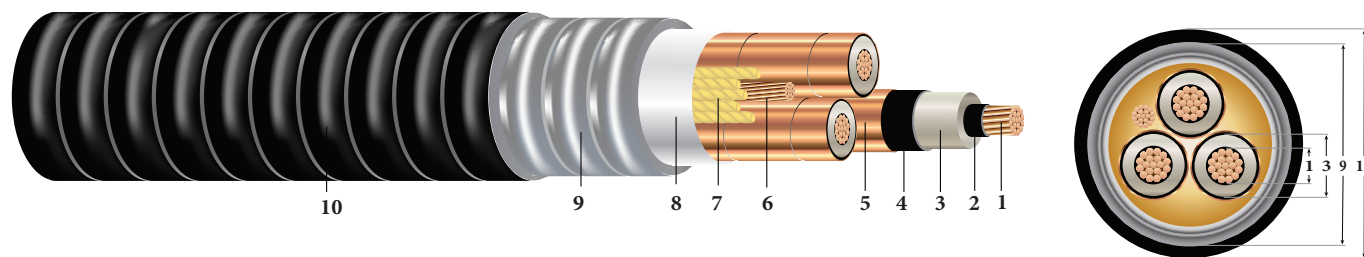


3/C CU 15KV 220 NL-EPR 133% TS AIA CPE MV-105

Type MV-105 Three Conductor Copper, 220 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level, Tape Shield, Aluminum Interlocked Armor (AIA), Chlorinated Polyethylene (CPE) 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:** 220 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:** 1 Class B compressed stranded bare copper ground per ASTM B3 and ASTM B8
7. **Filler:** Wax paper filler
8. **Binder:** Polypropylene tape
9. **Aarmor:** Aluminum Interlocked Armor (AIA)
10. **Overall Jacket:** Thermoplastic Chlorinated Polyethylene (CPE) blackjacket

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 Soft or annealed copper
- ASTM B8 Concentric-lay-standard copper
- UL 1072 - Medium Voltage Power Cables
- ICEA S-93-639 (NEMA WC 74) 5-46 KV Shielded Power Cable & ICEA S-97-682 5-46 KV Utility
- 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 220 MILS NL-EPR AIA 15KV 133% INS LEVEL 25% TS MV-105 FOR CT USE SUN. RES. FOR DIRECT BURIAL FT4 YEAR (NESC) [SEQUENTIAL FEET MARKS]



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SPEC 46461_PSS DIVISION DATE: 12/13/2017 Rev:2.0.06C

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							
649443	2	0.283	0.760	0.820	1 x 6	2.136	60	2.256	2433	1593	15.8
TBA	1	0.322	0.799	0.859	1 x 4	2.221	60	2.341	2738	2009	16.4
TBA	1/0	0.362	0.839	0.899	1 x 4	2.307	75	2.457	3123	2534	17.2
TBA	2/0	0.405	0.882	0.942	1 x 4	2.400	75	2.550	3501	3194	17.8
TBA	3/0	0.456	0.933	0.993	1 x 3	2.510	75	2.660	4006	4027	18.6
TBA	4/0	0.512	0.989	1.049	1 x 3	2.631	75	2.781	4576	5078	19.5
TBA	250	0.558	1.044	1.104	1 x 3	2.750	75	2.900	5093	6000	20.3
TBA	350	0.661	1.147	1.207	1 x 2	2.972	75	3.122	6377	8400	21.9
646907	500	0.789	1.275	1.335	1 x 1	3.249	85	3.419	8286	12000	23.9
TBA	750	0.968	1.463	1.523	1 x 0	3.655	85	3.825	11287	18000	26.8

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
649443	2	0.162	0.203	0.053	0.047	0.203 + j0.047	0.577 + j0.419	2700	185 / 200	165 / 185
TBA	1	0.129	0.161	0.049	0.045	0.162 + j0.045	0.535 + j0.401	2827	210 / 225	185 / 210
TBA	1/0	0.102	0.128	0.045	0.043	0.128 + j0.043	0.499 + j0.383	2957	240 / 255	215 / 240
TBA	2/0	0.081	0.101	0.042	0.042	0.102 + j0.042	0.471 + j0.366	3097	270 / 290	245 / 275
TBA	3/0	0.064	0.081	0.039	0.040	0.081 + j0.040	0.446 + j0.346	3263	305 / 330	285 / 315
TBA	4/0	0.051	0.064	0.036	0.039	0.065 + j0.039	0.426 + j0.327	3445	350 / 375	325 / 360
TBA	250	0.043	0.054	0.034	0.038	0.055 + j0.038	0.411 + j0.309	3624	380 / 410	360 / 400
TBA	350	0.031	0.039	0.030	0.036	0.040 + j0.036	0.386 + j0.279	3959	460 / 495	435 / 490
646907	500	0.022	0.028	0.026	0.034	0.028 + j0.034	0.362 + j0.247	4376	550 / 590	535 / 600
TBA	750	0.014	0.020	0.022	0.032	0.020 + j0.032	0.335 + j0.209	4987	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)

