

3/C CU 15kV 175 NLEPR 100% AIA PVC MV-105

Type MV-105 Three Conductor Copper, 175 Mills No Lead Ethylene Propylene Rubber (NL-EPR) 100% Insulation Level, Tape Shield, Aluminum Interlocked Armor (AIA), Polyvinyl Chloride (PVC) Jacket

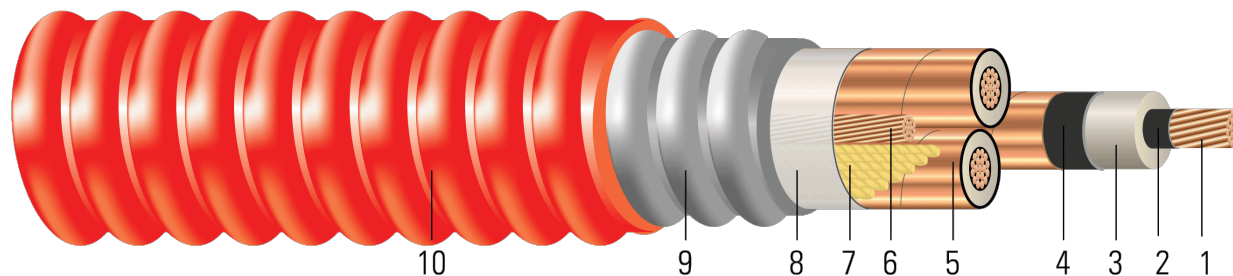


Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class B compressed stranded bare copper per ASTM B3 and ASTM B8
2. **Conductor Shield:** Semi-conducting cross-linked copolymer
3. **Insulation:** 175 Mills No Lead Ethylene Propylene Rubber (NL-EPR) 100% Insulation Level,
4. **Insulation Shield:** Strippable semi-conducting cross-linked copolymer
5. **Copper Tape Shield:** Helically wrapped 5 mil copper tape with 25% overlap
6. **Grounding Conductor:** Class B compressed stranded bare copper ground per ASTM B3 and ASTM B8
7. **Filler:** Wax paper filler
8. **Binder:** Polypropylene tape
9. **Armor:** Aluminum Interlocked Armor (AIA)
10. **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. For uses in Class I and II, Division 2 hazardous locations per NEC Article 501 and 502. 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 Vertical-Tray Fire Propagation and Smoke Release Test
- ICEA S-93-639 (NEMA WC 74) 5-46 KV Shielded Power Cable
- ICEA S-93-639 (NEMA WC 74) 5-46 KV Shielded Power Cable
- AEIC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV

SAMPLE PRINT LEGEND:

SOUTHWIRE [SYMBOL - LIGHTING BOLT] #P# (UL) 3/C [#AWG or #kcmil] CU 175 MILS NL-EPR AIA 15KV 100% INS LEVEL 25% TS MV-105 FOR CT USE SUN. RES. FOR DIRECT BURIAL FT4 YEAR (NESC) [SEQUENTIAL FEET MARKS]



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Table 1 – Weights and Measurements

Stock Number	Cond. Size	Diameter Over Conductor	Diameter Over Insulation	Diameter Over Insulation Shield	Ground	Jacket Thickness ¹	Approx. OD	Approx. Weight	Max Pull Tension	Min Bending Radius
	AWG/Kcmil	inch	inch	inch	No. x AWG	mil	inch	lb/1000ft	lb	inch
TBA	2	0.283	0.670	0.730	1 x 6	60	1.962	2045	1593	13.7
TBA	1	0.322	0.709	0.769	1 x 4	60	2.146	2430	2009	15.0
556860	1/0	0.362	0.749	0.809	1 x 4	60	2.233	2732	2534	15.6
TBA	2/0	0.405	0.792	0.852	1 x 4	60	2.326	3094	3194	16.3
TBA	3/0	0.456	0.843	0.903	1 x 3	75	2.466	3650	4027	17.3
TBA	4/0	0.512	0.899	0.959	1 x 3	75	2.587	4205	5078	18.1
556902	250	0.558	0.954	1.014	1 x 3	75	2.705	4706	6000	18.9
TBA	350	0.661	1.057	1.117	1 x 2	75	2.928	5961	8400	20.5
556928	500	0.789	1.185	1.245	1 x 1	85	3.224	7827	12000	22.6
TBA	750	0.968	1.373	1.433	1 x 0	85	3.630	10773	18000	25.4

All dimensions are nominal and subject to normal manufacturing tolerances

◊ Cable marked with this symbol is a standard stock item

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 Directly Buried 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	0.044	0.578 + j0.457	0.203 + j0.044	2407	185/200	165/185
1	0.129	0.161	0.043	0.042	0.537 + j0.437	0.162 + j0.042	2534	210/225	185/210
1/0	0.102	0.128	0.039	0.041	0.503 + j0.418	0.128 + j0.041	2664	240/255	215/240
2/0	0.081	0.101	0.036	0.039	0.475 + j0.398	0.102 + j0.039	2804	270/290	245/275
3/0	0.064	0.081	0.033	0.038	0.452 + j0.377	0.081 + j0.038	2970	305/330	285/315
4/0	0.051	0.064	0.030	0.037	0.432 + j0.355	0.065 + j0.037	3152	350/375	325/360
250	0.043	0.054	0.029	0.036	0.419 + j0.335	0.055 + j0.036	3331	380/410	360/400
350	0.031	0.039	0.025	0.034	0.395 + j0.302	0.040 + j0.034	3666	460/495	435/490
500	0.022	0.028	0.022	0.033	0.372 + j0.266	0.029 + j0.032	4083	550/590	535/600
750	0.014	0.020	0.019	0.031	0.344 + j0.224	0.020 + j0.031	4695	665/720	670/745

* Calculations are based on 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)(83) of the 2014 National Electrical Code (20°C Ambient Earth Temperature, Thermal Resistance ROH of 90)

‡ Ampacities are based on TABLE 310.60(C)(71) of the 2014 National Electrical Code (40°C Ambient Air Temperature)

