1/C AL 5kV 115 NLEPR 133% SIM*pull*® PVC MV-105

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

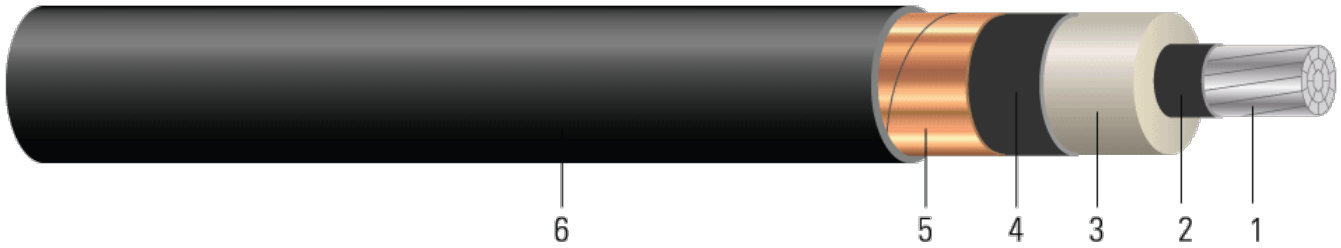

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class B compact stranded 8000 Series aluminum per ASTM B800 and ASTM B836
2. **Conductor Shield:** Semi-conducting cross-linked copolymer; A conductor separator is used for cable size larger than or equal to 500 Kcmil
3. **Insulation:** 115 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. **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 when installed with a grounding conductor in close proximity that conforms to NEC section 311.36 and 250.4(A)(5), 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 B801 Concentric-Lay-Stranded Conductors of 8000 Series Aluminum Alloy
- ASTM B836 Compact Rounded Stranded Aluminum Conductors
- UL 1072 Medium-Voltage Power Cables
- UL 1685 FT4-ST1 Vertical-Tray Fire Propagation and Smoke Release Test (1/0 and Larger)
- UL 1685 Vertical-Tray Fire Propagation and Smoke Release Test
- 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
- CSA C68.10 Shielded Power Cables for Commercial and Industrial Applications - 5 to 46 KV
- ICEA S-93-639 (NEMA WC 74) 5-46 KV Shielded Power Cable
- ICEA S-93-639 (NEMA WC 74) 5-46 KV Shielded Power Cable
- ICEA S-97-682 Standard for Shielded Utility Cable Rated for 5 - 46kV
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test (1/0 and Larger)
- AEIC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV

- Made in America: Compliant with both Buy American and Buy America Act (BAA) requirements per 49 U.S.C. § 5323(j) and the Federal Transit Administration Buy America requirements per 49 C.F.R. part 661

SAMPLE PRINT LEGEND:

{SQFTG_DUAL} SOUTHWIRE SIMpull{R} POWER CABLE MASTER-DESIGN {UL} XXX AWG COMPACT AL.--- {ALUMAFLEX} {R} AA8176 115 MILS NL-EPR 5KV 133%/8KV 100% INS LEVEL 25%TS MV-105 FOR CT USE SUN. RES. {NESC} PAT www.patentSW.com

Table 1 – Weights and Measurements

Stock Number	Cond. Size	Diameter Over Conductor	Diameter Over Insulation	Diameter Over Insulation Shield	Jacket Thickness[1]	Approx. OD	Approx. Weight	Max Pull Tension	Min Bending Radius	Conduit Size*
	AWG/ Kcmil	inch	inch	inch	mil	inch	lb/1000ft	lb	inch	inch
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
560133	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
◊ Cable marked with this symbol is a standard stock item
* 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

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 In Duct 90/105°C†	Allowable Ampacity In Air 90/105°C‡
AWG/ Kcmil	Ω/1000ft	Ω/1000ft	MΩ*1000ft	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
2	0.266	0.334	0.037	0.045	0.698 + j0.521	0.335 + j0.045	1968	115/125	150/165
1	0.211	0.265	0.034	0.044	0.632 + j0.503	0.266 + j0.044	2069	130/140	175/195
1/0	0.168	0.211	0.032	0.042	0.580 + j0.482	0.212 + j0.042	2189	150/160	200/225
2/0	0.133	0.167	0.029	0.041	0.538 + j0.461	0.168 + j0.040	2320	170/185	230/260
3/0	0.105	0.132	0.026	0.040	0.503 + j0.437	0.133 + j0.040	2473	195/210	270/300
4/0	0.084	0.105	0.024	0.038	0.476 + j0.413	0.106 + j0.038	2642	225/245	310/350
250	0.071	0.089	0.023	0.038	0.459 + j0.390	0.090 + j0.037	2817	250/270	345/385
350	0.051	0.064	0.020	0.036	0.429 + j0.353	0.064 + j0.036	3130	305/325	430/480
500	0.035	0.045	0.017	0.034	0.402 + j0.312	0.046 + j0.034	3520	370/400	545/605
600	0.030	0.038	0.017	0.034	0.385 + j0.281	0.038 + j0.033	3871	/	/
750	0.024	0.030	0.016	0.033	0.369 + j0.257	0.031 + j0.032	4180	470/505	710/790
1000	0.018	0.023	0.014	0.031	0.347 + j0.224	0.024 + j0.031	4675	545/590	855/950

* Calculations are based on three cables triplexed / 5 mil 25 % over lapping copper tape shield Earth resistivity of 100 ohms-meter
† Ampacities are based on TABLE 310.60(C)(78) Detail 1. of the 2020 National Electrical Code (20°C Ambient Earth Temperature, Thermal Resistance ROH of 90)
‡ Ampacities are based on TABLE 310.60(C)(70) of the 2020 National Electrical Code (40°C Ambient Air Temperature)