

## (3C) EPR POWER CABLE, 15000 VOLTS

Three Conductor, Shielded, with Grounding Conductor, 133%  
 AEIC CS8, MV-105, Sunlight Resistant, CT Use

**APPLICATION:**

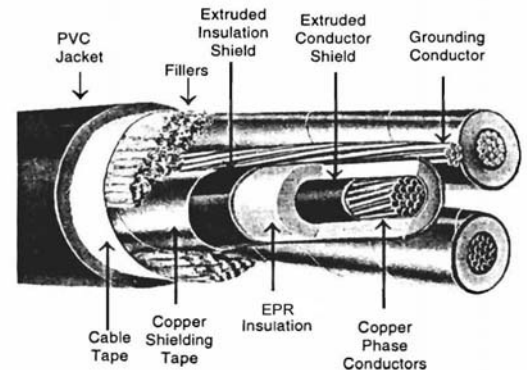
As medium voltage MV-105 power cable for use in main feeder, distribution and branch circuits in industrial, commercial and electric utility installations. Cables may be used in wet or dry locations in circuits not exceeding 15000 volts 133% insulation level, at conductor temperatures not exceeding 105°C 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 W.
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. Overall jacket 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. of 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	Air
<b>15000 VOLTS, 133% INSULATION LEVEL</b>											
2-0315KVESPU	2	7	220	110	.77	2.09	6	2410	913	165	185
1-0315KVESPU	1	19	220	110	.81	2.22	4	2690	1125	185	210
1/0-0315KVESPU	1/0	19	220	110	.85	2.26	4	2965	1343	215	240
2/0-0315KVESPU	2/0	19	220	110	.90	2.36	4	3330	1609	245	275
3/0-0315KVESPU	3/0	19	220	110	.95	2.52	3	3800	1972	280	315
4/0-0315KVESPU	4/0	19	220	110	1.00	2.59	3	4375	2398	320	360
250-0315KVESPU	250	37	220	110	1.06	2.75	3	5025	2812	350	400
350-0315KVESPU	350	37	220	140	1.16	3.04	2	6465	3766	430	490
500-0315KVESPU	500	37	220	140	1.29	3.32	1	8340	5244	525	600
750-0315KVESPU	750	61	220	140	1.48	3.73	1/0	11510	7682	635	745
1000-0315KVESPU	1000	61	220	140	1.61	3.99	2/0	13983	10124	725	860

\*CONDUIT: Three conductor cable in isolated conduit in air, 105°C Conductor Temperature, 40°C Ambient, AIR: Three conductor cable isolated in air, 105°C Conductor Temperature, 40°C Ambient. For other installation conditions, refer to the NEC

## Specification

### EPR POWER CABLE, 15000 VOLTS, 133% INSULATION LEVEL

#### 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 15,000 volts 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 220 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 8-97-682 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 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 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 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 average thickness of the jacket 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.