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

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

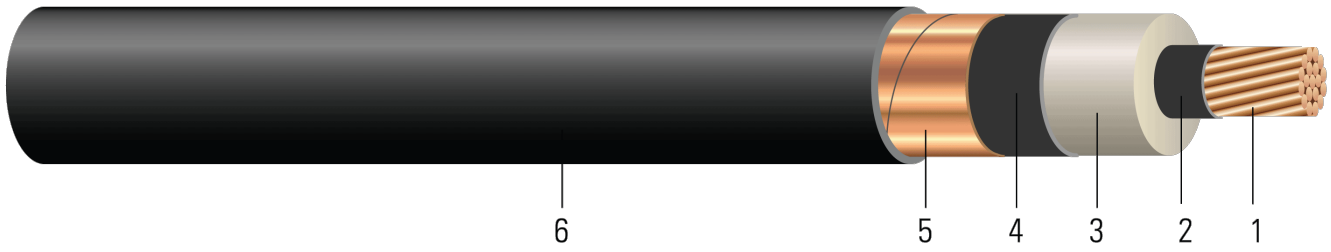

Image not to scale. See Table 1 for dimensions.

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:** 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, 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

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SAMPLE PRINT LEGEND:

{SQFTG_DUAL} SOUTHWIRE SIMpull® POWER CABLE {UL} XXX AWG CU 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	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
673458	1/0	19	0.362	1.24	1.3	80	1.48	436	1151	844	17.8	4
673457	2/0	19	0.405	1.284	1.344	80	1.524	517	1266	1064	18.3	4
673456	3/0	19	0.456	1.334	1.394	80	1.574	635	1422	1342	18.9	4
673455	4/0	19	0.512	1.39	1.45	80	1.63	775	1604	1692	19.6	4
673454	250	37	0.558	1.444	1.504	110	1.744	898	1867	2000	20.9	4.5
673453	350	37	0.661	1.527	1.587	110	1.827	1213	2251	2800	21.9	5
673452	500	37	0.789	1.652	1.712	110	1.952	1686	2827	4000	23.4	5
673451	750	61	0.968	1.864	1.924	110	2.164	2474	3796	6000	26	5.5
TBA	1000	61	1.117	2.013	2.073	110	2.313	3258	5038	8000	27.8	6

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	0.139	0.077	0.054	0.483+j0.315	0.140+j0.060	4059	195/210	215/240
2/0	0.082	0.112	0.072	0.052	0.453+j0.303	0.113+j0.058	4195	220/235	245/275
3/0	0.064	0.087	0.068	0.05	0.424+j0.290	0.088+j0.056	4350	250/270	285/315
4/0	0.051	0.07	0.063	0.048	0.403+j0.276	0.071+j0.054	4524	285/305	325/360
250	0.043	0.059	0.059	0.048	0.387+j0.264	0.060+j0.053	4691	310/335	360/400
350	0.031	0.043	0.052	0.045	0.364+j0.246	0.044+j0.050	4948	375/400	435/490
500	0.021	0.03	0.046	0.043	0.341+j0.224	0.031+j0.048	5335	450/485	535/600
750	0.014	0.021	0.041	0.04	0.315+j0.192	0.022+j0.045	5992	545/585	670/745
1000	0.011	0.018	0.037	0.038	0.300+j0.174	0.019+j0.044	6454	615/660	770/860

* 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.

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