CU Compressed 15kV NLEPR Insulation 100% IL Black SIM-PVC Jacket. MV 105 - Tray Rated - Sunlight Resistant - For Direct Burial

Type MV-105 Single Conductor Copper, 175 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 100% Insulation Level, Tape Shield, SIM*pull* Polyvinyl Chloride (PVC) Jacket, Dual Rated UL/CSA

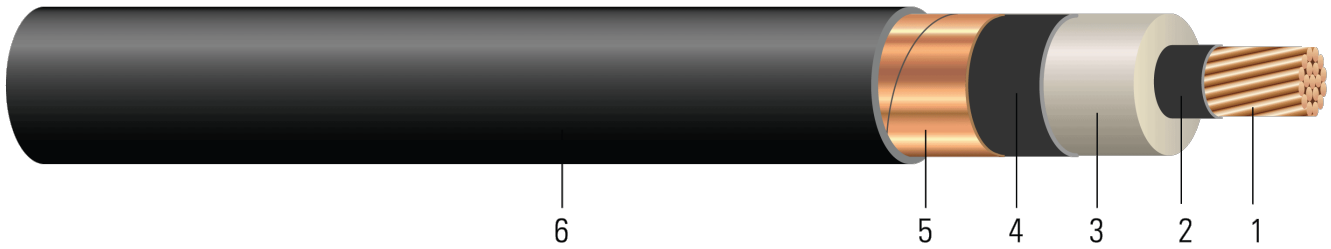

Image not to scale. See Table 1 for dimensions.

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:** 175 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 15KV 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:

{SQFTG_DUAL} SOUTHWIRE SIMpull® POWER CABLE {UL} XX AWG CU 175 NL-EPR 15KV 100% INS LEVEL 25%TS MV-105 SUN RES {NESC} -- {CSA} XX AWG CU X.XXmm (175 mils) NL-EPR 15KV 100% INS LEVEL 25%TS SR 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
672150	2	7	0.282	0.665	0.725	80	0.911	265	569	530	10.9	2.5
668271	1	19	0.322	0.710	0.770	80	0.950	321	645	669	11.4	3.0
672622	1/0	19	0.362	0.750	0.810	80	0.990	394	737	844	11.8	3.0
TBA	3/0	19	0.456	0.844	0.904	80	1.084	536	941	1342	13.0	3.0
TBA	250	37	0.558	0.954	1.014	80	1.194	791	1258	2000	14.3	3.5
552080	350	37	0.661	1.037	1.097	80	1.277	1169	1661	2800	15.3	3.5
953828	500	37	0.789	1.162	1.222	80	1.402	1641	2198	4000	16.8	4.0
TBA	600	61	0.865	1.271	1.331	80	1.511	1879	2518	4800	18.1	4.5
552082	750	61	0.968	1.404	1.464	80	1.644	2431	3129	6000	19.7	5.0
605279	1000	61	1.117	1.523	1.583	110	1.823	3211	4063	8000	21.8	5.0
TBA	1250	91	1.250	1.750	1.810	110	2.050	3895	5011	10000	24.6	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
2	0.162	0.204	0.044	0.049	0.372 + j0.288	0.023 + j0.030	2292	155/165	195/215
1	0.128	0.162	0.041	0.047	0.372 + j0.288	0.023 + j0.030	2416	175/185	225/250
1/0	0.102	0.128	0.037	0.045	0.372 + j0.288	0.023 + j0.030	2537	200/215	260/290
3/0	0.064	0.081	0.032	0.042	0.373 + j0.289	0.031 + j0.041	2831	260/275	345/385
250	0.043	0.056	0.027	0.039	0.374 + j0.300	0.024 + j0.031	3172	325/345	445/495
350	0.031	0.041	0.024	0.037	0.375 + j0.252	0.047 + j0.043	3491	390/415	550/610
500	0.022	0.030	0.021	0.035	0.375 + j0.304	0.024 + j0.033	3888	465/500	685/765
600	0.018	0.026	0.020	0.034	0.376 + j0.289	0.031 + j0.037	4154	505/544	765/855
750	0.014	0.023	0.018	0.033	0.376 + j0.289	0.031 + j0.037	4473	565/610	885/990
1000	0.011	0.019	0.016	0.033	0.376 + j0.289	0.031 + j0.037	4935	640/690	1060/1185
1250	0.009	0.018	0.017	0.033	0.555 + j0.552	0.204 + j0.045	5638	715/770	1210/1350

***** 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.