CU Compact 15kV NLEPR Insulation 133% IL Black SIM-PVC Jacket. MV 105 - Tray Rated - Sunlight Resistant - For Direct Burial

Type MV-105 Single Conductor Compact Copper, 220 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level, Tape Shield, SIMpull® Polyvinyl Chloride (PVC) Jacket, Dual Rated UL/CSA



Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class B compact stranded per ASTM B496
2. **Conductor Shield:** Semi-conducting cross-linked copolymer
3. **Insulation:** 220 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 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 su- perior 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 B33 Standard Specification for Tin-Coated Soft or Annealed Copper Wire
- ASTM B496 Compact Round Concentric-lay-standard copper
- 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
- 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)

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- 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 AWG CPT CU 220 MILS NL-EPR 15KV 133% INS LEVEL 25%TS MV-105 FOR CT USE 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
TBA	2	7	0.268	0.746	0.806	80	0.986	221	598	530	11.8	3.0
TBA	1	19	0.298	0.776	0.836	80	1.016	275	670	669	12.1	3.0
647203	1/0	19	0.336	0.814	0.874	80	1.054	397	800	844	12.6	3.0
TBA	2/0	19	0.376	0.854	0.914	80	1.094	429	871	1064	13.1	3.0
TBA	3/0	19	0.422	0.900	0.960	80	1.140	537	1004	1342	13.6	3.5
640921	4/0	19	0.474	0.953	1.013	80	1.193	528	1012	1692	14.3	3.5
TBA	250	37	0.520	1.006	1.066	80	1.246	793	1329	2000	14.9	3.5
647207	350	35	0.615	1.102	1.162	80	1.342	1172	1747	2800	16.1	4.0
553998	500	35	0.735	1.230	1.290	80	1.470	1646	2301	4000	17.6	4.5
TBA	600	61	0.812	1.308	1.368	80	1.548	1877	2600	4800	18.5	4.5
561603	750	61	0.908	1.404	1.495	80	1.735	2433	3331	6000	20.8	5.0
TBA	1000	61	1.060	1.556	1.616	110	1.856	3118	4101	8000	22.2	5.5

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
* Strand count meets minimum number per ASTM

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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
2	0.162	0.204	0.053	0.052	0.575 + j0.426	0.204 + j0.051	2528	155/165	195/215
1	0.128	0.162	0.049	0.050	0.532 + j0.410	0.162 + j0.048	2621	175/185	225/250
1/0	0.102	0.128	0.046	0.048	0.497 + j0.393	0.128 + j0.047	2738	200/215	260/290
2/0	0.081	0.102	0.042	0.046	0.469 + j0.376	0.103 + j0.045	2862	230/245	300/335
3/0	0.064	0.081	0.039	0.044	0.446 + j0.358	0.082 + j0.043	3005	260/275	345/385
4/0	0.051	0.065	0.036	0.043	0.426 + j0.339	0.066 + j0.041	3166	295/315	400/445
250	0.043	0.056	0.034	0.042	0.413 + j0.321	0.057 + j0.040	3333	325/345	445/495
350	0.031	0.041	0.030	0.040	0.391 + j0.292	0.042 + j0.038	3628	390/415	550/610
500	0.022	0.030	0.026	0.037	0.368 + j0.260	0.031 + j0.036	3999	465/500	685/765
600	0.018	0.026	0.024	0.037	0.356 + j0.239	0.027 + j0.034	4269	505/544	765/855
750	0.014	0.023	0.022	0.035	0.343 + j0.220	0.024 + j0.034	4566	565/610	885/990
1000	0.011	0.019	0.020	0.035	0.324 + j0.194	0.02 + j0.033	5037	640/690	1060/1185

* Ampacities are based on:
* For Duct: Table 310.60(C)(77) Detail 1.
* For Free Air: Table 310.60(C)(69).
* Inductive impedance is based on non-ferrous conduit with one diameter spacing.
* Sequence Impedance values are based on Rho Earth Resistivity: 100 Ohm-Meter/1000ft.
* Capacitive Reactance is between Phase-to-Shield.