to ICEA S-93-639, NEMA WC74 for 5-46 kV Shielded Power Cable.
9. Conforms to ICEA S-97-682 for Utility Shielded Power Cables Rated 5 Through 46 kV.
10. Conforms to AEIC CS8 for Extruded Dielectric, Shielded Power Cable Rated 5 Through 46 kV.

CONSTRUCTION: Three conductors of stranded copper, extruded conductor shield, EPR (ethylene propylene rubber) insulation, extruded thermoset insulation shield, uncoated copper shielding tape. Three conductors twisted together with one uncoated copper grounding conductor, binder tape, aluminum or galvanized steel interlocked armor, yellow PVC jacket overall.

OPTIONAL JACKETS: CPE, LSZH (Low Smoke Zero Halogen)



USAWC Part #	Size AWG or kcmil	No. of Strands	Insul. Thick. Mils	Nom. Diam. Over Armor Inches	PVC Jkt Thick Mils	Nom. Diam. Over PVC Jkt. Inches	COPPER PHASE CONDUCTORS					Ampacity*	Ampacity**	
							Copper Grounding Conductor AWG	Weight lbs/1000 ft			Ampacity*			Ampacity**
								Alum. Armor	Steel Armor	Copper				
5000 VOLTS - 133% INSULATION LEVEL or 8000 VOLTS - 100% INSULATION LEVEL														
4-035KVESAIA	4	7	115	1.44	50	1.54	6	1360	1745	619	100	115		
2-035KVESAIA	2	7	115	1.57	60	1.70	6	1775	2160	864	135	154		
1-035KVESAIA	1	19	115	1.65	60	1.78	4	2055	2475	1074	155	180		
1/0-035KVESAIA	1/0	19	115	1.78	60	1.91	4	2335	2745	1298	185	205		
2/0-035KVESAIA	2/0	19	115	1.88	60	2.01	4	2705	3130	1566	210	240		
3/0-035KVESAIA	3/0	19	115	1.99	60	2.12	3	2920	3375	1918	245	280		
4/0-035KVESAIA	4/0	19	115	2.11	60	2.24	3	3730	4290	2360	285	320		
250-035KVESAIA	250	37	115	2.23	60	2.36	3	4200	4770	2735	315	355		
350-035KVESAIA	350	37	115	2.46	75	2.62	2	5590	6220	3736	390	440		
500-035KVESAIA	500	37	115	2.77	75	2.93	1	7490	8210	5222	475	545		
750-035KVESAIA	750	61	115	3.18	85	3.37	1/0	10385	11195	7684	585	685		
1000-035KVESAIA	1000	61	115	3.50	85	3.69	1/0	13345	14150	10057	660	790		

*AMPACITY for cables installed in uncovered cable tray without maintained spacing; 105C conductor temperature, 40°C ambient

**AMPACITY for cables installed in uncovered cable tray with maintained spacing of one cable diameter; 105C conductor temperature, 40°C ambient.

For other installation conditions refer to the NEC

Specification

INTERLOCKED ARMOR POWER CABLE, 5000 VOLTS 100% INSULATION LEVEL or 8000 VOLTS 133% INSULATION LEVELS

3 Conductor, EPR Insulated, Shielded, Aluminum or Steel Armor Type MV-105 or Type MC, CT Use

1. SCOPE

- 1.1 This specification describes three conductor EPR (ethylene propylene rubber) insulated, shielded, aluminum or galvanized steel interlocked armor Type MV-105 power cable for use in circuits not exceeding 8000 volts phase-to-phase at conductor temperatures of 105°C for continuous normal operation, 140°C for emergency overload conditions and 250°C for short circuit conditions. Cables are intended for installation indoors or outdoors, aerially, rack, trough or cable trays, or direct burial.

2. STANDARDS

- 2.1 The following standards shall form a part of this specification to the extent specified herein:
 - 2.1.1 UL Standard 1072 for Type MV-105 cable.
 - 2.1.2 ICEA Pub. No. S-93-639, NEMA Pub. No. WC74 for 5-46 kV Shielded Power Cable.
 - 2.1.3 ICEA Pub. No. S-97-682 for Utility Shielded Power Cables Rated 5 Through 46 kV.
 - 2.1.4 AEIC CS8 for Extruded Dielectric, Shielded Power Cables Rated 5 Through 46 kV.

3. CONDUCTORS

- 3.1 Class B stranded annealed uncoated copper per Part 2 of ICEA.

4. CONDUCTOR SHIELD

- 4.1 Conductors shall be covered with a layer of extruded conducting thermosetting compound with thickness in accordance with Table 3-1 of ICEA S-97-682. The extruded layer shall be compatible with and firmly bonded to the cable insulation and shall be in accordance with Par. 3.1 and meet the resistivity requirements of Par. 3.6.1 of ICEA S-97-682.

5. INSULATION

- 5.1 Directly over the conductor shield shall be applied a homogeneous wall of EPR insulation. The average thickness of insulation shall be 115 mils. Minimum thickness at any point shall be not less than 90% of the specified thickness. Physical and electrical properties of the insulation shall be in accordance with Part 4 of ICEA S-97-682 for a Class III insulation.

6. SHIELDING

- 6.1 Over the insulation shall be applied an extruded conducting thermosetting insulation shield. It shall be in intimate contact with the outer surface of the insulation and shall be free stripping, leaving no conducting particles or other residue on the insulation surface. This layer shall be legibly identified as being conducting. The thickness of this layer shall be in accordance with Table 5-1 of ICEA S-97-682. The insulation shield shall meet the requirements of Par. 5.5.1 of ICEA S-97-682.
- 6.2 An uncoated copper tape shall be helically applied over the extruded insulation shield with a minimum lap of 12.5%. The copper tape shall meet the requirements of Part 6 of ICEA S-97-682.

7. PHASE IDENTIFICATION

- 7.1 A colored (1/C black, 1/C red, 1/C blue) tape shall be applied longitudinally under the copper shielding tape to provide phase identification.

8. ASSEMBLY

- 8.1 Three phase conductors shall be cabled together with a Class B stranded, uncoated copper grounding conductor and suitable fillers to make round. Length of lay shall not exceed 35 times the phase conductor diameter. The grounding conductor shall comply with the requirements of UL Standard 1072.

9. CABLE TAPE

- 9.1 A suitable cable tape shall be applied over the assembly to hold the core together and provide bedding for the armor.

10. ARMOR

- 10.1 An aluminum or galvanized steel interlocked armor shall be applied over the cable core. Armor shall be in accordance with UL Standard 1072 and Par. 7.3.3 of ICEA S-93-639.

11. COVERING

- 11.1 Shall be PVC meeting the requirements of Part 7 of ICEA S-93-639 and UL 1072. The covering shall meet the Sunlight Resistant requirements of UL 1072. Average thickness shall be in accordance with UL 1072. Minimum thickness at any point shall be not less than 70% of the required average thickness.

12. IDENTIFICATION

- 12.1 An ink print legend shall be applied to the surface of the PVC covering providing cable and manufacturer identification.

13. TESTS

- 13.1 Cables shall be tested in accordance with UL requirements for Type MV-105 cable, ICEA S-93-639, ICEA S-97-682 and AEIC CS8.
- 13.2 Cables shall be capable of passing the ribbon burner cable tray flame test requirements of UL and shall be UL listed "For CT Use".