AL Compact 25kV NLEPR Insulation 133% IL Black SIM-PVC Jacket. MV 105 - Tray Rated - Sunlight Resistant - For Direct Burial

Type MV-105 Single Conductor Aluminum, 320 Mils No Lead Ethylene Propylene Rubber (NLEPR) 133% Insulation Level, Tape Shield, SIM*pull* Polyvinyl Chloride (PVC) Jacket, Dual Rated UL/CSA

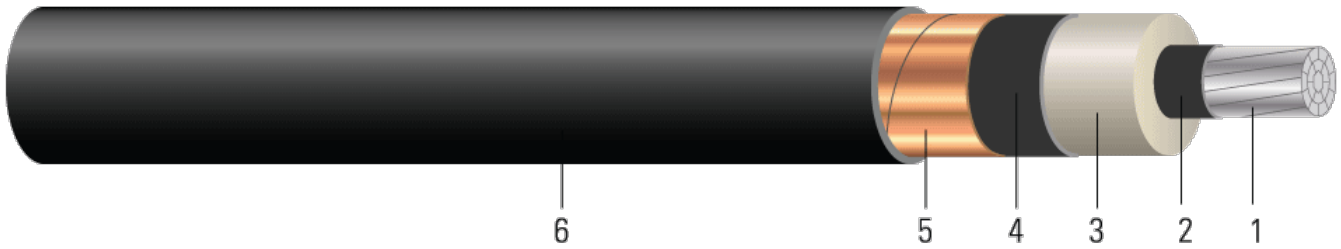

Image not to scale. See Table 1 for dimensions.

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:** 320 Mils No Lead Ethylene Propylene Rubber (NLEPR) 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 25KV 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 320 MILS NL-EPR 25KV 133% INS LEVEL 25%TS MV-105 FOR CT USE SUN RES (NESC) -- {CSA} 750 KCMIL COMPACT AL.--- {ALUMAFLEX}® AA8176 8.13mm (320 mils) NL-EPR 25KV 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
671508	1/0	19	0.336	1.014	1.074	80	1.254	92	99	776	633	15	3
672018	2/0	12	0.376	1.054	1.114	80	1.294	95	125	834	798	15.5	3.5
TBA	3/0	19	0.423	1.101	1.161	80	1.341	96	159	952	1006	16.1	3.5
672158	4/0	19	0.475	1.153	1.213	80	1.393	103	199	989	1269	16.7	3.5
TBA	250	35	0.52	1.206	1.266	80	1.446	104	237	1126	1500	17.4	3.5
TBA	350	35	0.616	1.302	1.362	80	1.542	112	332	1305	2100	18.5	4
665046	500	34	0.736	1.446	1.506	110	1.746	126	471	1601	3000	21	4.5
672021	750	53	0.908	1.616	1.676	110	1.916	139	707	1990	4500	23	5
TBA	1000	58	1.117	1.813	1.873	110	2.113	154	950	2496	6000	25.4	5.5
TBA	1250	91	1.25	1.95	2.01	110	2.25	165	1184	2864	7500	27	6

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
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.

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	0.052	0.052	0.586+j0.372	0.230+j0.056	3359	150/165	170/185
2/0	0.133	0.182	0.049	0.05	0.537+j0.358	0.183+j0.054	3483	170/185	190/215
3/0	0.105	0.144	0.045	0.048	0.497+j0.343	0.145+j0.052	3628	195/210	220/245
4/0	0.084	0.115	0.042	0.046	0.465+j0.327	0.116+j0.050	3789	220/240	255/285
250	0.07	0.096	0.039	0.045	0.442+j0.312	0.097+j0.049	3954	245/265	280/315
350	0.051	0.07	0.035	0.043	0.410+j0.287	0.071+j0.047	4251	295/315	345/385
500	0.036	0.05	0.032	0.042	0.378+j0.256	0.051+j0.045	4697	355/385	425/475
750	0.023	0.033	0.027	0.039	0.347+j0.224	0.034+j0.043	5224	440/475	540/600
1000	0.017	0.025	0.023	0.036	0.323+j0.195	0.026+j0.042	5834	510/545	635/705
1250	0.014	0.022	0.021	0.035	0.309+j0.177	0.023+j0.040	6259	580/615	730/810

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* 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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