AL Compact 5/8kV NLEPR Insulation 133/100% IL SIM-PVC Jacket. MV 105 - Tray Rated - Sunlight Resistant - For Direct Burial

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

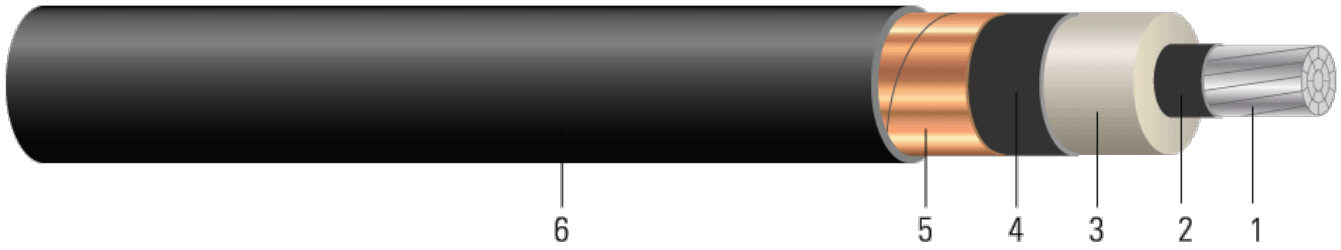

Image not to scale. See Table 1 for dimensions.

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 when UL listed. Rated at -25°C for cold bend and cold impact and marked with "LTDD" when CSA listed or dual UL/CSA listed. 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

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- 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	Strand Count	Diameter Over Conductor	Diameter Over Insulation	Diameter Over Insulation Shield	Jacket Thickness	Approx. OD	Approx. Weight	Max Pull Tension	Min Bending Radius	Conduit Size*
	AWG/ Kcmil	No. of Strands	inch	inch	inch	mil	inch	lb/1000ft	lb	inch	inch
560182	2	7	0.268	0.536	0.640	55	0.790	342	398	9.4	2.5
TBA	1	19	0.298	0.566	0.626	55	0.756	287	502	9.0	2.5
559953	1/0	10	0.336	0.604	0.664	55	0.814	377	633	9.7	2.5
560116	2/0	12	0.376	0.644	0.704	80	0.884	446	798	10.6	2.5
560133	3/0	18	0.422	0.691	0.751	80	0.931	502	1006	11.1	3.0
560134	4/0	19	0.474	0.743	0.803	80	0.983	569	1269	11.7	3.0
560137	250	22	0.520	0.796	0.856	80	1.036	635	1500	12.4	3.0
560135	350	35	0.615	0.892	0.952	80	1.132	777	2100	13.5	3.5
560147	500	35	0.735	1.034	1.094	80	1.274	990	3000	15.2	3.5
577321	600	41	0.812	1.103	1.163	80	1.343	1122	3600	16.1	4.0
560179	750	58	0.908	1.206	1.266	80	1.446	1315	4500	17.3	4.0
560180	1000	58	1.060	1.044	1.104	80	1.598	1627	6000	19.1	4.5

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
* Strand count meets minimum number per ASTM

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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	0.267	0.336	0.036	0.045	0.7 + j0.521	0.336 + j0.044	1877	115/125	150/165
1	0.211	0.266	0.033	0.043	0.633 + j0.503	0.266 + j0.042	1970	130/140	175/195
1/0	0.168	0.211	0.030	0.041	0.581 + j0.482	0.211 + j0.04	2088	150/160	200/225
2/0	0.133	0.167	0.028	0.041	0.537 + j0.46	0.167 + j0.04	2212	170/185	230/260
3/0	0.105	0.133	0.025	0.040	0.504 + j0.437	0.133 + j0.038	2354	195/210	270/300
4/0	0.084	0.105	0.023	0.038	0.476 + j0.413	0.105 + j0.037	2515	225/245	310/350
250	0.071	0.090	0.022	0.038	0.46 + j0.39	0.09 + j0.036	2683	250/270	345/385
350	0.050	0.065	0.019	0.036	0.43 + j0.352	0.066 + j0.034	2977	305/325	430/480
500	0.035	0.046	0.016	0.034	0.403 + j0.312	0.047 + j0.032	3349	370/400	545/605
600	0.029	0.039	0.015	0.033	0.389 + j0.286	0.04 + j0.031	3618	410/442	611/679
750	0.024	0.033	0.014	0.032	0.374 + j0.261	0.034 + j0.031	3916	470/505	710/790
1000	0.018	0.026	0.012	0.031	0.352 + j0.227	0.027 + j0.03	4387	545/590	855/950

***** Ampacities are based on:
***** For Duct: Table 310.60(C)(78) Detail 1.
***** For Free Air: Table 310.60(C)(70).
***** Inductive impedance is based on non-ferrous conduit with one diameter spacing.
***** Sequence Impedance values are based on Rho Earth Resistivity: 100 Ohm-Meter/1000ft.
***** Capacitive Reactance is between Phase-to-Shield.

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