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

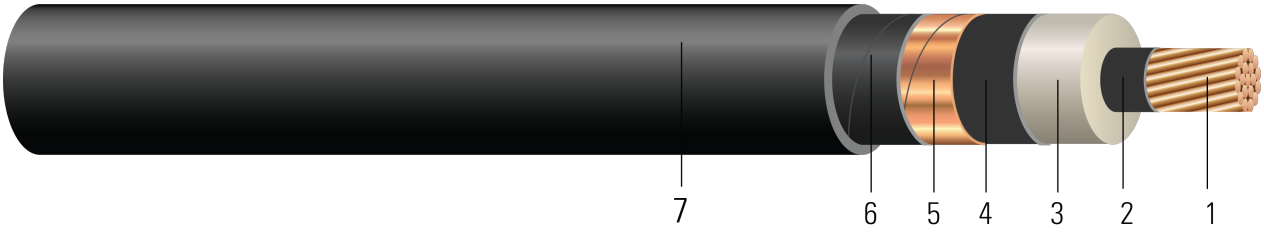


Image not to scale. See Table 1 for dimensions.

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	0.283	0.551	0.611	55	0.741	255	452	530	8.9	2
1	19	0.322	0.59	0.65	55	0.78	312	524	669	9.4	2
1/0	19	0.362	0.63	0.69	80	0.87	383	648	844	10.4	2
2/0	19	0.405	0.673	0.733	80	0.913	471	754	1064	11	2.5
3/0	19	0.456	0.724	0.784	80	0.964	583	888	1342	11.6	2.5
4/0	19	0.512	0.78	0.84	80	1.02	722	1052	1692	12.2	2.5
250	37	0.558	0.834	0.894	80	1.074	846	1203	2000	12.9	2.5
350	37	0.661	0.937	0.997	80	1.177	1163	1565	2800	14.1	3
500	37	0.789	1.065	1.125	80	1.305	1637	2096	4000	15.7	3.5
750	61	0.968	1.254	1.314	80	1.494	2424	2974	6000	17.9	4
1000	61	1.117	1.403	1.463	80	1.643	3208	3825	8000	19.7	4

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	0.028	0.044	0.566+j0.550	0.221+j0.050	1924	135/145	140/154
1	0.128	0.175	0.026	0.042	0.525+j0.528	0.176+j0.048	2045	155/165	160/180
1/0	0.102	0.139	0.024	0.042	0.492+j0.508	0.140+j0.047	2169	175/190	185/205
2/0	0.082	0.112	0.022	0.04	0.468+j0.487	0.113+j0.046	2302	200/220	215/240
3/0	0.064	0.087	0.02	0.039	0.446+j0.464	0.088+j0.044	2460	230/250	250/280
4/0	0.051	0.07	0.018	0.038	0.431+j0.440	0.071+j0.043	2634	265/280	285/320
250	0.043	0.059	0.017	0.037	0.420+j0.419	0.060+j0.042	2801	290/315	320/355
350	0.031	0.043	0.015	0.035	0.403+j0.381	0.044+j0.040	3120	355/380	395/440
500	0.021	0.03	0.013	0.033	0.385+j0.340	0.031+j0.039	3517	430/460	485/545
750	0.014	0.021	0.011	0.032	0.364+j0.289	0.022+j0.037	4102	530/570	615/685
1000	0.011	0.018	0.009	0.031	0.350+j0.255	0.019+j0.036	4564	600/645	705/790

* 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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