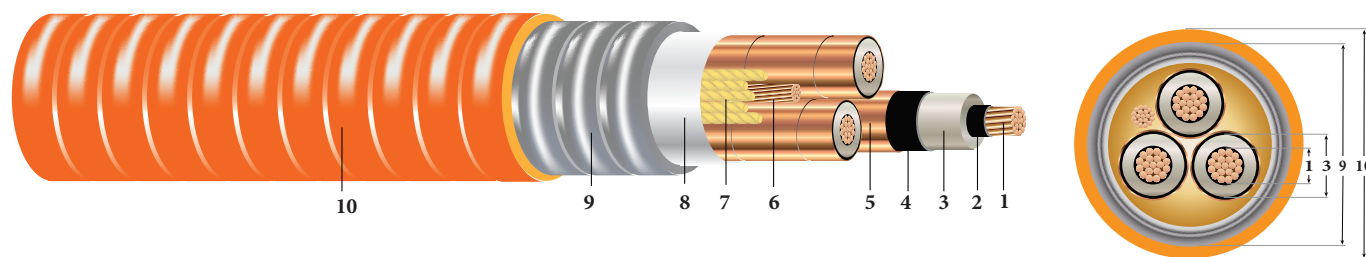


3/C CU 35KV 420 NL-EPR 133% TS ARMOR-X PVC MV-105

Type MV-105 Three Conductor Copper, 420 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% 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:** 420 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level
4. **Insulation Shield:** Stripable 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 420 MILS NL-EPR 35KV 133% INS LEVEL 25% TS MV-105 For CT USE SUN. RES. FOR DIRECT BURIAL FT4 [-50°C] YEAR (NESC) [SEQUENTIAL FEET MARKS]



Southwire Company, LLC | One Southwire Drive, Carrollton, GA 30119 | www.southwire.com

Copyright © 2016 Southwire Company, LLC. All Rights Reserved



Southwire®

SPEC 46854_PSS DIVISION DATE: 04/13/2017 Rev:2.0.00C

Table 1 – Weights & Measurements

Stock Code	Cond. Size AWG	Diameter over			Ground No. x AWG	Dia. Over Armor (9) inches	Jacket Thickness mils	Approx. OD (10) inches	Approx. Weight lbs./MFT	Max Pull Tension lbs.	Min Bending Radius inches
		Cond. (1) inches	Insul. (3) inches	Insul. Shield inches							
596395	1/0	0.362	1.239	1.299	1 x 4	3.540	85	3.710	5332	2534	26.0
TBA	2/0	0.405	1.282	1.342	1 x 4	3.540	85	3.710	5731	3194	26.0
TBA	3/0	0.456	1.333	1.393	1 x 3	3.540	85	3.710	6262	4027	26.0
596385	4/0	0.512	1.389	1.449	1 x 3	3.850	85	4.020	6993	5078	28.1
TBA	250	0.558	1.444	1.504	1 x 3	3.850	85	4.020	7538	6000	28.1
TBA	350	0.661	1.547	1.607	1 x 2	4.245	85	4.415	9310	8400	30.9

All dimensions are nominal and subject to normal manufacturing tolerances

Table 2 – Electrical and Engineering Data

Stock Code	Cond. Size AWG	Resistance		Reactance		Positive Sequence Impedance*	Zero Sequence Impedance*	Shield Short Circuit Current 6 Cycles Amps	Allowable Ampacities 90°C/105°C	
		DC @ 25°C Ω/MFT	AC @ 90°C Ω/MFT	X _C @ 60Hz MΩ*MFT	X _L @ 60Hz Ω/MFT				Directly Buried † Amps	In Air ‡ Amps
596395	1/0	0.102	0.128	0.066	0.051	0.128 + j0.051	0.466 + j0.272	4259	240 / 255	215 / 240
TBA	2/0	0.081	0.101	0.062	0.050	0.102 + j0.050	0.435 + j0.261	4398	270 / 290	245 / 275
TBA	3/0	0.064	0.080	0.058	0.048	0.081 + j0.048	0.409 + j0.249	4564	305 / 330	285 / 315
596385	4/0	0.051	0.064	0.054	0.046	0.065 + j0.046	0.387 + j0.236	4747	350 / 375	325 / 360
TBA	250	0.043	0.054	0.051	0.045	0.055 + j0.045	0.372 + j0.225	4926	380 / 410	360 / 400
TBA	350	0.031	0.039	0.046	0.042	0.040 + j0.042	0.346 + j0.206	5261	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)

