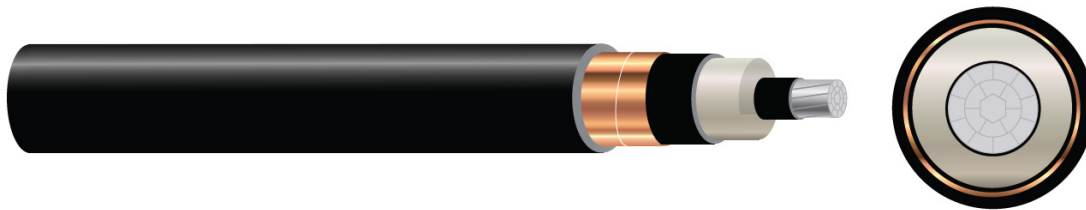


Type MV-105 Single Conductor Aluminum Cable is a high-performance, medium-voltage cable designed for demanding applications in both wet and dry environments. With 420 mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% insulation level and a helically wrapped copper tape shield, it delivers excellent electrical properties and is suitable for conduit, duct, tray, trough, and direct burial installations. This cable features a rugged PVC jacket with a low coefficient of friction (COF 0.2), allowing for easy installation without lubrication and supporting sidewall pressure up to 1000 lbs./FT.



Applications

- Designed for use in conduits, ducts, troughs, trays, and direct burial
- Ideal where superior electrical properties are required
- Suitable for environments requiring:
 - Medium voltage power cable
 - Water resistance
 - Superior electrical properties

Features

- Voltage: 35KV (35000V)
- Temperature Ratings:
 - 105°C during normal operation
 - 140°C during emergency overload
 - 250°C during short circuit conditions
- Flame Performance: ST1 (low smoke) rated for sizes 1/0 AWG and larger
- Bend Test: Cold bend rated to -35°C

Construction

- Conductor: Class B compact stranded 8000 Series aluminum
- Conductor Shield:
 - Semi-conducting cross-linked copolymer
 - Conductor separator used for cable size larger than or equal to 500 Kcmil
- Insulation: 420 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level
- Insulation Shield: Strippable semi-conducting cross-linked copolymer
- Copper Tape Shield: Helically wrapped 5 mil copper tape with 25% overlap
- Jacket: Polyvinyl Chloride (PVC)

Standards & Certifications

- ASTM B800 and ASTM B836 Conductors
- UL® 1072, UL® 1685 / FT4-ST1 and UL® 2556
- ICEA S-93-639 (NEMA WC 74) – 5-46 and ICEA S-97-682 – 5-46
- IEEE 1202
- AEIC CS-8
- CSA C68.10, CSA C22.2 No.230 and CSA C22.2 No. 2556

Weights & Measurements

Part Number	Stock Code	Cond. Size (AWG)	Cond. (1) (in)	Diameter over Jacket (3) (in)	Insul. Shield (in)	Jacket Thickness ¹ (mils)	Approx. OD (6) (in)	Approx. Weight (lbs/MFT)	Max Pull Tension (lbs)	Min Bending Radius (inches)	Conduit Size* (inches)
MV1/0AL35KV	566994	1/0	0.336	1.213	1.273	80	1.453	985	634	17.4	4
MV2/0AL35KV	590621	2/0	0.376	1.253	1.313	80	1.493	1049	799	17.9	5
MV3/0AL35KV	566995	3/0	0.423	1.3	1.36	80	1.54	1127	1007	18.5	5
MV4/0AL35KV	591197	4/0	0.475	1.352	1.412	80	1.592	1217	1270	19.1	5
MV250AL35KV	591198	250	0.52	1.406	1.466	80	1.646	1308	1500	19.8	5
MV350AL35KV	591199	350	0.616	1.502	1.562	80	1.742	1495	2100	20.9	5
MV500AL35KV	578178	500	0.736	1.622	1.682	110	1.922	1856	3000	23.1	6
MV750AL35KV	566996	750	0.908	1.825	1.885	110	2.125	2311	4500	25.5	6
MV1000AL35KV	597787	1000	1.06	1.977	2.037	110	2.277	2702	6000	27.3	
MV1250AL35KV	677472	1250	1.25	2.171	2.231	110	2.471	3141	7500	30	

* All dimensions are nominal and subject to normal manufacturing tolerances

* Conduit size based on 3 phase 40% fill-factor without ground

* Comply with ICEA S-93-639 Appendix C for jacket thickness determination

Electrical & Engineering Data

Part Number	Stock Code	Cond. Size (AWG)	Resistance DC at 25C (Ω/MFT)	Reactance at 90C (Ω/MFT)	Reactance Xc at 60Hz (Ω/MFT)	Reactance Xl at 60Hz (Ω/MFT)	Positive Sequence Impedance* (MΩ*MFT)	Zero Sequence Impedance* (Ω/MFT)	Shield Short Circuit Current 6 Cycles (Amps)	Allowable Ampacities In Duct† (90C/105C) (Amps)	Allowable Ampacities In Air‡ (90C/105C) (Amps)
MV1/0AL35KV	566994	1/0	0.168	0.211	0.069	0.055	0.212 + j0.055	0.550 + j0.280	4174	155 / 165	200 / 225
MV2/0AL35KV	590621	2/0	0.133	0.167	0.065	0.053	0.168 + j0.053	0.502 + j0.269	4304	175 / 190	230 / 260
MV3/0AL35KV	566995	3/0	0.105	0.132	0.061	0.051	0.133 + j0.051	0.462 + j0.257	4457	200 / 215	270 / 300
MV4/0AL35KV	591197	4/0	0.084	0.105	0.056	0.05	0.106 + j0.049	0.430 + j0.245	4626	230 / 245	310 / 345
MV250AL35KV	591198	250	0.071	0.089	0.054	0.048	0.090 + j0.048	0.409 + j0.233	4802	250 / 270	345 / 380
MV350AL35KV	591199	350	0.051	0.064	0.048	0.046	0.064 + j0.046	0.374 + j0.214	5114	305 / 330	430 / 475
MV500AL35KV	578178	500	0.035	0.045	0.043	0.044	0.046 + j0.044	0.343 + j0.194	5505	370 / 400	530 / 590
MV750AL35KV	566996	750	0.024	0.03	0.038	0.041	0.031 + j0.041	0.310 + j0.166	6165	455 / 490	685 / 765
MV1000AL35KV	597787	1000	0.018	0.023	0.034	0.039	0.024 + j0.039	0.290 + j0.149	6660	525 / 565	825 / 920
MV1250AL35KV	677472	1250	0.014	0.02	0.029	0.037	0.014 + j0.037	0.264 + j0.131	7222	595 / 640	950 / 1055

* Calculations are based on three cables triplexed / 5 mil 25 % over lapping copper tape shield / Conductor temperature of 90°C / Shield temperature of 45°C / Earth resistivity of 100 ohms-meter

* Ampacities are based on TABLE 310.60(C)(78) Detail 1. of the 2017 National Electrical Code (20°C Ambient Earth Temperature, Thermal Resistance ROH of 90) and TABLE 310.60(C)(70) of the 2014 National Electrical Code (40°C Ambient Air Temperature)