AL Compact 35kV NLEPR Insulation 133% IL Black SIM-PVC Jacket. MV 105 - Tray Rated - Sunlight Resistant - For Direct Burial

Type MV-105 Single Conductor Aluminum, 420 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level, Tape Shield, SIM*pull* Polyvinyl Chloride (PVC) Jacket, Dual Rated UL/CSA

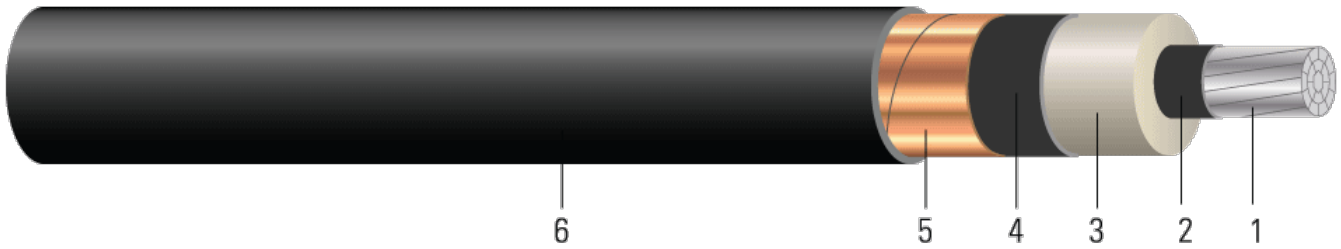

Image not to scale. See Table 1 for dimensions.

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:** 420 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 35KV 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. 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 Vertical-Tray Fire Propagation and Smoke Release Test (1/0 and Larger)
- 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-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 (Qualification Test Requirements)

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- 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® POWER CABLE {UL} XXX KCMIL COMPACT AL.--- {ALUMAFLEX}® AA8176 420 MILS NL-EPR 35KV 133% INS LEVEL 25%TS MV-105 FOR CT USE SUN RES (NESC) -- {CSA} 1000 KCMIL COMPACT AL.--- {ALUMAFLEX}® AA8176 10.67mm (420 mils) NL-EPR 35KV 133% INS LEVEL 25%TS SR TC-ER 105°C FT4 -25°C LTDD -- PAT www.patentSW.com -- RoHS

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	Copper Weight	Aluminum Weight	Approx. Weight	Max Pull Tension	Min Bending Radius	Conduit Size
	AWG/ Kcmil	No. of Strands	inch	inch	inch	mil	inch	lb/ 1000ft	lb/1000ft	lb/ 1000ft	lb	inch	inch
566994	1/0	10	0.336	1.214	1.274	80	1.454	108	99	1004	633	17.4	4
590621	2/0	12	0.376	1.254	1.314	80	1.494	111	125	1069	798	17.9	4
566995	3/0	15	0.423	1.301	1.361	80	1.541	114	158	1147	1006	18.5	4
591197	4/0	19	0.475	1.353	1.413	80	1.593	118	199	1239	1269	19.1	4
591198	250	22	0.52	1.406	1.466	80	1.646	123	236	1329	1500	19.8	5
591199	350	35	0.616	1.502	1.562	110	1.802	130	330	1617	2100	21.6	5
578178	500	35	0.736	1.646	1.706	110	1.946	142	471	1908	3000	23.4	5
TBA	600	58	0.813	1.709	1.769	110	2.009	145	570	2180	3600	24.1	6
566996	750	58	0.908	1.816	1.876	110	2.116	155	707	2324	4500	25.4	6
597787	1000	58	1.117	1.968	2.028	110	2.268	167	942	2717	6000	27.2	6
677472!	1250	91	1.25	2.171	2.231	110	2.471	183	1172	3170	7500	29.7	7

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
! Made with Aluminum 1350
TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.

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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
1/0	0.167	0.229	0.061	0.055	0.575+j0.321	0.230+j0.059	3978	150/165	170/185
2/0	0.133	0.182	0.058	0.053	0.525+j0.309	0.183+j0.057	4102	170/185	190/215
3/0	0.105	0.144	0.054	0.051	0.484+j0.296	0.145+j0.055	4248	195/210	220/245
4/0	0.084	0.115	0.051	0.05	0.451+j0.283	0.116+j0.053	4409	220/240	255/285
250	0.07	0.096	0.047	0.048	0.428+j0.271	0.097+j0.052	4573	245/265	280/315
350	0.051	0.07	0.043	0.046	0.393+j0.250	0.071+j0.050	4871	295/315	345/385
500	0.036	0.05	0.039	0.044	0.362+j0.224	0.051+j0.048	5317	355/385	425/475
600	0.03	0.042	0.035	0.042	0.349+j0.213	0.043+j0.046	5512	389/421	471/525
750	0.023	0.033	0.033	0.041	0.331+j0.198	0.034+j0.045	5844	440/475	540/600
1000	0.017	0.025	0.027	0.038	0.311+j0.178	0.026+j0.043	6315	510/545	635/705
1250	0.014	0.022	0.026	0.037	0.292+j0.157	0.024+j0.043	6943	580/615	730/810

* NEC ampacities are based on:
* For Duct: Table 310.60(C)(12) Detail 1.
* For Free Air: Table 310.60(C)(4).
* Inductive impedance is based on non-ferrous conduit with one diameter spacing center-to-center.
* Sequence Impedance values are based on Rho Earth Resistivity: 100 Ohm-Meter/1000ft, Spacing: one diameter spacing center-to-center.
* Capacitive Reactance is between Phase-to-Shield.

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