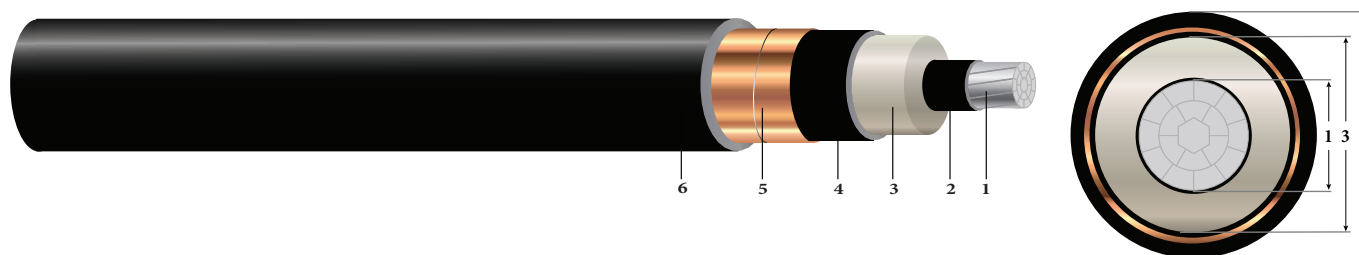


1/C AL 5KV 115 NL-EPR 133% TS SIMpull® PVC MV-105

Type MV-105 Single Conductor Aluminum, 115 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level, Tape Shield, SIMpull® Polyvinyl Chloride (PVC) Jacket, Dual Rated UL/CSA



Images not to scale. See Table 1 for Dimensions

CONSTRUCTION:

- Conductor:** Class B compact stranded 8000 Series aluminum per ASTM B800 and ASTM B836
- Conductor Shield:** Semi-conducting cross-linked copolymer; A conductor separator is used for cable size larger than or equal to 500 Kcmil
- Insulation:** 115 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level
- Insulation Shield:** Stripable semi-conducting cross-linked copolymer
- Copper Tape Shield:** Helically wrapped 5 mil copper tape with 25% overlap
- Overall Jacket:** Polyvinyl Chloride (PVC)

APPLICATIONS AND FEATURES:

Southwire's 5KV 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. ST1 (low smoke) Rated for sizes 1/0 and larger. PVC jacket is made with SIM technology and has a coefficient of friction COF of 0.2. Cable can be installed in conduit without the aid of lubrication. Rated for 1000 lbs./FT maximum sidewall pressure.

SPECIFICATIONS:

- ASTM B800 8000 Series Aluminum Alloy Wire
- ASTM B836 Compact Rounded Stranded Aluminum Conductors
- 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-ST1 Vertical-Tray Fire Propagation and Smoke Release Test (1/0 AWG and Larger)
- IEEE 1202 -Flame Test (70,000) BTU/hr Vertical Tray Test (1/0 AWG and Larger)
- AEIC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV
- CSA C68.10 - Shielded Power Cables for Commercial and Industrial Applications - 5 to 46 KV
- CSA C22.2 No.230 - Tray Cables - Rated TC-ER (1/0 AWG and Larger)
- CSA C22.2 No. 2556 / UL 2556 - Cable Test Methods

SAMPLE PRINT LEGEND:

SOUTHWIRE [SYMBOL - LIGHTNING BOLT] #P# (UL/CSA) 1/C [#AWG or #kcmil] AL 115 MILS NL-EPR 5KV 133%/ 8KV 100%
INS LEVEL 25% TS MV-105 FOR CT USE SUN. RES. TC-ER(CSA 1/0 LARGER) For DIRECT BURIAL FT4 -ST1 YEAR (NESC)
[SEQUENTIAL FEET MARKS]



Southwire®

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Table 1 – Weights & Measurements

| Stock Code | Cond. Size AWG | Diameter over | | | Jacket Thickness ¹ mils | Approx. OD (6) inches | Approx. Weight lbs./MFT | Max Pull Tension lbs. | Min Bending Radius inches | Conduit Size* inches |
|------------|-------------------|---------------------|----------------------|-------------------------|---------------------------------------|--------------------------|----------------------------|--------------------------|------------------------------|-------------------------|
| | | Cond. (1) inches | Insul. (3) inches | Insul. Shield inches | | | | | | |
| 560182 | 2 | 0.268 | 0.535 | 0.595 | 65 | 0.745 | 300 | 398 | 8.9 | 2.5 |
| TBA | 1 | 0.299 | 0.566 | 0.626 | 65 | 0.776 | 330 | 502 | 9.3 | 2.5 |
| 559953 | 1/0 | 0.336 | 0.603 | 0.663 | 65 | 0.813 | 367 | 634 | 9.8 | 2.5 |
| 560116 | 2/0 | 0.376 | 0.643 | 0.703 | 65 | 0.853 | 411 | 799 | 10.2 | 2.5 |
| TBA | 3/0 | 0.423 | 0.690 | 0.750 | 80 | 0.930 | 490 | 1007 | 11.2 | 3 |
| 560134 | 4/0 | 0.475 | 0.742 | 0.802 | 80 | 0.982 | 556 | 1270 | 11.8 | 3 |
| 560137 | 250 | 0.520 | 0.796 | 0.856 | 80 | 1.036 | 621 | 1500 | 12.4 | 3 |
| 560135 | 350 | 0.616 | 0.892 | 0.952 | 80 | 1.132 | 762 | 2100 | 13.6 | 3.5 |
| 560147 | 500 | 0.736 | 1.012 | 1.072 | 80 | 1.252 | 962 | 3000 | 15.0 | 3.5 |
| 577321 | 600 | 0.813 | 1.120 | 1.180 | 80 | 1.360 | 1121 | 3600 | 16.3 | 4 |
| 560179 | 750 | 0.908 | 1.215 | 1.275 | 80 | 1.455 | 1310 | 4500 | 17.5 | 4 |
| 560180 | 1000 | 1.060 | 1.367 | 1.427 | 80 | 1.607 | 1621 | 6000 | 19.3 | 5 |

All dimensions are nominal and subject to normal manufacturing tolerances

* Conduit size based on 3 phase 40% fill-factor without ground

¹ Comply with ICEA S-93-639 Appendix C for jacket thickness determination

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 | | | | In Duct † Amps | In Air ‡ Amps |
| 560182 | 2 | 0.266 | 0.334 | 0.037 | 0.045 | 0.335 + j0.045 | 0.698 + j0.521 | 1968 | 115 / 125 | 150 / 165 |
| TBA | 1 | 0.211 | 0.265 | 0.034 | 0.044 | 0.266 + j0.044 | 0.632 + j0.503 | 2069 | 130 / 140 | 175 / 195 |
| 559953 | 1/0 | 0.168 | 0.211 | 0.032 | 0.042 | 0.212 + j0.042 | 0.580 + j0.482 | 2189 | 150 / 160 | 200 / 225 |
| 560116 | 2/0 | 0.133 | 0.167 | 0.029 | 0.041 | 0.168 + j0.040 | 0.538 + j0.461 | 2320 | 170 / 185 | 230 / 260 |
| TBA | 3/0 | 0.105 | 0.132 | 0.026 | 0.040 | 0.133 + j0.040 | 0.503 + j0.437 | 2473 | 195 / 210 | 270 / 300 |
| 560134 | 4/0 | 0.084 | 0.105 | 0.024 | 0.038 | 0.106 + j0.038 | 0.476 + j0.413 | 2642 | 225 / 245 | 310 / 350 |
| 560137 | 250 | 0.071 | 0.089 | 0.023 | 0.038 | 0.090 + j0.037 | 0.459 + j0.390 | 2817 | 250 / 270 | 345 / 385 |
| 560135 | 350 | 0.051 | 0.064 | 0.020 | 0.036 | 0.064 + j0.036 | 0.429 + j0.353 | 3130 | 305 / 325 | 430 / 480 |
| 560147 | 500 | 0.035 | 0.045 | 0.017 | 0.034 | 0.046 + j0.034 | 0.402 + j0.312 | 3520 | 370 / 400 | 545 / 605 |
| 577321 | 600 | 0.030 | 0.038 | 0.017 | 0.034 | 0.038 + j0.033 | 0.385 + j0.281 | 3871 | / | / |
| 560179 | 750 | 0.024 | 0.030 | 0.016 | 0.033 | 0.031 + j0.032 | 0.369 + j0.257 | 4180 | 470 / 505 | 710 / 790 |
| 560180 | 1000 | 0.018 | 0.023 | 0.014 | 0.031 | 0.024 + j0.031 | 0.347 + j0.224 | 4675 | 545 / 590 | 855 / 950 |

* Calculations are based on three cables triplexed / 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)(78) Detail 1. of the 2014 National Electrical Code (20°C Ambient Earth Temperature, Thermal Resistance ROH of 90)

‡ Ampacities are based on TABLE 310.60(C)(70) of the 2014 National Electrical Code (40°C Ambient Air Temperature)

