

1/C CU 15kV 175 NLEPR 100% SIMpull® PVC MV-105 PRIMARY UD

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

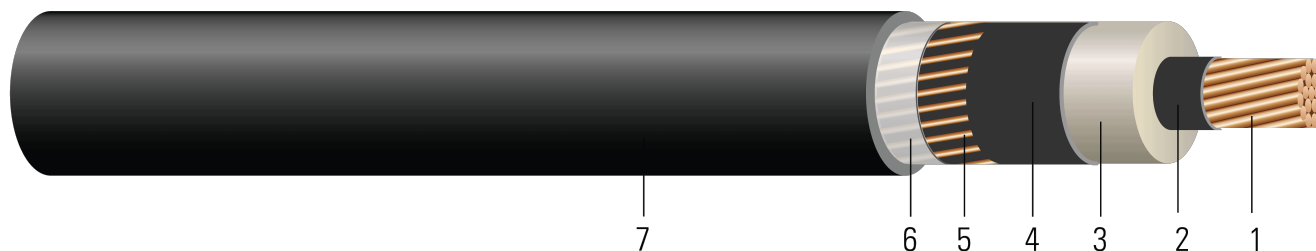


Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

- Conductor:** Class B compressed stranded bare copper per ASTM B3 and ASTM B8
- Conductor Shield:** Semi-conducting cross-linked copolymer
- Insulation:** 175 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 100% Insulation Level,
- Insulation Shield:** Strippable semi-conducting cross-linked copolymer
- Copper Tape Shield:** 1/3 concentric neutral
- Neutral Separator:** Mylar tape
- 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, 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 B3 Standard Specification for Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper 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)
- AEIC 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] CU 175 MILS NL-EPR 15KV 100% INS LEVEL CN 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	Concentric Neutral	Jacket Thickness ¹	Approx. OD	Approx. Weight	Max Pull Tension	Min Bending Radius	Conduit Size*
	AWG/Kcmil	inch	inch	inch	No. x AWG	mil	inch	lb/1000ft	lb	inch	inch
TBA	2	0.283	0.670	0.730	6 x 14	65	0.880	683	531	13.5	2.5
TBA	1	0.322	0.709	0.769	7 x 14	80	0.949	769	670	14.0	3
TBA	1/0	0.362	0.749	0.809	9 x 14	80	0.989	885	845	14.5	3
TBA	2/0	0.405	0.792	0.852	11 x 14	80	1.032	1021	1065	15.0	3
TBA	3/0	0.456	0.843	0.903	14 x 14	80	1.083	1196	1342	15.6	3
TBA	4/0	0.512	0.899	0.959	18 x 14	80	1.139	1415	1693	16.3	3.5
TBA	250	0.558	0.954	1.014	21 x 14	80	1.194	1624	2000	17.2	3.5
TBA	350	0.661	1.057	1.117	18 x 12	80	1.297	2098	2800	18.8	4
TBA	500	0.789	1.185	1.245	17 x 10	80	1.425	2824	4000	20.9	4
TBA	750	0.968	1.373	1.433	20 x 9	80	1.613	3973	6000	23.4	5
TBA	1000	1.117	1.522	1.582	21 x 8	110	1.822	5264	8000	26.6	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	0.162	0.203	0.047	0.048	0.574 + j0.456	0.203 + j0.048	5282	155/165	195/215
1	0.129	0.161	0.043	0.047	0.533 + j0.436	0.162 + j0.046	2534	175/185	225/250
1/0	0.102	0.128	0.039	0.045	0.499 + j0.417	0.128 + j0.045	2664	200/215	260/290
2/0	0.081	0.101	0.036	0.043	0.471 + j0.397	0.102 + j0.043	9683	230/245	300/335
3/0	0.064	0.081	0.033	0.042	0.448 + j0.376	0.081 + j0.042	12324	260/275	345/385
4/0	0.051	0.064	0.030	0.040	0.429 + j0.354	0.065 + j0.040	15845	295/315	400/445
250	0.043	0.054	0.029	0.039	0.416 + j0.335	0.055 + j0.039	18486	325/345	445/495
350	0.031	0.039	0.025	0.037	0.392 + j0.302	0.040 + j0.037	25175	390/415	550/610
500	0.022	0.028	0.022	0.035	0.370 + j0.267	0.029 + j0.035	37794	465/500	685/765
750	0.014	0.019	0.019	0.033	0.343 + j0.225	0.020 + j0.033	56072	565/610	885/990
1000	0.011	0.015	0.017	0.033	0.323 + j0.198	0.016 + j0.033	74258	640/690	1060/1185

* 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



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† Ampacities are based on TABLE 310.60(C)(77) Detail 1. of the 2014 National Electrical Code (20°C Ambient Earth Temperature, Thermal Resistance ROH of 90)

‡ Ampacities are based on TABLE 310.60(C)(69) of the 2014 National Electrical Code (40°C Ambient Air Temperature)

