CU Compact 5/8kV NLEPR Insulation 133/100% IL SIM-PVC Jacket. MV 105 - Tray Rated - Sunlight Resistant - For Direct Burial

Type MV-105 Single Conductor Compact Copper, 5kV/8kV 115 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133%/100% Insulation Level, Tape Shield, SIM*pull*® 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:** 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. **Overall Jacket:** Polyvinyl Chloride (PVC)

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 supe- rior 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 B3 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
- 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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- 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 KCMIL CPT CU 115 MILS NL-EPR 5KV 133%/8KV 100% INS LEVEL 25%TS MV-105 FOR CT USE SUN RES (NESC) -- {CSA} XXX KCMIL CPT CU 2.92mm (115 mils) NL-EPR 5KV 133%/8KV 100% INS LEVEL 25%TS SR TC-ER 105°C FT4 -25°C LTDD -- PAT www.patentSW.com -- RoHS

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	0.536	0.596	55	0.726	254	445	530	8.7	1.5
TBA	1	19	0.299	0.567	0.627	55	0.757	311	514	669	9.1	2
TBA	1/0	19	0.336	0.604	0.664	55	0.794	381	598	844	9.5	2
TBA	2/0	19	0.376	0.644	0.704	80	0.884	469	740	1064	10.6	2
TBA	3/0	19	0.423	0.691	0.751	80	0.931	580	871	1342	11.2	2.5
TBA	4/0	19	0.475	0.743	0.803	80	0.983	719	1033	1692	11.8	2.5
TBA	250	37	0.52	0.796	0.856	80	1.036	843	1183	2000	12.4	2.5
TBA	350	37	0.616	0.892	0.952	80	1.132	1158	1541	2800	13.6	3
571004	500	35	0.736	1.042	1.102	80	1.282	1638	2075	4000	15.4	3.5
679723	750	61	0.908	1.194	1.254	80	1.434	2422	2927	6000	17.2	3.5
TBA	1000	61	1.06	1.346	1.406	80	1.586	3202	3793	8000	19	4

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
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	0.029	0.045	0.564+j0.557	0.221+j0.050	1878	135/145	140/154
1	0.128	0.175	0.027	0.043	0.522+j0.539	0.176+j0.047	1974	155/165	160/180
1/0	0.102	0.139	0.025	0.041	0.491+j0.520	0.140+j0.045	2088	175/190	185/205
2/0	0.082	0.112	0.023	0.041	0.466+j0.499	0.113+j0.045	2212	200/220	215/240
3/0	0.064	0.087	0.021	0.04	0.444+j0.477	0.088+j0.044	2358	230/250	250/280
4/0	0.051	0.07	0.019	0.038	0.430+j0.454	0.071+j0.042	2519	265/280	285/320
250	0.043	0.059	0.018	0.038	0.420+j0.432	0.060+j0.041	2683	290/315	320/355
350	0.031	0.043	0.016	0.036	0.404+j0.395	0.044+j0.039	2981	355/380	395/440
500	0.021	0.03	0.015	0.034	0.386+j0.346	0.031+j0.038	3445	430/460	485/545
750	0.014	0.021	0.011	0.032	0.368+j0.302	0.022+j0.036	3916	530/570	615/685
1000	0.011	0.018	0.01	0.031	0.354+j0.266	0.019+j0.035	4387	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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