



# 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, SIMpull 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 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
- 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

**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	25	99	957	633	17.4	4.0
TBA	2/0	19	0.376	1.254	1.314	80	1.494	26	125	1020	798	17.9	4.5
TBA	3/0	19	0.422	1.300	1.360	80	1.540	27	158	1096	1006	18.4	4.5
TBA	4/0	19	0.474	1.352	1.412	80	1.592	28	199	1186	1269	19.1	4.5
TBA	250	35	0.520	1.406	1.466	80	1.646	29	235	1276	1500	19.7	5.0
TBA	350	35	0.615	1.501	1.561	110	1.801	31	329	1565	2100	21.6	5.0
TBA	500	35	0.735	1.621	1.681	110	1.921	33	471	1828	3000	23.0	5.5
673462	750	58	0.908	1.804	1.864	110	2.104	145	706	2131	4500	25.2	6.0
TBA	1000	58	1.060	1.956	2.016	110	2.256	40	941	2644	6000	27.0	

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

**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	0.168	0.211	0.087	0.055	0.55 + j0.279	0.212 + j0.054	3978	155/165	200/225
2/0	0.133	0.167	0.081	0.053	0.502 + j0.268	0.168 + j0.052	4102	175/190	230/260
3/0	0.105	0.133	0.076	0.051	0.464 + j0.257	0.134 + j0.05	4244	200/215	270/300
4/0	0.084	0.105	0.071	0.050	0.431 + j0.244	0.106 + j0.048	4405	230/245	310/345
250	0.071	0.090	0.067	0.048	0.41 + j0.233	0.091 + j0.047	4573	250/270	345/380
350	0.050	0.065	0.060	0.046	0.375 + j0.214	0.066 + j0.045	4867	305/330	430/475
500	0.035	0.046	0.053	0.044	0.345 + j0.193	0.047 + j0.042	5239	370/400	530/590
750	0.024	0.033	0.046	0.041	0.315 + j0.167	0.034 + j0.039	5806	455/490	685/765
1000	0.018	0.026	0.041	0.039	0.295 + j0.15	0.027 + j0.038	6277	525/565	825/920

\* 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.

