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

Type MV-105 Single Conductor Copper, 345 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 100% Insulation Level, Tape Shield, SIM*pull* Polyvinyl Chloride (PVC) Jacket, Dual Rated UL/CSA

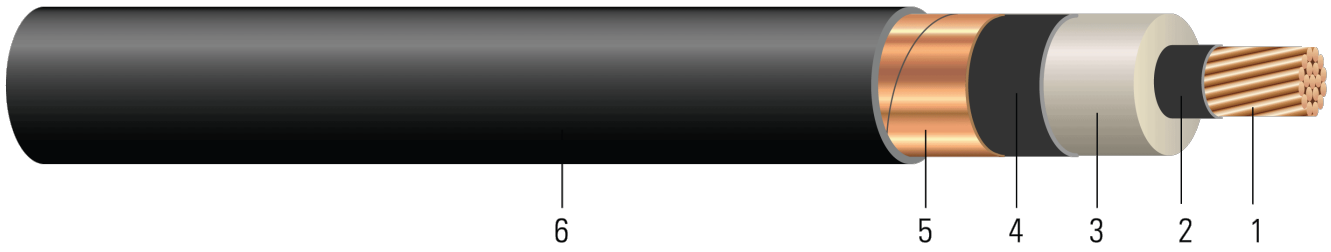

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class B 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 No Lead Ethylene Propylene Rubber (NL-EPR) 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, 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 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
- 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)

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- 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 NL-EPR 35KV 100% INS LEVEL 25%TS MV-105 FOR CT USE SUN RES (NESC) -- {CSA} 500 KCMIL CU 8.76mm (345 mils) NL-EPR 35KV 100% 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	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
555839	1/0	19	0.362	1.09	1.15	80	1.33	424	1078	844	16	3.5
555847	2/0	19	0.405	1.134	1.194	80	1.374	512	1200	1064	16.5	3.5
555854	3/0	19	0.456	1.184	1.244	80	1.424	623	1350	1342	17.1	3.5
555862	4/0	19	0.512	1.24	1.3	80	1.48	763	1533	1692	17.8	4
555870	250	37	0.558	1.294	1.385	80	1.565	888	1741	2000	18.8	4
551986	350	37	0.661	1.397	1.457	80	1.637	1203	2096	2800	19.6	4
555888	500	37	0.789	1.502	1.562	110	1.802	1674	2749	4000	21.6	4.5
957316	750	61	0.968	1.714	1.774	110	2.014	2463	3721	6000	24.2	5.5
608992	1000	61	1.117	1.863	1.923	110	2.163	3246	4631	8000	26	5.5
585498	1250	91	1.25	2	2.06	110	2.3	4029	5532	10000	27.6	6
586277	2000	127	1.583	2.363	2.423	110	2.663	6374	8173	16000	32	7

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.

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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	0.052	0.052	0.493+j0.351	0.140+j0.057	3594	195/210	215/240
2/0	0.082	0.112	0.049	0.05	0.463+j0.337	0.113+j0.055	3730	220/235	245/275
3/0	0.064	0.087	0.046	0.048	0.435+j0.322	0.088+j0.053	3885	250/270	285/315
4/0	0.051	0.07	0.042	0.046	0.414+j0.307	0.071+j0.052	4059	285/305	325/360
250	0.043	0.059	0.04	0.045	0.397+j0.287	0.060+j0.051	4322	310/335	360/400
350	0.031	0.043	0.036	0.043	0.375+j0.269	0.044+j0.048	4545	375/400	435/490
500	0.021	0.03	0.031	0.041	0.353+j0.246	0.031+j0.046	4871	450/485	535/600
750	0.014	0.021	0.027	0.039	0.327+j0.210	0.022+j0.044	5528	545/585	670/745
1000	0.011	0.018	0.024	0.037	0.312+j0.189	0.019+j0.042	5989	615/660	770/860
1250	0.008	0.014	0.022	0.036	0.297+j0.172	0.015+j0.041	6414	685/735	870/975
2000	0.005	0.013	0.019	0.034	0.270+j0.138	0.015+j0.039	7538	895/960	1170/1320

* 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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