CU Compressed 15kV NLEPR Insulation 133% IL Black PVC Jacket. MV 105 - Tray Rated - Sunlight Resistant - For Direct Burial

Type MV-105 Three Conductor Copper, 220 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level, Tape Shield, Polyvinyl Chloride (PVC) 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. **Grounding Conductor:** Class B compressed stranded bare copper ground per ASTM B3 and ASTM B8 (Tinned Copper per ASTM B33 optional)
7. **Filler:** Wax paper filler
8. **Binder:** Poly glass tape
9. **Overall Jacket:** Polyvinyl Chloride (PVC)

APPLICATIONS AND FEATURES:

Southwire's 15KV cables are suited for use in wet and dry areas, conduits, ducts, troughs, trays, direct burial, aerially supported by a messenger 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 -40°C for cold bend and cold impact and marked with "LTGG" when CSA listed or dual UL/CSA listed. For uses in Class I and II, Division 2 hazardous locations per NEC Article 501 and 502.Rated for 1000 lbs./FT maximum sidewall pressure.

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
- CSA C22.2 No.230 Tray Cables - Rated TC-ER
- 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

Copyright © 2024 Southwire Company, LLC. All Rights Reserved

UPDATED: Dec. 11, 2023, 9:29 p.m.UTC REVISION: 1.000.000

- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test
- AEIC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV (Qualification Test Requirements)
- 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} 3/C XXX AWG CU 220 MILS NL-EPR 15KV 133% INS LEVEL 25%TS GW 1 X 3 AWG CU MV-105 FOR CT USE SUN. RES. FOR DIRECT BURIAL -- CSA XXX AWG CU 5.59mm (220 mils) NL-EPR 15KV 133% INS LEVEL 25%TS SR TC-ER 90°C FT4 -40°C LTGG {NESC}

Table 1 – Weights and Measurements

Stock Number	Cond. Size	Strand Count	Diameter Over Conductor	Diameter Over Insulation	Diameter Over Insulation Shield	Ground	Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight	Max Pull Tension	Min Bending Radius
	AWG/ Kcmil	No. of Strands	inch	inch	inch	No. x AWG	mil	inch	lb/1000ft	lb/1000ft	lb	inch
956490	2	7	0.282	0.755	0.815	1x6	110	2.032	904	2236	1592	14.2
958306	1/0	19	0.361	0.840	0.900	1x4	110	2.215	1338	2758	2534	15.5
558254	2/0	19	0.405	0.884	0.944	1x4	110	2.310	1605	3237	3194	16.1
TBA	3/0	19	0.456	0.934	0.994	1x3	110	2.422	1790	3504	4027	16.9
956284	4/0	19	0.512	0.976	1.036	1x3	110	2.516	2398	4288	5078	17.6
TBA	4/0	19	0.512	0.990	1.050	1x3	110	2.543	2202	4044	5078	17.8
558288	250	37	0.558	1.028	1.088	1x2	110	2.628	2812	4815	6000	18.3
671989	350	37	0.661	1.147	1.207	1x1/0	135	2.935	3896	6288	8400	20.5
958322	350	37	0.661	1.147	1.207	1x2	135	2.935	3773	6213	8400	20.5
958330◊	500	37	0.789	1.252	1.312	1x1	135	3.162	5254	7973	12000	22.1
578614	500	37	0.789	1.275	1.335	1x4/0	135	3.203	5658	8374	12000	22.4
TBA	500	37	0.789	1.275	1.335	1x1	135	3.208	5011	7706	12000	22.4
653562^	750	61	0.968	1.464	1.524	1x1/0	135	3.620	7708	11048	18000	25.3
558312	750	61	0.968	1.464	1.524	1x1/0	135	3.620	7708	11040	18000	25.3

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item

^ 750kcmil Stock#: 653562 has a RED outer jacket

Copyright © 2024 Southwire Company, LLC. All Rights Reserved

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	0.051	0.047	0.579 + j0.421	0.204 + j0.048	2571	150/160	165/185
1/0	0.102	0.128	0.043	0.043	0.5 + j0.385	0.128 + j0.043	2816	195/210	215/240
2/0	0.081	0.102	0.040	0.042	0.471 + j0.367	0.102 + j0.042	2952	220/235	245/275
3/0	0.064	0.081	0.037	0.040	0.447 + j0.347	0.081 + j0.04	3110	250/270	285/315
4/0	0.051	0.065	0.034	0.039	0.426 + j0.328	0.065 + j0.039	3284	285/305	325/360
4/0	0.051	0.065	0.034	0.039	0.426 + j0.328	0.065 + j0.039	3284	285/305	325/360
250	0.043	0.056	0.032	0.038	0.413 + j0.31	0.056 + j0.038	3451	310/335	360/400
350	0.031	0.041	0.028	0.036	0.388 + j0.28	0.041 + j0.036	3770	375/400	435/490
350	0.031	0.041	0.028	0.036	0.388 + j0.28	0.041 + j0.036	3770	375/400	435/490
500	0.022	0.030	0.025	0.034	0.365 + j0.248	0.03 + j0.034	4167	450/485	535/600
500	0.022	0.030	0.025	0.034	0.365 + j0.248	0.03 + j0.034	4167	450/485	535/600
500	0.022	0.030	0.025	0.034	0.365 + j0.248	0.03 + j0.034	4167	450/485	535/600
750	0.014	0.023	0.021	0.032	0.339 + j0.21	0.024 + j0.032	4752	545/585	670/745
750	0.014	0.023	0.021	0.032	0.339 + j0.21	0.024 + j0.032	4752	545/585	670/745

* Ampacities are based on:
* For Duct: Table 310.60(C)(79) Detail 1.
* For Free Air: Table 310.60(C)(71).
* 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.