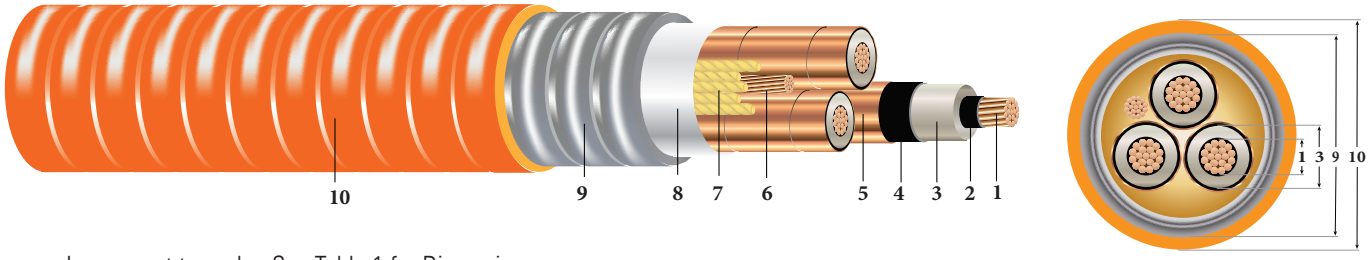
3/C CU 35KV 345 NL-EPR 100% TS ARMOR-X PVC MV-105

Type MV-105 Three Conductor Copper, 345 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 100% Insulation Level, Tape Shield, Continuous Corrugated Welded Armor (Armor-X), 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**: Continuous Corrugated Welded Armor (Armor-X)
10. **Overall Jacket**: Polyvinyl Chloride (PVC)

APPLICATIONS AND FEATURES:

Southwire's 35KV ARMOR-X are armored cables 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, 250°C for short circuit conditions, and -50°C for cold bend. For uses in Class I, II, and III, Division 1 and 2 hazardous locations per NEC Article 501, 502, and 503.

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# ARMOR-X (UL) 3/C [#AWG or #kcmil] CU 345 MILS NL-EPR 35KV 100% INS LEVEL 25% TS MV-105 For CT USE SUN. RES. FOR DIRECT BURIAL FT4 [-50°C] YEAR (NESC) [SEQUENTIAL FEET MARKS]

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
582011	1/0	0.362	1.089	1.149	1 x 4	3.000	75	3.150	4422	2534	22.1
TBA	2/0	0.405	1.132	1.192	1 x 4	3.220	85	3.390	4994	3194	23.7
TBA	3/0	0.456	1.183	1.243	1 x 3	3.220	85	3.390	5502	4027	23.7
TBA	4/0	0.512	1.239	1.299	1 x 3	3.540	85	3.710	6213	5078	26.0
TBA	250	0.558	1.294	1.354	1 x 3	3.540	85	3.710	6733	6000	26.0
TBA	350	0.661	1.397	1.457	1 x 2	3.850	85	4.020	8156	8400	28.1

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
582011	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)