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

Type MV-105 Single Conductor Aluminum, 420 Mils Tree Retardant Cross-Linked Polyethylene (TRXLPE) 133% Insulation Level, Tape Shield, SIM*pull* Polyvinyl Chloride (PVC) Jacket

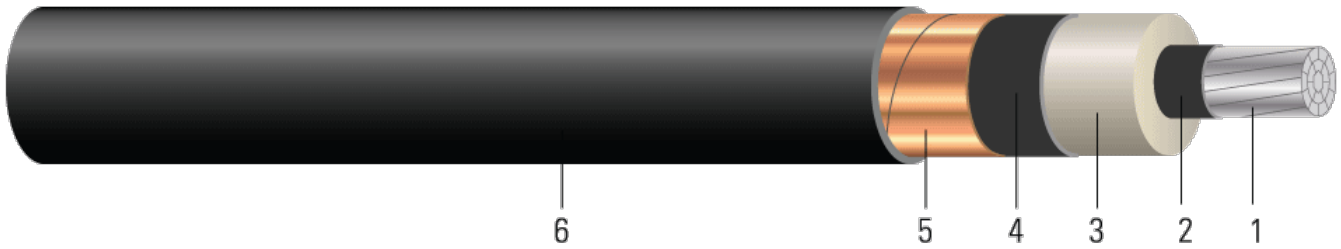


Image not to scale. See Table 1 for dimensions.

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 Tree Retardant Cross-Linked Polyethylene (TRXLPE) 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, 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. 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
- 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
- AEIC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV (Qualification Test Requirements)
- 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:

SOUTHWIRE SIMpull® POWER CABLE {UL} XXX KCMIL COMPACT AL.--- {ALUMAFLEX}® AA8176 420 MILS XLP 35KV 133% INS LEVEL 25%TS MV-105 SUN. RES. {NESC} PAT www.patentSW.com

Southwire Company, LLC | One Southwire Drive, Carrollton, GA 30119 | www.southwire.com

Copyright © 2026 Southwire Company, LLC. All Rights Reserved

UPDATED: June 4, 2025, 1:30 a.m.UTC REVISION: 1.000.006

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
TBA	1/0	19	0.336	1.214	1.274	80	1.454	105	99	1068	633	17.4	4
TBA	2/0	19	0.376	1.254	1.314	80	1.494	108	126	1137	798	17.9	4
TBA	3/0	19	0.423	1.301	1.361	80	1.541	112	159	1220	1006	18.5	4
TBA	4/0	19	0.475	1.353	1.413	80	1.593	116	200	1316	1269	19.1	4
TBA	250	35	0.52	1.406	1.466	80	1.646	121	237	1412	1500	19.8	5
TBA	350	35	0.616	1.502	1.562	110	1.802	128	332	1703	2100	21.6	5
TBA	500	35	0.736	1.622	1.682	110	1.922	138	475	1980	3000	23.1	5
TBA	600	58	0.813	1.709	1.769	110	2.009	145	570	2180	3600	24.1	6
673462	750	58	0.908	1.804	1.864	110	2.104	154	707	2139	4500	25.2	6
TBA	1000	58	1.117	2.013	2.073	110	2.313	170	950	2901	6000	27.8	6
TBA	1250	58	1.25	2.15	2.21	110	2.45	182	1184	3294	7500	29.4	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
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	0.08	0.055	0.575+j0.321	0.230+j0.059	3978	150/165	170/185
2/0	0.133	0.182	0.075	0.053	0.525+j0.309	0.183+j0.057	4102	170/185	190/215
3/0	0.105	0.144	0.071	0.051	0.484+j0.296	0.145+j0.055	4248	195/210	220/245
4/0	0.084	0.115	0.066	0.05	0.451+j0.283	0.116+j0.053	4409	220/240	255/285
250	0.07	0.096	0.062	0.048	0.428+j0.271	0.097+j0.052	4573	245/265	280/315
350	0.051	0.07	0.056	0.046	0.393+j0.250	0.071+j0.050	4871	295/315	345/385
500	0.036	0.05	0.05	0.044	0.364+j0.228	0.051+j0.048	5242	355/385	425/475
600	0.03	0.042		0.042	0.349+j0.213	0.043+j0.046	5512	389/421	471/525
750	0.023	0.033	0.043	0.041	0.332+j0.199	0.034+j0.045	5806	440/475	540/600
1000	0.017	0.025	0.037	0.038	0.307+j0.174	0.026+j0.044	6454	510/545	635/705
1250	0.014	0.022	0.034	0.037	0.294+j0.159	0.024+j0.042	6878	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.

Copyright © 2026 Southwire Company, LLC. All Rights Reserved