AL Compact 15kV NLEPR Insulation 133% IL Black SIM-PVC Jacket. 2x5 mils Tape Shield - MV 105 - Tray Rated - Sunlight Resistant - For Direct Burial

Type MV-105 Single Conductor Aluminum, 220 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level, 2x5 Mils Tape Shield, SIMpull® Polyvinyl Chloride (PVC) Jacket, Dual Rated UL/CSA

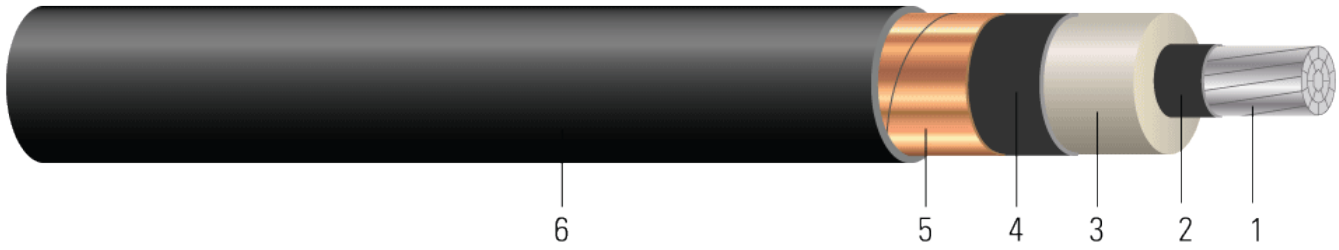


Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class B compact stranded TRIPLE E Aluminum Alloy (AA-8176) per ASTM B801 and B836
2. **Conductor Shield:** Semi-conducting cross-linked copolymer; A conductor separator is used for cable size larger than or equal to 500 Kcmil
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 2x5 mil copper tape with 25% overlap
6. **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 when installed with a grounding conductor in close proximity that conforms to NEC section 311.36 and 250.4(A)(5), and where su- perior 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. ST1 (low smoke) Rated for sizes 1/0 and larger. 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. 2x5 mils tape shield for higher short circuit withstand.

SPECIFICATIONS:

- ASTM B801 Concentric-Lay-Stranded Conductors of 8000 Series Aluminum Alloy
- ASTM B836 Compact Rounded Stranded Aluminum Conductors
- UL 1072 Medium-Voltage Power Cables
- UL 1685 FT4-ST1 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
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test (1/0 and Larger)

Copyright © 2024 Southwire Company, LLC. All Rights Reserved

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

- 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:

SOUTHWIRE [SYMBOL - LIGHTING BOLT] #P# (UL/CSA) 1/C [#AWG or #kcmil] AL 220 MILS NL-EPR 15KV 133% INS LEVEL 25% TS MV-105 FOR CT USE SUN. RES. TC-ER(CSA 1/0 LARGER) FOR DIRECT BURIAL FT4 -ST1 YEAR (NESC) [SEQUENTIAL FEET MARKS]

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	0.746	0.806	80	0.986	16	455	398	11.8	3.0
TBA	1	19	0.298	0.776	0.836	80	1.016	16	489	502	12.1	3.0
TBA	1/0	19	0.336	0.814	0.874	80	1.054	17	534	633	12.6	3.0
TBA	2/0	19	0.376	0.854	0.914	80	1.094	18	585	798	13.1	3.0
TBA	3/0	19	0.422	0.900	0.960	80	1.140	19	644	1006	13.6	3.5
TBA	4/0	19	0.474	0.952	1.012	80	1.192	20	718	1269	14.3	3.5
589002	250	22	0.520	1.006	1.066	80	1.266	173	930	1500	15.1	3.5
TBA	350	35	0.615	1.101	1.161	80	1.341	23	944	2100	16.0	4.0
640814	500	34	0.735	1.244	1.304	80	1.504	208	1341	3000	18.0	4.5
TBA	600	58	0.812	1.308	1.368	80	1.548	27	1315	3600	18.5	4.5
589001	750	58	0.908	1.426	1.486	80	1.746	235	1821	4500	20.9	5.0
585564	1000	61	1.060	1.568	1.628	110	1.888	256	2161	6000	22.6	5.5

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

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	0.267	0.336	0.053	0.052	0.707 + j0.426	0.336 + j0.051	2528	120/130	150/170
1	0.211	0.266	0.049	0.050	0.636 + j0.41	0.266 + j0.048	2621	135/145	175/195
1/0	0.168	0.211	0.046	0.048	0.58 + j0.393	0.211 + j0.047	2738	155/165	200/225
2/0	0.133	0.167	0.042	0.046	0.534 + j0.376	0.168 + j0.045	2862	175/190	235/260
3/0	0.105	0.133	0.039	0.044	0.498 + j0.358	0.134 + j0.043	3005	200/215	270/300
4/0	0.084	0.105	0.036	0.043	0.466 + j0.339	0.106 + j0.041	3166	230/245	310/350
250	0.071	0.090	0.034	0.042	0.447 + j0.321	0.091 + j0.04	3333	250/270	345/385
350	0.050	0.065	0.030	0.040	0.415 + j0.292	0.066 + j0.038	3628	305/330	430/480
500	0.035	0.046	0.026	0.037	0.384 + j0.26	0.047 + j0.036	3999	370/400	535/600
600	0.029	0.039	0.024	0.037	0.369 + j0.239	0.04 + j0.034	4269	404/436	601/672
750	0.024	0.033	0.022	0.035	0.353 + j0.22	0.034 + j0.034	4566	455/490	700/780
1000	0.018	0.026	0.020	0.035	0.331 + j0.194	0.027 + j0.033	5037	525/565	840/940

* Ampacities are based on:
* For Duct: Table 310.60(C)(78) Detail 1.
* For Free Air: Table 310.60(C)(70).
* 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.