

(3C) EPR POWER CABLE, 5000 VOLTS

Three conductor, Shielded, with Grounding Conductor
 AEIC CS8, MV-105, Sunlight Resistant, CT Use

APPLICATION:

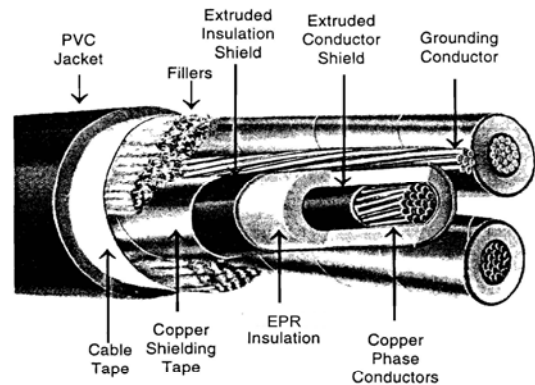
As medium voltage MV-105 power cable for use in main feeder, distribution and branch circuits in industrial, commercial and electrical utility installations. Cables may be used in wet or dry locations in circuits not exceeding 5000 volts 100% and 133% insulation level, at conductor temperatures not exceeding 105°C for normal, 140°C for emergency overload and 250°C for short circuit conditions. Suitable for installation in conduit, tray, trough, duct, aerial and direct burial applications.

STANDARDS:

1. Conforms to ICEA S-93-639, NEMA WC74 for 5-46 kV Shielded Power Cable.
2. Conforms to ICEA S-97-682 for Utility Shielded Power Cables Rated 5 Through 46 kV.
3. Conforms to AEIC CS8 for Extruded Dielectric, Shielded Power Cables Rated 5 through 46 kV.
4. Listed by UL as Type MV-105, per Standard 1072.
5. Cables UL listed as Sunlight Resistant.
6. Cables UL listed for Direct Burial.
7. Cables pass UL and IEEE-383 ribbon burner flame tests and are UL listed For CT Use.
8. Conforms to Federal Specification J-C-30B.

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, suitable fillers, binder tape, black PVC jacket overall, surface printed.

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



USAWC Part #	Size AWG or kcmil	No. Strands	Thickness in Mils		Nominal Diameter Over Ins. Inches	Nom. Diam. Inches	Grounding Conductor Size AWGM	Approx. Net Wt. lbs/1000 ft	Copper Weight lbs/1000 ft	Ampacity *	
			Insulation	Jacket						Conduit	Duct
5000 VOLTS, 100% and 133% INSULATION LEVELS											
4-035KVESP	4	7	115	80	.50	1.44	6	1245	616	100	115
2-035KVESP	2	7	115	80	.56	1.57	6	1575	860	135	154
1-035KVESP	1	19	115	80	.60	1.70	4	1950	1074	155	180
1/0-035KVESP	1/0	19	115	110	.64	1.80	4	2250	1290	185	205
2/0-035KVESP	2/0	19	115	110	.68	1.89	4	2585	1556	210	240
3/0-035KVESP	3/0	19	115	110	.73	2.00	3	3040	1918	245	280
4/0-035KVESP	4/0	19	115	110	.79	2.13	3	3685	2344	285	320
250-035KVESP	250	37	115	110	.85	2.25	3	4160	2759	315	355
350-035KVESP	350	37	115	110	.95	2.47	2	5340	3713	390	440
500-035KVESP	500	37	115	110	1.08	2.79	1	6610	5191	475	545
750-035KVESP	750	61	115	140	1.27	3.26	1/0	10275	7629	585	685
1000-035KVESP	1000	61	115	140	1.42	3.59	1/0	12990	10070	660	790

TRAY: Single layer in uncovered cable tray with one cable diameter spacing, 105°C Conductor Temperature, 40°C Ambient. CONDUIT: Three cables in isolated conduit in air, 105°C Conductor Temperature, 40°C Ambient. DUCT: Three cables per duct, 105°C Conductor Temperature, 20°C Ambient, One Circuit, 100% Load Factor, Rho = 90. For other installation conditions refer to the NEC.

Specification

EPR POWER CABLE, 5000 VOLTS

Three Conductor, Shielded, with Grounding Conductor AEIC CS8, MV-105, Sunlight Resistant, CT Use

1. SCOPE
 - 1.1 This specification describes three-conductor -EPR (ethylene-propylene rubber) insulated, polyvinyl chloride jacketed shielded power cable for use in circuits not exceeding 5000 volts 100% and 133% insulation level at conductor temperatures of 105°C continuous normal operation, 140°C for emergency overload conditions, and 250°C for short circuit conditions. Cables are intended for use as Type MV-105 in wet or dry locations, including conduit, cable tray, duct, direct burial and aerial installation.
2. STANDARDS
 - 2.1 The following standards shall form a part of this specification to the extent specified herein:
 - 2.1.1 ICEA Pub. No. S-93-639, NEMA Pub. No. WC74 for 5-46 kV Shielded Power Cable.
 - 2.1.2 ICEA Pub. No. S-97-682 for Utility Shielded Power Cables Rated 5 Through 46 kV.
 - 2.1.3 AEIC CS8 for Extruded Dielectric, Shielded Power Cables Rated 5 Through 46 kV.
 - 2.1.4 UL Standard 1072 for Type MV-105.
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. CIRCUIT IDENTIFICATION
 - 7.1 A color coded tape (black, red, blue) applied under the metallic shielding tape shall provide circuit identification on each power conductor.
8. ASSEMBLY
 - 8.1 Three insulated and shielded 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 individual phase conductor diameter. The grounding conductor shall comply with the requirements of UL Standard 1072.
9. CABLE TAPE
 - 9.1 The cable assembly shall be covered with a suitable tape having a minimum 10% lap.
10. OVERALL JACKET
 - 10.1 A polyvinyl chloride jacket shall be applied overall. The jacket shall meet the requirements of Part 7 of ICEA S-97-682 and UL 1072. The jacket shall meet the Sunlight Resistant requirements of UL Standard 1072. The jacket thickness shall be as specified in Part 7 of ICEA S-97-682 and UL 1072. The minimum thickness at any point shall be not less than 80% of the specified UL thickness.
11. IDENTIFICATION
 - 11.1 All cable shall be identified by means of surface ink printing indicating manufacturer, number of conductors, size, insulation type, voltage rating and UL designations.