

# MV-105

## Medium Voltage Cable

5kV, 8kV, 15kV, 25kV & 35kV



# AmerCable

# MV-105 Medium Voltage Power Cable

- 5kV 133% Insulation Level

- 8kV 100% Insulation Level

## Conductor

Bare, annealed copper conforming to ASTM B3 and Class B Compact stranded in accordance with ASTM B496.

## Grounding Conductor

Bare, annealed copper conforming to ASTM B3 and Class B stranded in accordance with ASTM B8.

## Insulation Shield Nonmetallic

Extruded semiconducting insulation shield meets or exceeds electrical and physical requirements of UL 1072.

## Conductor Shield

Extruded semiconducting conductor shield meets or exceeds electrical and physical requirements of UL 1072.

## Insulation

EPR meets or exceeds electrical and physical requirements of UL 1072.

## Metallic Shield

Bare copper tape shield helically wrapped to provide 100% coverage.

## Binder Tape

Synthetic material assembles the core in an essentially round configuration.

## Jacket

Mold-cured thermosetting Chlorinated Polyethylene (CPE) Jacket. Black jacket is standard.



## APPLICATION

Nexans AmerCable medium voltage power cables are recommended for use as feeder circuits, in electric utility generating stations, for distribution circuits, and for feeders or branch circuits in industrial and commercial installations. Type MV cables may be installed in wet or dry locations, indoors or outdoors (exposed to sunlight), in any raceway or underground duct, directly buried if installed in a system with a grounding conductor in close proximity that conforms with NEC Section 250.4(A)(5), or messenger supported in industrial establishments and electric utilities.

## FEATURES

- UL listed as Type MV-105
- Flame retardant: UL 1685, IEEE 1202 and CSA FT4 vertical tray flame tests
- Excellent mechanical and physical properties
- Sunlight resistant jacket
- Suitable for direct burial, use in cable tray and embedment in concrete

## BEND RADIUS

- Fixed position: 7 x cable overall diameter
- During pulling: 12 x cable overall diameter

## RATINGS & APPROVALS

- 105°C Temperature Rating
- Emergency Temperature Ratings
  - Overload: 140°C
  - Short Circuit: 250°C
- Meets UL 1072 requirements for medium voltage power cables
- Insulation meets electrical and physical requirements of ICEA S-93-639/NEMA WC 74 and UL 1072
- Meets AEIC CS 8 – specification for extruded dielectric shielded power cables rated 5 - 46kV (Qualification Test Requirements).
- Meets ICEA S-97-682 Standard for Shielded Utility Cable Rated for 5-46kV



## 5kV • 100% INSULATION • 1/C

Part Number (37-505)	Size	Insulation Thickness	Outside Diameter	Weight (lbs/Kft)	Ampacities			DC Res. 20C Ω/kft	DC Res. 25C Ω/kft	AC Resist. 90C, 60 Hz Ω/kft	Inductive Reactance 90C, 60 Hz Ω/kft	Voltage Drop Volts/Amps/kft
					In Air	Cable Tray	Direct Burial					
101	8	90	0.575	231	74	–	69	0.6535	0.6663	0.8332	0.056	0.700
102	6	90	0.605	277	99	–	92	0.4112	0.4192	0.5242	0.053	0.451
103	4	90	0.645	344	130	–	120	0.2585	0.2636	0.3296	0.049	0.293
104	2	90	0.700	448	175	–	155	0.1626	0.1659	0.2075	0.045	0.193
105	1	90	0.735	518	205	–	180	0.1289	0.1315	0.1644	0.043	0.157
106	1/0	90	0.770	603	240	218	210	0.1022	0.1042	0.1304	0.041	0.129
107	2/0	90	0.810	707	275	248	235	0.0811	0.0827	0.1035	0.040	0.107
109	4/0	90	0.950	1035	475	334	310	0.0510	0.0520	0.0653	0.038	0.075
110	250	90	0.995	1179	415	371	345	0.0432	0.0440	0.0553	0.037	0.066
111	350	90	1.095	1546	515	461	415	0.0308	0.0314	0.0396	0.035	0.053
112	500	90	1.215	2074	645	581	505	0.0361	0.0220	0.0280	0.034	0.043
113	750	90	1.460	3001	835	750	630	0.0144	0.0147	0.0191	0.031	0.034

## 5kV 133% INSULATION • 8kV 100% INSULATION • 1/C

Part Number (37-505)	Size	Insulation Thickness	Outside Diameter	Weight (lbs/Kft)	Ampacities			DC Res. 20C Ω/kft	DC Res. 25C Ω/kft	AC Resist. 90C, 60 Hz Ω/kft	Inductive Reactance 90C, 60 Hz Ω/kft	Voltage Drop Volts/Amps/kft
					In Air	Cable Tray	Direct Burial					
118	6	115	0.645	302	110	–	97	0.4112	0.4192	0.5242	0.054	0.452
119	4	115	0.690	374	140	–	125	0.2585	0.2636	0.3296	0.050	0.294
120	2	115	0.745	480	195	–	165	0.1626	0.1659	0.2075	0.047	0.194
121	1	115	0.775	547	225	–	185	0.1289	0.1315	0.1644	0.044	0.158
122	1/0	115	0.815	636	255	218	215	0.1022	0.1042	0.1304	0.043	0.130
123	2/0	115	0.895	779	295	251	245	0.0811	0.0827	0.1035	0.042	0.108
125	4/0	115	0.995	1076	390	334	315	0.0510	0.0520	0.0653	0.039	0.076
126	250	115	1.040	1222	430	371	345	0.0432	0.0440	0.0553	0.038	0.067
127	350	115	1.135	1586	525	458	415	0.0308	0.0314	0.0396	0.036	0.053
128	500	115	1.255	2119	650	574	500	0.0361	0.0220	0.0280	0.034	0.043
129	750	115	1.505	3059	820	743	610	0.0144	0.0147	0.0191	0.032	0.034

## 5kV 133% INSULATION • 8kV 100% INSULATION • 3/C

Part Number (37-505)	Size	Ground Size	Insulation Thickness	Outside Diameter	Weight (lbs/Kft)	Ampacities			DC Res. 20C Ω/kft	DC Res. 25C Ω/kft	AC Resist. 90C, 60 Hz Ω/kft	Inductive Reactance 90C, 60 Hz Ω/kft	Voltage Drop Volts/Amps/kft
						In Air	Cable Tray	Direct Burial					
302	6	6	115	1.305	1099	105	87	95	0.4112	0.4192	0.5242	0.049	0.449
303	4	6	115	1.400	1304	135	114	125	0.2585	0.2636	0.3296	0.045	0.291
304	2	6	115	1.520	1642	185	157	160	0.1626	0.1659	0.2075	0.042	0.191
305	1	4	115	1.590	1913	210	176	185	0.1289	0.1315	0.1644	0.040	0.156
306	1/0	4	115	1.635	2032	240	204	210	0.1022	0.1042	0.1304	0.038	0.127
307	2/0	4	115	1.810	2632	275	233	235	0.0811	0.0827	0.1035	0.037	0.105
309	4/0	3	115	2.030	3619	360	304	305	0.0510	0.0520	0.0653	0.035	0.073
310	250	3	115	2.125	4133	400	333	335	0.0432	0.0440	0.0553	0.034	0.065
311	350	2	115	2.335	5271	490	409	400	0.0308	0.0314	0.0396	0.032	0.051
312	500	1	115	2.595	7100	600	499	485	0.0361	0.0220	0.0280	0.031	0.041
313	750	1/0	115	3.190	10359	745	603	585	0.0144	0.0147	0.0191	0.029	0.033

**Notes:**

- 1) Ampacities in air are based on NEC 2017 Table 310.60(C)(71), for insulated three conductor copper cable isolated in air, maximum conductor temperature of 105°C, ambient air temperature of 40°C.
- 2) Ampacities in cable tray are based on NEC 2017 Table 310.60(C)(75), for insulated three conductor copper cable in isolated conduit in air, maximum conductor temperature of 105°C, ambient air temperature of 40°C.
- 3) Ampacities for direct burial are based on NEC 2017 Table 310.60(C)(83), for insulated three conductor copper cable, directly buried, maximum conductor temperature of 105°C, ambient earth temperature of 20°C, 100 percent load factor, earth thermal resistivity of 90°C cm / W.

# MV-105 Medium Voltage Power Cable

## Rated 15kV– 35kV

### Conductor

Bare, annealed copper conforming to ASTM B3 and Class B Compact stranded in accordance with ASTM B496.

### Grounding Conductor

Bare, annealed copper conforming to ASTM B3 and Class B stranded in accordance with ASTM B8.

### Insulation Shield Nonmetallic

Extruded semiconducting insulation shield meets or exceeds electrical and physical requirements of UL 1072.

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## APPLICATION

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## FEATURES

- UL listed as Type MV-105
- Flame retardant: UL 1685, IEEE 1202 and CSA FT4 vertical tray flame tests
- Excellent mechanical and physical properties
- Sunlight resistant jacket
- Suitable for direct burial, use in cable tray and embedment in concrete
- Phase identification: Color coded (black, red, blue) polyester ribbon laid longitudinally under the copper shield tape

## BEND RADIUS

- Fixed position: 7 x cable overall diameter
- During pulling: 12 x cable overall diameter

## RATINGS & APPROVALS

- 105°C Temperature Rating
- Emergency Temperature Ratings
  - Overload: 140°C
  - Short Circuit: 250°C
- Meets UL 1072 requirements for medium voltage power cables
- Insulation meets electrical and physical requirements of ICEA S-93-639/NEMA WC 74 and UL 1072
- Meets AEIC CS 8 – specification for extruded dielectric shielded power cables rated 5 - 46kV (Qualification Test Requirements).
- Meets ICEA S-97-682 Standard for Shielded Utility Cable Rated for 5-46kV



## 15kV • 133% INSULATION • 1/C

Part Number (37-505)	Size	Insulation Thickness	Outside Diameter	Weight (lbs/Kft)	Ampacities			DC Res. 20C Ω/kft	DC Res. 25C Ω/kft	AC Resist. 90C, 60 Hz Ω/kft	Inductive Reactance 90C, 60 Hz Ω/kft	Voltage Drop Volts/Amps/kft
					In Air	Cable Tray	Direct Burial					
164	2	220	1.005	700	195	–	165	0.1626	0.1659	0.2075	0.054	0.198
165	1	220	1.035	774	225	–	185	0.1289	0.1315	0.1644	0.051	0.162
166	1/0	220	1.070	867	255	218	215	0.1022	0.1042	0.1304	0.049	0.134
167	2/0	220	1.115	987	295	251	245	0.0811	0.0520	0.1035	0.047	0.111
169	4/0	220	1.210	1295	390	334	315	0.0510	0.0440	0.0653	0.044	0.079
170	250	220	1.275	1473	430	371	345	0.0432	0.0827	0.0553	0.043	0.070
171	350	220	1.370	1856	525	458	415	0.0308	0.0314	0.0396	0.040	0.056
172	500	220	1.480	2411	650	574	500	0.0361	0.0220	0.0280	0.038	0.045
173	750	220	1.780	3478	820	743	610	0.0144	0.0147	0.0191	0.036	0.037

## 15kV 133% INSULATION LEVEL • 3/C

Part Number (37-505)	Size	Ground Size	Insulation Thickness	Outside Diameter	Weight (lbs/Kft)	Ampacities			DC Res. 20C Ω/kft	DC Res. 25C Ω/kft	AC Resist. 90C, 60 Hz Ω/kft	Inductive Reactance 90C, 60 Hz Ω/kft	Voltage Drop Volts/Amps/kft
						In Air	Cable Tray	Direct Burial					
357	2	6	220	2.045	2401	185	157	160	0.1626	0.1659	0.2075	0.049	0.195
358	1	4	220	2.110	2729	210	176	185	0.1289	0.1315	0.1644	0.047	0.160
359	1/0	4	220	2.190	3069	240	204	210	0.1022	0.1042	0.1304	0.045	0.131
360	2/0	4	220	2.275	3343	275	233	235	0.0811	0.0827	0.1035	0.043	0.109
362	4/0	3	220	2.490	4345	360	304	305	0.0510	0.0520	0.0653	0.040	0.076
363	250	3	220	2.625	4957	400	333	335	0.0432	0.0440	0.0553	0.039	0.068
364	350	2	220	2.895	6349	490	409	400	0.0308	0.0314	0.0396	0.037	0.054
365	500	1	220	3.155	8359	600	499	485	0.0361	0.0220	0.0280	0.035	0.043
366	750	1/0	220	3.655	11657	745	603	585	0.0144	0.0147	0.0191	0.033	0.035

## 25kV 133% INSULATION • 35kV 100% INSULATION 1/C

Part Number (37-505)	Size	Insulation Thickness	Outside Diameter	Weight (lbs/Kft)	Ampacities			DC Res. 20C Ω/kft	DC Res. 25C Ω/kft	AC Resist. 90C, 60 Hz Ω/kft	Inductive Reactance 90C, 60 Hz Ω/kft	Voltage Drop Volts/Amps/kft
					In Air	Cable Tray	Direct Burial					
180	1/0	345	1.350	1178	255	218	215	0.1022	0.1042	0.1304	0.054	0.144
181	2/0	345	1.385	1296	295	248	245	0.0811	0.0827	0.1035	0.052	0.115
183	4/0	345	1.485	1632	390	334	315	0.0510	0.0520	0.0653	0.049	0.072
184	250	345	1.530	1797	430	368	345	0.0432	0.0440	0.0553	0.047	0.061
185	350	345	1.625	2198	525	454	415	0.0308	0.0314	0.0396	0.044	0.043
186	500	345	1.805	2890	650	566	500	0.0361	0.0220	0.0280	0.043	0.042
187	750	345	2.055	3945	820	728	610	0.0144	0.0147	0.0191	0.039	0.020

### Notes:

- 1) Ampacities in air are based on NEC 2017 Table 310.60(C)(71), for insulated three conductor copper cable isolated in air, maximum conductor temperature of 105°C, ambient air temperature of 40°C.
- 2) Ampacities in cable tray are based on NEC 2017 Table 310.60(C)(75), for insulated three conductor copper cable in isolated conduit in air, maximum conductor temperature of 105°C, ambient air temperature of 40°C.
- 3) Ampacities for direct burial are based on NEC 2017 Table 310.60(C)(83), for insulated three conductor copper cable, directly buried, maximum conductor temperature of 105°C, ambient earth temperature of 20°C, 100 percent load factor, earth thermal resistivity of 90°C cm / W.

# MV-105

## Medium Voltage Cable

5kV, 8kV, 15kV, 25kV & 35kV

AmerCable is a leading global manufacturer of industrial power cables for harsh environments.



As an ISO 9001-certified cable manufacturer, AmerCable combines leading-edge technology, proven manufacturing techniques and high-quality service to deliver the finest cable products available.

We serve a worldwide customer base from our manufacturing facility in El Dorado, Arkansas. Our professional field engineers and customer support team work directly with end-users, or in partnership with a network of independent distributors, to deliver productivity enhancing cable solutions.

### WHAT CAN YOU EXPECT FROM AMERCABLE?

- Shortest Lead Times
- High-Quality Cable with an Emphasis on Safety & Reliability
- On-Time Delivery
- Professional Sales, Support and Service
- Strategic Inventory Locations

FOLLOW US!



# AmerCable

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