

## 3/C CU 15kV 220 NLEPR 133% GSIA PVC MV-105

Type MV-105 Three Conductor Copper, 220 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level, Tape Shield, Galvanized Steel Interlocked Armor (GSIA), Polyvinyl Chloride (PVC) Jacket

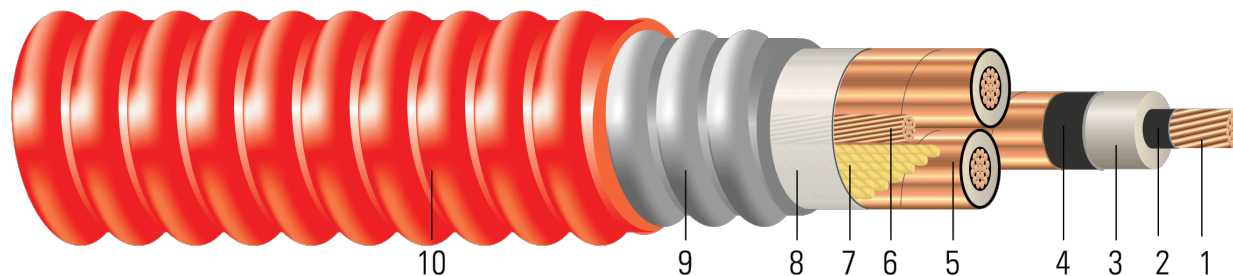


Image not to scale. See Table 1 for dimensions.

### 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:** 220 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% 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:** Galvanized Steel Interlocked Armor (GSIA)
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
- AEIC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV

### SAMPLE PRINT LEGEND:

{SQFTG\_DUAL} SOUTHWIRE{R} POWER CABLE MASTER-DESIGN {UL} 3/C X AWG CU 220 MILS NL-EPR 15KV 133% INS LEVEL 25%TS GW 1 X X AWG CU MV-105 FOR CT USE SUN. RES. FOR DIRECT BURIAL {NESC}



Southwire Company, LLC | One Southwire Drive, Carrollton, GA 30119 | [www.southwire.com](http://www.southwire.com)



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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 <sup>1</sup>	Approx. OD	Approx. Weight	Max Pull Tension	Min Bending Radius
	AWG/ Kcmil	inch	inch	inch	No. x AWG	mil	inch	lb/1000ft	lb	inch
610105	2	0.283	0.760	0.820	1 x 6	60	2.156	2810	1593	15.1
TBA	1	0.322	0.799	0.859	1 x 4	60	2.241	3132	2009	15.7
TBA	1/0	0.362	0.839	0.899	1 x 4	60	2.327	3463	2534	16.3
TBA	2/0	0.405	0.882	0.942	1 x 4	75	2.450	3925	3194	17.1
581972	2/0	0.405	0.882	0.942	1 x 1	75	2.462	4151	3194	17.9
TBA	3/0	0.456	0.933	0.993	1 x 3	75	2.560	4452	4027	17.9
TBA	4/0	0.512	0.989	1.049	1 x 3	75	2.681	5048	5078	18.8
560801	250	0.558	1.044	1.104	1 x 3	75	2.800	5589	6000	19.6
611038	350	0.661	1.147	1.207	1 x 2	75	3.022	6918	8400	21.2
670992	500	0.789	1.275	1.335	1 x 1/0	85	3.279	9061	12000	23.2
581973	500	0.789	1.275	1.335	1 x 1	85	3.319	8879	12000	23.2
TBA	750	0.968	1.463	1.523	1 x 0	85	3.725	11961	18000	26.1

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 <sup>†</sup>	Allowable Ampacity In Air 90/105°C <sup>‡</sup>
AWG/ Kcmil	Ω/1000ft	Ω/1000ft	MΩ*1000ft	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
2	0.162	0.203	0.053	0.047	0.577 + j0.419	0.203 + j0.047	2700	185/200	165/185
1	0.129	0.161	0.049	0.045	0.535 + j0.401	0.162 + j0.045	2827	210/225	185/210
1/0	0.102	0.128	0.045	0.043	0.499 + j0.383	0.128 + j0.043	2957	240/255	215/240
2/0	0.081	0.101	0.042	0.042	0.471 + j0.366	0.102 + j0.042	3097	270/290	245/275
2/0	0.081	0.101	0.042	0.042	0.471 + j0.366	0.102 + j0.042	3097	270/290	245/275
3/0	0.064	0.081	0.039	0.040	0.446 + j0.346	0.081 + j0.040	3263	305/330	285/315
4/0	0.051	0.064	0.036	0.039	0.426 + j0.327	0.065 + j0.039	3445	350/375	325/360
250	0.043	0.054	0.034	0.038	0.411 + j0.309	0.055 + j0.038	3624	380/410	360/400
350	0.031	0.039	0.030	0.036	0.386 + j0.279	0.040 + j0.036	3959	460/495	435/490
500	0.022	0.028	0.026	0.034	0.362 + j0.247	0.028 + j0.034	4376	550/590	535/600
500	0.022	0.028	0.026	0.034	0.362 + j0.247	0.028 + j0.034	4376	550/590	535/600
750	0.014	0.020	0.022	0.032	0.335 + j0.209	0.020 + j0.032	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)

