CU Compressed 8kV NLEPR Insulation 133% IL SIM-PVC Jacket. MV 105 - Tray Rated - Sunlight Resistant - For Direct Burial

Type MV-105 Single Conductor Copper, 140 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level, Tape Shield, SIM*pull* Polyvinyl Chloride (PVC) Jacket, Dual Rated UL/CSA

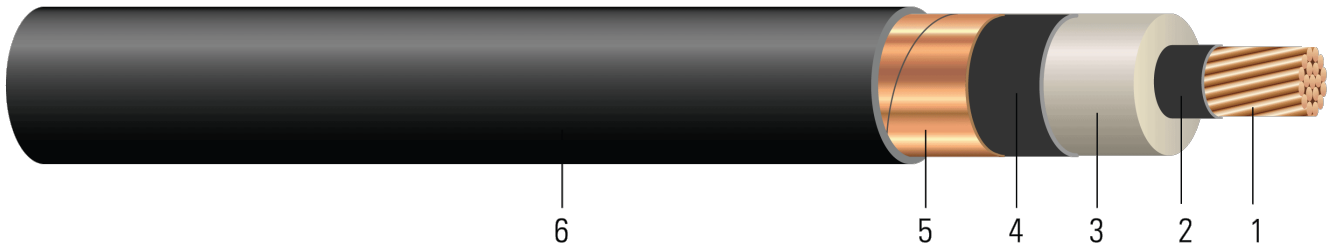

Image not to scale. See Table 1 for dimensions.

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:** 140 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 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 8KV 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)

- 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 [SYMBOL - LIGHTING BOLT] #P# (UL/CSA) 1/C [#AWG or #kcmil] CU 140 MILS NL-EPR 8KV 133% INS LEVEL 25% TS MV-105 FOR CT USE SUN. RES. TC-ER (CSA 1/0 LARGER) FOR DIRECT BURIAL FT4 YEAR (NESC) [SEQUENTIAL FEET MARKS] {SQFTG_DUAL}

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
TBA	2	7	0.282	0.600	0.660	55	0.790	217	439	530	9.4	2.5
TBA	1	19	0.322	0.640	0.700	80	0.880	272	554	669	10.5	2.5
TBA	1/0	19	0.361	0.679	0.739	80	0.919	339	639	844	11.0	3.0
TBA	2/0	19	0.405	0.723	0.783	80	0.963	425	746	1064	11.5	3.0
TBA	3/0	19	0.456	0.774	0.834	80	1.014	534	878	1342	12.1	3.0
646573	4/0	19	0.512	0.816	0.876	80	1.056	726	1078	1692	12.6	3.0
646576	250	37	0.558	0.868	0.928	80	1.108	848	1227	2000	13.2	3.5
664429	350	37	0.641	0.967	1.027	80	1.207	1164	1588	2800	14.5	3.5
646579	500	37	0.789	1.092	1.152	80	1.332	1636	2118	4000	15.9	4.0
646580	750	61	0.968	1.304	1.364	80	1.544	2423	3009	6000	18.5	4.5
TBA	1000	61	1.117	1.453	1.513	110	1.753	3118	3896	8000	21.0	5.0

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
2	0.162	0.204	0.039	0.045	0.401 + j0.346	0.041 + j0.037	2075	155/165	195/215
1	0.128	0.162	0.035	0.045	0.401 + j0.346	0.042 + j0.038	2199	175/185	225/250
1/0	0.102	0.128	0.032	0.043	0.401 + j0.346	0.041 + j0.037	2320	200/215	260/290
2/0	0.081	0.102	0.030	0.042	0.402 + j0.292	0.056 + j0.043	2456	230/245	300/335
3/0	0.064	0.081	0.027	0.040	0.402 + j0.292	0.056 + j0.043	2614	260/275	345/385
4/0	0.051	0.065	0.025	0.039	0.403 + j0.275	0.065 + j0.047	2788	295/315	400/445
250	0.043	0.056	0.024	0.038	0.403 + j0.275	0.065 + j0.047	2955	325/345	445/495
350	0.030	0.041	0.022	0.035	0.570 + j0.463	0.204 + j0.051	3213	390/415	550/610
500	0.022	0.030	0.018	0.034	0.403 + j0.275	0.065 + j0.047	3671	465/500	685/765
750	0.014	0.023	0.015	0.032	0.403 + j0.361	0.042 + j0.039	4257	565/610	885/990
1000	0.011	0.019	0.013	0.032	0.404 + j0.303	0.057 + j0.044	4718	640/690	1060/1185

***** 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.