CU Compressed 15kV NLEPR Insulation 133% IL Black LSZH-TP Jacket. MV 105 - Tray Rated - Sunlight Resistant - For Direct Burial

Type MV-105 Single Conductor Copper, 220 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level, Tape Shield, Thermoplastic SOLONON® Low Smoke Zero Halogen (LSZH-TP) Jacket, Rated UL. Silicone Free

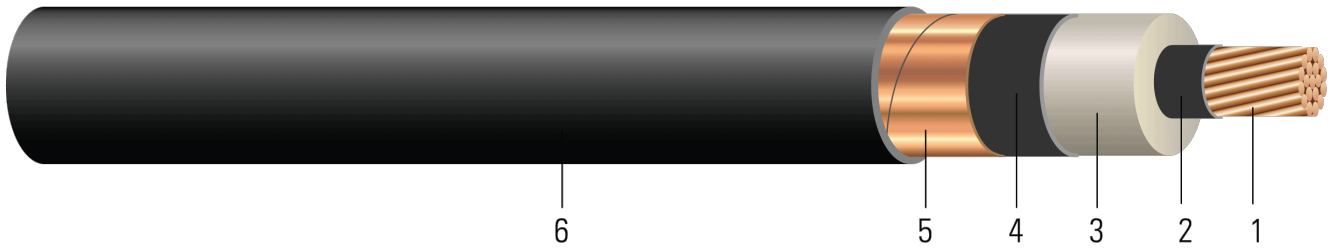


Image not to scale. See Table 1 for dimensions.

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:** 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:** Thermoplastic SOLONON® Low Smoke Zero Halogen (LSZH-TP)
   UL-1072 does not list polyolefin jacket. However, this LSZH meets the general definition of a thermoplastic polyolefin.

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 -25°C for cold bend. ST1 (low smoke) Rated for sizes 1/0 and larger. 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
- ASTM B496 Compact Round Concentric-lay-standard copper
- UL 1072 Medium-Voltage Power Cables
- UL 1685 FT4-ST1 Vertical-Tray Fire Propagation and Smoke Release Test (1/0 and Larger)
- UL 1685 Vertical-Tray Fire Propagation and Smoke Release Test
- ICEA S-93-639 (NEMA WC 74) 5-46 KV Shielded Power Cable
- 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)

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- NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems (500kcmil & Larger)
- 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
- NFPA 502 Standard for Road Tunnels, Bridges, and Other Limited Access Highways (non-emergency circuits only)

SAMPLE PRINT LEGEND:

{SQFTG_DUAL} SOUTHWIRE{R} POWER CABLE SOLONON{R} MASTER-DESIGN {UL} XXX AWG CU 220 MILS NL-EPR SOLONON{R} 15KV 133% 25%TS MV-105 ST-1 IEEE 1202/FT4 FOR CT USE SUN. RES. {NESC}

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
585535	1	19	0.322	0.8	0.86	80	1.04	334	744	669	12.5	2.5
550784	1/0	19	0.362	0.84	0.9	80	1.08	403	836	844	13	2.5
TBA	2/0	19	0.405	0.883	0.943	80	1.123	489	958	1064	13.5	3
671270	3/0	19	0.456	0.934	0.994	80	1.174	603	1091	1342	14.1	3
550786	4/0	19	0.512	0.99	1.05	80	1.23	744	1266	1692	14.8	3
644152**	4/0	19	0.512	0.99	1.05	80	1.23	742	1264	1692	14.8	3
457728	250	37	0.558	1.044	1.104	80	1.284	866	1423	2000	15.4	3.5
550788	350	37	0.661	1.147	1.207	80	1.387	1183	1801	2800	16.6	3.5
644149**	350	37	0.661	1.147	1.207	80	1.387	1183	1801	2800	16.6	3.5
550789	500	37	0.789	1.252	1.312	80	1.492	1654	2336	4000	17.9	4
550790	750	61	0.968	1.464	1.524	110	1.764	2443	3366	6000	21.2	4.5
550643	1500	91	1.37	1.9	1.96	110	2.2	4793	6025	12000	26.4	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
** Tinned Copper

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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	0.128	0.175	0.042	0.049	0.536+j0.444	0.176+j0.054	2696	170/185	185/210
1/0	0.102	0.139	0.039	0.047	0.500+j0.427	0.140+j0.052	2820	195/210	215/240
2/0	0.082	0.112	0.036	0.045	0.473+j0.410	0.113+j0.051	2953	220/235	245/275
3/0	0.064	0.087	0.033	0.043	0.447+j0.391	0.088+j0.049	3111	250/270	285/315
4/0	0.051	0.07	0.031	0.042	0.428+j0.371	0.071+j0.047	3284	285/305	325/360
4/0	0.053	0.072	0.031	0.042	0.430+j0.371	0.073+j0.047	3284	285/305	325/360
250	0.043	0.059	0.029	0.041	0.415+j0.353	0.060+j0.046	3452	310/335	360/400
350	0.031	0.043	0.025	0.039	0.393+j0.323	0.044+j0.044	3771	375/400	435/490
350	0.032	0.045	0.025	0.039	0.395+j0.323	0.046+j0.044	3771	375/400	435/490
500	0.021	0.03	0.021	0.036	0.373+j0.294	0.031+j0.042	4096	450/485	535/600
750	0.014	0.021	0.019	0.035	0.347+j0.248	0.022+j0.041	4753	545/585	670/745
1500	0.007	0.014	0.015	0.033	0.305+j0.180	0.015+j0.038	6104	780/835	1005/1120

* 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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