

1/C AL 15kV 175 NLEPR 100% SIMpull® PVC MV-105

Type MV-105 Single Conductor Aluminum, 175 Mills No Lead Ethylene Propylene Rubber (NL-EPR) 100% Insulation Level, Tape Shield, SIMpull Polyvinyl Chloride (PVC) Jacket, Dual Rated UL/CSA

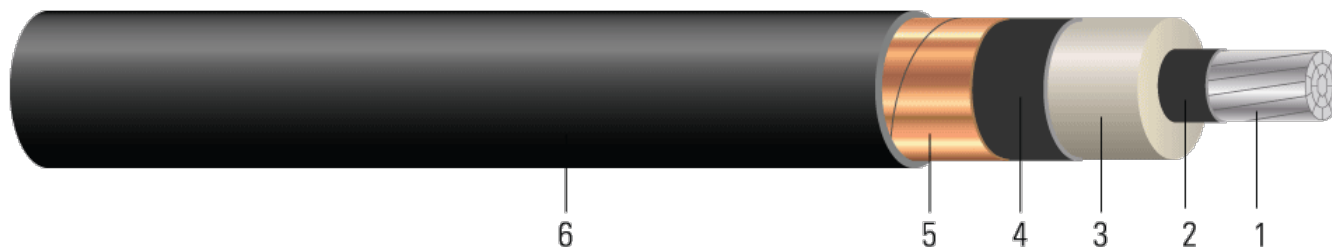


Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

- Conductor:** Class B compact stranded 8000 Series aluminum per ASTM B800 and ASTM B836
- Conductor Shield:** Semi-conducting cross-linked copolymer; A conductor separator is used for cable size larger than or equal to 500 Kcmil
- Insulation:** 175 Mills No Lead Ethylene Propylene Rubber (NL-EPR) 100% Insulation Level,
- Insulation Shield:** Strippable semi-conducting cross-linked copolymer
- Copper Tape Shield:** Helically wrapped 5 mil copper tape with 25% overlap
- Overall Jacket:** Polyvinyl Chloride (PVC)

APPLICATIONS AND FEATURES:

Southwire's 15KV cables are suited for use in wet and dry areas, conduits, ducts, troughs, trays, direct burial when installed with a grounding conductor in close proximity that conforms to NEC section 311.36 and 250.4(A)(5), and where superior electrical properties are desired. These cables are capable of operating continuously at the conductor temperature not in excess of 105°C for normal operation, 140°C for emergency overload, and 250°C for short circuit conditions. Rated at -35°C for cold bend. ST1 (low smoke) Rated for sizes 1/0 and larger. PVC jacket is made with SIM technology and has a coefficient of friction COF of 0.2. Cable can be installed in conduit without the aid of lubrication. Rated for 1000 lbs./FT maximum sidewall pressure.

SPECIFICATIONS:

- ASTM B800 8000 Series Aluminum Alloy Wire
- ASTM B836 Compact Rounded Stranded Aluminum Conductors
- UL 1072 Medium-Voltage Power Cables
- UL 1685 FT4-ST1 Vertical-Tray Fire Propagation and Smoke Release Test (1/0 and Larger)
- CSA C22.2 No.230 Tray Cables - Rated TC-ER (1/0 AWG and Larger)
- CSA C22.2 No. 2556 / UL 2556 Cable Test Methods
- CSA C68.10 Shielded Power Cables for Commercial and Industrial Applications - 5 to 46 KV
- ICEA S-93-639 (NEMA WC 74) 5-46 KV Shielded Power Cable
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test (1/0 and Larger)
- AIEC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV



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SAMPLE PRINT LEGEND:

SOUTHWIRE [SYMBOL - LIGHTING BOLT] #P# (UL/CSA) 1/C [#AWG or #kcmil] AL 175 MILS NL-EPR 15KV 100% INS LEVEL 25% TS MV-105 FOR CT USE SUN. RES. TC-ER(CSA 1/0 LARGER) FOR DIRECT BURIAL FT4 -ST1 YEAR (NESC) [SEQUENTIAL FEET MARKS]

Table 1 – Weights and Measurements

Stock Number	Cond. Size	Diameter Over Conductor	Diameter Over Insulation	Diameter Over Insulation Shield	Jacket Thickness ¹	Approx. OD	Approx. Weight	Max Pull Tension	Min Bending Radius	Conduit Size*
	AWG/ Kcmil	inch	inch	inch	mil	inch	lb/1000ft	lb	inch	inch
TBA	2	0.268	0.655	0.715	65	0.865	384	398	10.4	2.5
TBA	1	0.299	0.686	0.746	65	0.896	417	502	10.8	2.5
TBA	1/0	0.336	0.723	0.783	80	0.963	484	634	11.6	3
TBA	2/0	0.376	0.763	0.823	80	1.003	533	799	12.0	3
TBA	3/0	0.423	0.810	0.870	80	1.050	592	1007	12.6	3
TBA	4/0	0.475	0.862	0.922	80	1.102	663	1270	13.2	3.5
TBA	250	0.520	0.916	0.976	80	1.156	734	1500	13.9	3.5
TBA	350	0.616	1.012	1.072	80	1.252	883	2100	15.0	3.5
TBA	500	0.736	1.132	1.192	80	1.372	1095	3000	16.5	4
TBA	600	0.813	1.240	1.300	80	1.480	1264	3600	17.8	5
TBA	750	0.908	1.335	1.395	80	1.575	1461	4500	18.9	5
TBA	1000	1.060	1.487	1.547	80	1.727	1787	6000	20.7	5

All dimensions are nominal and subject to normal manufacturing tolerances

◇ Cable marked with this symbol is a standard stock item

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

¹ Comply with ICEA S-93-639 Appendix C for jacket thickness determination

Table 2 – Electrical and Engineering Data

Cond. Size	DC Resistance @ 25°C	AC Resistance @ 90°C	Capacitive Reactance @ 60Hz	Inductive Reactance @ 60Hz	Zero Sequence Impedance*	Positive Sequence Impedance*	Shield Short Circuit Current 6 Cycles	Allowable Ampacity In Duct 90/105°C [†]	Allowable Ampacity In Air 90/105°C [‡]
AWG/ Kcmil	Ω/1000ft	Ω/1000ft	MΩ*1000ft	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
2	0.266	0.334	0.048	0.049	0.706 + j0.463	0.335 + j0.049	2359	120/130	150/170
1	0.211	0.265	0.045	0.047	0.637 + j0.447	0.266 + j0.047	2459	135/145	175/195
1/0	0.168	0.211	0.041	0.046	0.582 + j0.429	0.212 + j0.046	2580	155/165	200/225
2/0	0.133	0.167	0.038	0.044	0.538 + j0.410	0.168 + j0.044	2710	175/190	235/260
3/0	0.105	0.132	0.035	0.043	0.501 + j0.390	0.133 + j0.043	2863	200/215	270/300
4/0	0.084	0.105	0.032	0.041	0.472 + j0.369	0.106 + j0.041	3032	230/245	310/350
250	0.071	0.089	0.031	0.040	0.453 + j0.349	0.090 + j0.040	3208	250/270	345/385
350	0.051	0.064	0.027	0.038	0.421 + j0.316	0.064 + j0.038	3520	305/330	430/480
500	0.035	0.045	0.023	0.036	0.391 + j0.280	0.046 + j0.036	3910	370/400	535/600
600	0.030	0.038	0.023	0.035	0.374 + j0.254	0.038 + j0.035	4262	/	/
750	0.024	0.030	0.021	0.034	0.357 + j0.233	0.031 + j0.034	4571	455/490	700/780
1000	0.018	0.023	0.018	0.033	0.335 + j0.204	0.024 + j0.033	5065	525/565	840/940



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* Calculations are based on three cables triplexed / 5 mil 25 % over lapping copper tape shield Earth resistivity of 100 ohms-meter

† Ampacities are based on TABLE 310.60(C)(78) Detail 1. of the 2020 National Electrical Code (20°C Ambient Earth Temperature, Thermal Resistance ROH of 90)

‡ Ampacities are based on TABLE 310.60(C)(70) of the 2020 National Electrical Code (40°C Ambient Air Temperature)

