CU Compressed 5/8kV NLEPR Insulation 133/100% IL LSZH-TS Jacket. MV 105 - Tray Rated - Sunlight Resistant - For Direct Burial

Type MV-105 Single Conductor Copper, 115 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

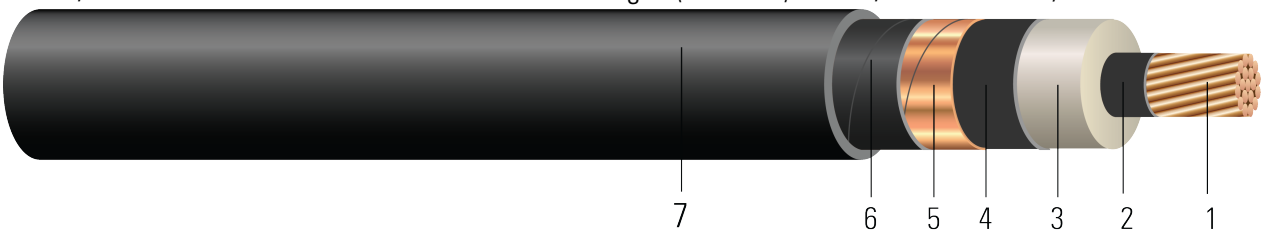


Image not to scale. See Table 1 for dimensions.

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:** 115 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 5KV 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)
- UL 1685 Vertical-Tray Fire Propagation and Smoke Release Test
- 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)

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- 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)
- 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® POWER CABLE {UL} XXX AWG CU 115 MILS NL-EPR TSET SOLONON® 5KV 133%/8KV 100% INS LEVEL 25%TS MV-105 FT4-ST1 FOR CT USE SUN. RES. FOR DIRECT BURIAL -- {CSA} XXX AWG CU 2.92mm (115 mils) NL-EPR 5KV 133%/8KV 100% INS LEVEL 25%TS MV68.10 OIL RES SR TC-ER 90°C FT4-ST1 -40°C LTGG {NESC}

Table 1 – Weights and Measurements

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
2	7	0.282	0.550	0.610	55	0.740	216	407	530	8.8	2.5
1	19	0.322	0.590	0.650	55	0.780	271	477	669	9.3	2.5
1/0	19	0.361	0.629	0.689	80	0.869	338	600	844	10.4	2.5
2/0	19	0.405	0.674	0.734	80	0.940	475	785	1064	11.2	3.0
3/0	19	0.456	0.724	0.784	80	0.964	533	836	1342	11.5	3.0
4/0	19	0.512	0.780	0.840	80	1.020	669	997	1692	12.2	3.0
250	37	0.558	0.834	0.894	80	1.074	788	1142	2000	12.8	3.0
350	37	0.661	0.937	0.997	80	1.177	1100	1498	2800	14.1	3.5
500	37	0.789	1.065	1.125	80	1.305	1566	2018	4000	15.6	4.0
750	61	0.968	1.254	1.314	80	1.494	2342	2883	6000	17.9	4.5
1000	61	1.117	1.403	1.463	80	1.643	3117	3725	8000	19.7	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

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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	0.034	0.044	0.570 + j0.514	0.204 + j0.045	2849	145/155	190/215
1	0.128	0.162	0.031	0.042	0.531 + j0.491	0.162 + j0.042	3033	170/180	225/250
1/0	0.102	0.128	0.028	0.042	0.497 + j0.469	0.128 + j0.042	3212	195/210	260/290
2/0	0.081	0.102	0.026	0.040	0.473 + j0.447	0.102 + j0.041	3414	220/235	300/330
3/0	0.064	0.081	0.024	0.039	0.452 + j0.423	0.081 + j0.039	3648	250/270	345/385
4/0	0.051	0.065	0.021	0.038	0.435 + j0.398	0.065 + j0.038	3906	290/310	400/445
250	0.043	0.056	0.020	0.037	0.424 + j0.376	0.056 + j0.037	4154	320/345	445/495
350	0.031	0.041	0.018	0.035	0.404 + j0.338	0.042 + j0.035	4628	385/415	550/615
500	0.022	0.030	0.015	0.033	0.383 + j0.297	0.031 + j0.033	5216	470/505	695/775
750	0.014	0.023	0.013	0.032	0.358 + j0.248	0.024 + j0.032	6084	585/630	900/1000
1000	0.011	0.019	0.011	0.031	0.339 + j0.217	0.020 + j0.031	6769	670/720	1075/1200

* 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.