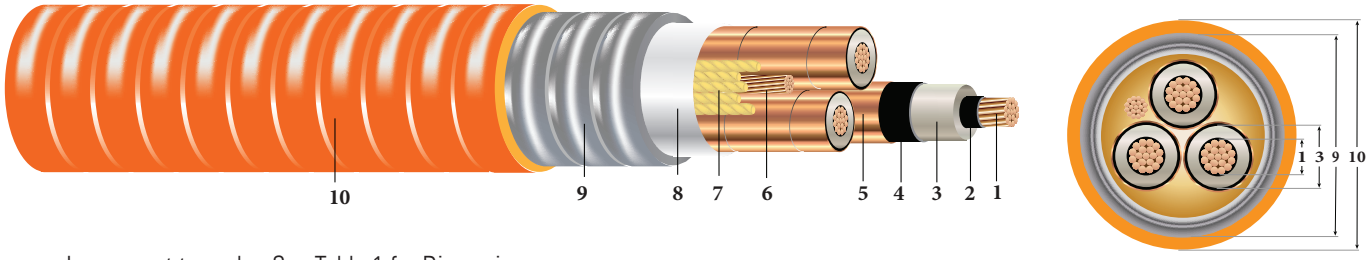
3/C CU 35KV 345 NL-EPR 100% TS AIA PVC MV-105

Type MV-105 Three Conductor Copper, 345 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 100% Insulation Level, Tape Shield, Aluminum Interlocked Armor (AIA), Polyvinyl Chloride (PVC) Jacket



Images 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**: 345 Mils 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 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 35KV 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 Soft or annealed copper
- ASTM B8 Concentric-lay-standard copper
- UL 1072 - Medium Voltage Power Cables
- ICEA S-97-682 5-46 KV Utility & ICEA S-93-639 (NEMA WC 74) 5-46 KV Shielded Power Cable
- UL 1685/FT4 Vertical-Tray Fire Propagation and Smoke Release Test
- IEEE 1202 -Flame Test (70,000) BTU/hr Vertical Tray Test
- 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 345 MILS NL-EPR AIA 35KV 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 & Measurements

Stock Code	Cond. Size	Diameter over Cond. (1)	Diameter over Insul. (3)	Diameter over Insul. Shield	Ground	Dia. Over Armor (9)	Jacket Thickness	Approx. OD (10)	Approx. Weight	Max Pull Tension	Min Bending Radius
	AWG	inches	inches	inches	No. x AWG	inches	mils	inches	lbs./MFT	lbs.	inches
TBA	1/0	0.362	1.089	1.149	1 x 4	2.847	75	2.997	4089	2534	21.0
TBA	2/0	0.405	1.132	1.192	1 x 4	2.940	75	3.090	4498	3194	21.6
TBA	3/0	0.456	1.183	1.243	1 x 3	3.050	85	3.220	5099	4027	22.5
TBA	4/0	0.512	1.239	1.299	1 x 3	3.171	85	3.341	5712	5078	23.4
TBA	250	0.558	1.294	1.354	1 x 3	3.290	85	3.460	6271	6000	24.2
TBA	350	0.661	1.397	1.457	1 x 2	3.512	85	3.682	7633	8400	25.8

All dimensions are nominal and subject to normal manufacturing tolerances

Table 2 – Electrical and Engineering Data

Stock Code	Cond. Size	Resistance DC @ 25°C	Resistance AC @ 90°C	Reactance X_C @ 60Hz	Reactance X_L @ 60Hz	Positive Sequence Impedance*	Zero Sequence Impedance*	Shield Short Circuit Current 6 Cycles	Allowable Ampacities 90°C/105°C Directly Buried †	Allowable Ampacities 90°C/105°C In Air ‡
	AWG	Ω/MFT	Ω/MFT	MΩ*MFT	Ω/MFT	Ω/MFT	Ω/MFT	Amps	Amps	Amps
TBA	1/0	0.102	0.128	0.059	0.049	0.128 + j0.049	0.480 + j0.307	3771	240 / 255	215 / 240
TBA	2/0	0.081	0.101	0.055	0.047	0.102 + j0.047	0.450 + j0.294	3910	270 / 290	245 / 275
TBA	3/0	0.064	0.080	0.051	0.045	0.081 + j0.045	0.424 + j0.279	4076	305 / 330	285 / 315
TBA	4/0	0.051	0.064	0.048	0.043	0.065 + j0.043	0.402 + j0.265	4259	350 / 375	325 / 360
TBA	250	0.043	0.054	0.045	0.042	0.055 + j0.042	0.387 + j0.251	4438	380 / 410	360 / 400
TBA	350	0.031	0.039	0.040	0.040	0.040 + j0.040	0.361 + j0.229	4773	460 / 495	435 / 490

* 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)