CU Compressed 15kV NLEPR Insulation 100% IL Black CPE-TP Jacket. MV 105 - Tray Rated - Sunlight Resistant - For Direct Burial

Type MV-105 Single Conductor Copper, 175 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 100% Insulation Level, Tape Shield, Thermoplastic Chlorinated Polyethylene (CPE-TP) Jacket, Dual Rated UL/CSA. Silicone Free

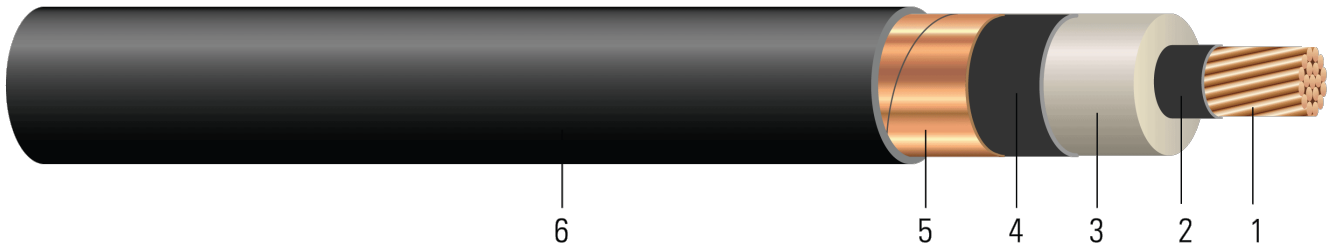

Image not to scale. See Table 1 for dimensions.

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:** 175 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 100% 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 Chlorinated Polyethylene (CPE-TP)

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 -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. Rated for 1000 lbs./FT maximum sidewall pressure. CT rated 1/0 and larger.

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 Vertical-Tray Fire Propagation and Smoke Release Test (1/0 and Larger)
- CSA C22.2 No.230 Tray Cables - Rated TC
- 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® POWER CABLE {UL} XX KCMIL CU 175 MILS NL-EPR CPE JKT 15KV 100% INS LEVEL 25%TS TYPE MV-105 SUN RES DIR BUR OIL RES I/II {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
TBA	2	7	0.283	0.671	0.731	80	0.911	265	584	530	10.9	2
TBA	1	19	0.322	0.71	0.77	80	0.95	321	661	669	11.4	2.5
TBA	1/0	19	0.362	0.75	0.81	80	0.99	393	755	844	11.9	2.5
TBA	2/0	19	0.405	0.793	0.853	80	1.033	481	866	1064	12.4	2.5
TBA	3/0	19	0.456	0.844	0.904	80	1.084	592	1004	1342	13	2.5
TBA	4/0	19	0.512	0.9	0.96	80	1.14	732	1174	1692	13.7	3
TBA	250	37	0.558	0.954	1.014	80	1.194	855	1330	2000	14.3	3
TBA	300	37	0.611	1.007	1.067	80	1.247	1014	1518	2400	15	3
678579^	350	37	0.661	1.037	1.097	80	1.277	1169	1671	2800	15.3	3
TBA	350	37	0.661	1.057	1.117	80	1.297	1173	1705	2800	15.6	3.5
586466	500	37	0.789	1.162	1.222	80	1.402	1647	2214	4000	16.8	3.5
TBA	600	61	0.866	1.272	1.332	80	1.512	1963	2620	4800	18.1	4
TBA	750	61	0.968	1.374	1.434	80	1.614	2434	3147	6000	19.4	4
TBA	1000	61	1.117	1.523	1.583	110	1.823	3218	4109	8000	21.9	4.5

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
^ Tinned copper tape shield
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	0.038	0.049	0.577+j0.497	0.222+j0.055	2296	150/160	165/185
1	0.128	0.175	0.035	0.047	0.533+j0.478	0.176+j0.052	2417	170/185	185/210
1/0	0.102	0.139	0.033	0.045	0.499+j0.460	0.140+j0.050	2541	195/210	215/240
2/0	0.082	0.112	0.03	0.043	0.473+j0.441	0.113+j0.049	2674	220/235	245/275
3/0	0.064	0.087	0.028	0.042	0.448+j0.420	0.088+j0.047	2832	250/270	285/315
4/0	0.051	0.07	0.026	0.04	0.431+j0.399	0.071+j0.046	3005	285/305	325/360
250	0.043	0.059	0.024	0.039	0.418+j0.380	0.060+j0.045	3173	310/335	360/400
300	0.036	0.05	0.022	0.038			3337	342/367	397/445
350	0.031	0.043	0.02	0.037	0.399+j0.351	0.044+j0.042	3430	375/400	435/490
350	0.031	0.043	0.021	0.037	0.398+j0.346	0.044+j0.043	3492	375/400	435/490
500	0.021	0.03	0.017	0.035	0.379+j0.315	0.031+j0.040	3817	450/485	535/600
600	0.018	0.026	0.017	0.035	0.368+j0.287	0.027+j0.039	4158	488/525	589/658
750	0.014	0.021	0.015	0.033	0.355+j0.264	0.022+j0.039	4474	545/585	670/745
1000	0.011	0.018	0.014	0.033	0.340+j0.235	0.019+j0.038	4936	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.

1 Linearly interpolated value

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