CU Compressed 15kV NLEPR Insulation 133% IL Black LSZH-TS 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, Thermoset SOLONON® Low Smoke Zero Halogen (LSZH-TS) Jacket, Dual Rated UL/CSA. Silicone Free

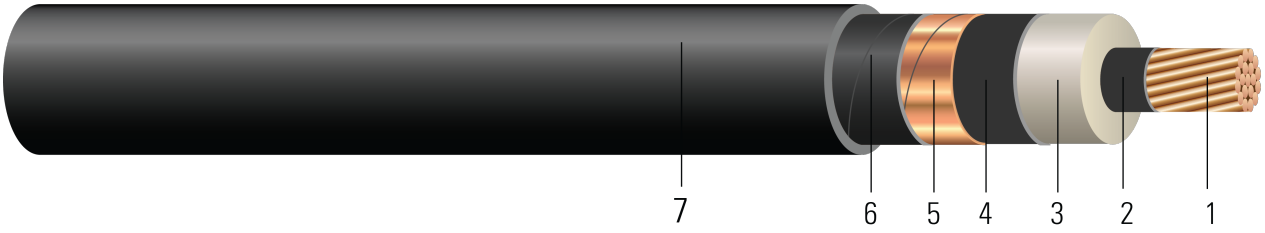


Image not to scale. See Table 1 for dimensions.

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. **Flame Retardant Tape:** Black silicone polymer tape
7. **Overall Jacket:** Thermoset SOLONON® Low Smoke Zero Halogen (LSZH-TS)

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 -40°C for cold bend. ST1 (low smoke) Rated for sizes 1/0 and larger. Rated for 1000 lbs./FT maximum sidewall pressure. Thermoset Solonon® jacket (LSZH-TS or XL LSZH).

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-ST1 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)
- NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems (1/0 AWG and larger)

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UPDATED: March 18, 2025, 9:56 p.m.UTC REVISION: 1.000.001

- 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} {UL} LSZH SOLONON{R} XXX CU 220 NL-EPR 15KV 133 INS LEVEL 25% TS MV-105 FOR CT USE FT4-ST1 SUN RES DIRECT BURIAL -40{D}C OIL RES I/II {NESC} --- {CSA} MV68.10 XXX KCMIL CU X.XX MM (220 mils) NL-EPR 133% INS LEVEL 25% TS TC-ER DB 105{D}C FT4-ST1 -40{D}C LTGG

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	0.283	0.761	0.821	80	1.001	273	667	530	12	2.5
TBA	1	19	0.322	0.8	0.86	80	1.04	329	747	669	12.5	2.5
TBA	1/0	19	0.362	0.84	0.9	80	1.08	400	843	844	13	2.5
664419	2/0	19	0.405	0.884	0.944	80	1.14	492	961	1064	13.7	3
TBA	3/0	19	0.456	0.934	0.994	80	1.174	600	1101	1342	14.1	3
664422	4/0	19	0.512	0.99	1.05	80	1.246	744	1277	1692	15	3
TBA	250	37	0.558	1.044	1.104	80	1.284	863	1436	2000	15.4	3.5
664425	350	37	0.661	1.147	1.207	80	1.403	1183	1814	2800	16.8	3.5
664428	500	37	0.789	1.252	1.312	80	1.508	1654	2349	4000	18.1	4
TBA	750	61	0.968	1.464	1.524	110	1.764	2441	3377	6000	21.2	4.5
TBA	1000	61	1.117	1.613	1.673	110	1.913	3226	4265	8000	23	5

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
2	0.162	0.221	0.045	0.051	0.581+j0.462	0.222+j0.057	2575	150/160	165/185
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+j0.409	0.113+j0.051	2956	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+j0.048	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+j0.322	0.044+j0.044	3771	375/400	435/490
500	0.021	0.03	0.021	0.037	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
1000	0.011	0.018	0.017	0.034	0.332+j0.221	0.019+j0.039	5215	615/660	770/860

* 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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