CU Compressed 35kV TRXLPE Insulation 100% IL Black SIM-PVC Jacket. MV 105 - Sunlight Resistant - For Direct Burial

Type MV-105 Single Conductor Copper, 345 Mils Tree Retardant Cross Linked Polyethylene (TRXLPE) 100% Insulation Level, Tape Shield, SIM*pull* Polyvinyl Chloride (PVC) Jacket

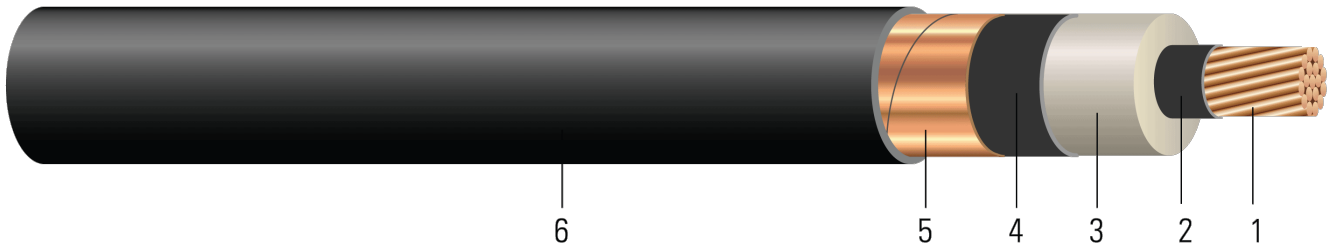

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class B compressed stranded bare copper per ASTM B3 and ASTM B8 (Tinned Copper per ASTM B33 optional)
2. **Conductor Shield:** Semi-conducting cross-linked copolymer
3. **Insulation:** 345 Mils Tree Retardant Cross Linked Polyethylene (TRXLPE) 100% 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, 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. 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 B3 Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- ASTM B33 Standard Specification for Tin-Coated Soft or Annealed Copper Wire
- 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:

{SQFTG_DUAL} SOUTHWIRE SIMpull® POWER CABLE {UL} XXX KCMIL CU 345 MILS TRXLPE 35KV 100% INS LEVEL 25%TS MV-105 SUN RES (NESC)

Table 1 – Weights and Measurements

Cond. Size	Strand Count	Diameter Over Conductor	Diameter Over Insulation	Diameter Over Insulation Shield	Jacket Thickness	Approx. OD	Copper 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	inch	inch
1/0	19	0.361	1.090	1.150	80	1.330	418	1073	844	15.9	4.0
2/0	19	0.405	1.134	1.194	80	1.374	506	1195	1064	16.4	4.0
3/0	19	0.456	1.184	1.244	80	1.424	617	1344	1342	17.0	4.0
4/0	19	0.512	1.240	1.300	80	1.480	756	1527	1692	17.7	4.5
250	37	0.558	1.294	1.385	80	1.565	881	1742	2000	18.7	4.5
350	37	0.661	1.397	1.457	80	1.637	1195	2090	2800	19.6	4.5
500	37	0.789	1.502	1.562	110	1.802	1666	2743	4000	21.6	5.0
750	61	0.968	1.714	1.774	110	2.014	2454	3714	6000	24.1	6.0
1000	61	1.117	1.863	1.923	110	2.163	3237	4623	8000	25.9	6.0

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
* Conduit size based on 3 phase 40% fill-factor without ground
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	0.102	0.128	0.057	0.049	0.487 + j0.351	0.129 + j0.052	3590	200/215	260/290
2/0	0.081	0.102	0.046	0.050	0.458 + j0.337	0.103 + j0.050	3727	230/245	300/330
3/0	0.064	0.081	0.041	0.048	0.434 + j0.322	0.083 + j0.048	3885	260/275	345/380
4/0	0.051	0.065	0.041	0.046	0.414 + j0.306	0.066 + j0.047	4058	295/315	395/445
250	0.043	0.056	0.036	0.045	0.398 + j0.286	0.057 + j0.046	4226	325/345	440/490
350	0.031	0.041	0.034	0.043	0.377 + j0.268	0.042 + j0.043	4545	390/415	545/605
500	0.022	0.030	0.028	0.041	0.357 + j0.246	0.032 + j0.041	4941	465/500	680/755
750	0.014	0.023	0.025	0.039	0.332 + j0.210	0.024 + j0.039	5527	565/610	870/970
1000	0.011	0.019	0.022	0.037	0.316 + j0.188	0.021 + j0.037	5989	640/690	1040/1160

* NEC ampacities are based on:
* For Duct: Table 310.60(C)(11) Detail 1.
* For Free Air: Table 310.60(C)(3).
* 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.