MV-105 35kV AL 100% TRXLPE One-Half (Based on Short Circuit) HI-DRI-PLUS®. Renewable (Solar or Wind)

Moisture Blocked Aluminum Conductors. TRXLP Insulation. One-Half Copper Concentric Neutrals. XLPE Jacket



Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Moisture Blocked 1350 H16/H26 Aluminum, Class B Compressed or Compressed Unilay Stranded
2. **Strand Shield:** Semi-conducting Crosslinked Polyethylene
3. **Insulation:** Tree Retardant Crosslinked Polyethylene (TRXLP)
4. **Insulation Shield:** Strippable Semi-conducting Crosslinked Polyethylene
5. **Concentric Neutral:** Annealed Copper Wires Helically Applied One-Half Concentric Neutral
6. **Overall Jacket & Water Block:** HI-DRI-PLUS® Water Swellable Powder Black Crosslinked Polyethylene (XLPE) with Red Extruded Stripes

APPLICATIONS AND FEATURES:

- Predominately used for renewable projects with wind or solar applications.
- Suitable for use in wet or dry locations, direct burial, underground ducts, and exposure to direct sunlight.
- To be used at conductor temperature not to exceed 105°C normal operation.
- UL listed MV-105
- The concentric neutral count and size listed in Table 1 are based on the ICEA P-45-482 short circuit calculation of an MV-90 design. The short circuit value in Table 1 is calculated using a higher thermal limit of a crosslinked XLPE jacket MV-105 design.

SPECIFICATIONS:

- ASTM B231 Standard Specification for Concentric-Lay-Stranded Aluminum 1350 Conductors
- ASTM B609 Standard Specification for Aluminum 1350 Round Wire, Annealed and Intermediate Tempers, for Electrical Purposes
- UL 1072 Medium-Voltage Power Cables
- ICEA S-94-649 Standard for Concentric Neutral Cables Rated 5 - 46kV
- 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

Copyright © 2026 Southwire Company, LLC. All Rights Reserved

SAMPLE PRINT LEGEND:

SOUTHWIRE(R) HI-DRI(R) (UL) XXX AWG AL 345 MILS TRXLPE TYPE MV-105 35KV 100% INSUL LEVEL -- (NESC) -- SOUTHWIRE {MMM} {YYYY} NON-CONDUCTING JACKET

Table 1 – Weights and Measurements

Stock Number	Cond. Size	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Diameter Over Insulation Shield	Concentric Neutral	Neutral DC Resistance 25°C	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	Max Pull Tension
	AWG/ Kcmil	inch	inch	mil	inch	No. x AWG	Ω /1000ft	mil	inch	lb / 1000ft	inch	lb
662906	1/0 (19)	0.362	1.072	345	1.182	6x14	0.54	50	1.41	783	7	633
TBA	2/0 (19)	0.395	1.123	345	1.243	8x14	0.405	50	1.471	970	7.4	798
626306	4/0 (19)	0.498	1.218	345	1.328	12x14	0.27	50	1.556	1062	7.8	1269
457255	250 (37)	0.558	1.288	345	1.398	14x14	0.231	75	1.626	1179	8.1	1500
TBA	350 (37)	0.661	1.397	345	1.517	20x14	0.162	75	1.795	1645	9	2100
457752	500 (37)	0.789	1.519	345	1.629	27x14	0.12	75	1.911	1817	9.6	3000

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
† Hi-Dri only (not HI-DRI-PLUS®). No water swellable powder.
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.

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	Short Circuit Current @ 30 Cycle	Allowable Ampacity in Duct 90°C	Allowable Ampacity Directly Buried 90°C
AWG/ Kcmil	Ω/1000ft	Ω/1000ft	MΩ*1000ft	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
1/0 (19)	0.167	0.229	0.067	0.053	0.562+j0.278	0.230+j0.059	3107	160	195
2/0 (19)	0.133	0.182	0.065	0.052	0.478+j0.198	0.183+j0.057	4142	185	220
4/0 (19)	0.084	0.115	0.056	0.048	0.344+j0.116	0.117+j0.053	6214	235	280
250 (37)	0.07	0.096	0.052	0.046	0.300+j0.095	0.098+j0.051	7249		
350 (37)	0.051	0.07	0.046	0.045	0.221+j0.061	0.073+j0.050	10356	315	370
500 (37)	0.036	0.05	0.041	0.042	0.165+j0.043	0.055+j0.047	13981	380	435

*Ampacities for Direct Buried are based on ICEA P-117-734-2016 Single-Conductor Solid Dielectric 15-35kV. Single Circuit Flat Direct Buried Figure 3
*Ampacities for Duct are based on ICEA P-117-734-2016 for Single-Conductor Solid Dielectric 15-35kV. Single Circuit Trefoil Conduit Figure 7.
*Sequence Impedance values are based on Rho Earth Resistivity: 100 Ohm-Meter/1000ft.

Copyright © 2026 Southwire Company, LLC. All Rights Reserved

Table 3 – Weights and Measurements (Metric)

Stock Number	Cond. Size	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Diameter Over Insulation Shield	Concentric Neutral	Neutral DC Resistance 25°C	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	Max Pull Tension
	AWG/ Kcmil	mm	mm	mm	mm	No. x AWG	Ω/km	mm	mm	kg/km	mm	newton
662906	1/0 (19)	9.19	27.23	8.76	30.02	6x14	1.77	1.27	35.81	1165	177.80	2817
TBA	2/0 (19)	10.03	28.52	8.76	31.57	8x14	1.33	1.27	37.36	1444	187.96	3551
626306	4/0 (19)	12.65	30.94	8.76	33.73	12x14	0.89	1.27	39.52	1580	198.12	5647
457255	250 (37)	14.17	32.72	8.76	35.51	14x14	0.76	1.91	41.30	1755	205.74	6675
TBA	350 (37)	16.79	35.48	8.76	38.53	20x14	0.53	1.91	45.59	2448	228.60	9345
457752	500 (37)	20.04	38.58	8.76	41.38	27x14	0.39	1.91	48.54	2704	243.84	13350

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
† Hi-Dri only (not HI-DRI-PLUS®). No water swellable powder.
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.

Table 4 – Electrical and Engineering Data (Metric)

Cond. Size	DC Resistance @ 25°C	AC Resistance @ 90°C	Capacitive Reactance @ 60Hz	Inductive Reactance @ 60Hz	Zero Sequence Impedance*	Positive Sequence Impedance*	Short Circuit Current @ 30 Cycle	Allowable Ampacity in Duct 90°C	Allowable Ampacity Directly Buried 90°C
AWG/ Kcmil	Ω/km	Ω/km	MΩ*km	Ω/km	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
1/0 (19)	0.5479	0.75	0.0204	0.1739	0.562+j0.278	0.230+j0.059	3107	160	195
2/0 (19)	0.4364	0.60	0.0198	0.1706	0.478+j0.198	0.183+j0.057	4142	185	220
4/0 (19)	0.2756	0.38	0.0171	0.1575	0.344+j0.116	0.117+j0.053	6214	235	280
250 (37)	0.2297	0.31	0.0158	0.1509	0.300+j0.095	0.098+j0.051	7249		
350 (37)	0.1673	0.23	0.0140	0.1476	0.221+j0.061	0.073+j0.050	10356	315	370
500 (37)	0.1181	0.16	0.0125	0.1378	0.165+j0.043	0.055+j0.047	13981	380	435

*Ampacities for Direct Buried are based on ICEA P-117-734-2016 Single-Conductor Solid Dielectric 15-35kV. Single Circuit Flat Direct Buried Figure 3
*Ampacities for Duct are based on ICEA P-117-734-2016 for Single-Conductor Solid Dielectric 15-35kV. Single Circuit Trefoil Conduit Figure 7.
*Sequence Impedance values are based on Rho Earth Resistivity: 100 Ohm-Meter/1000ft.

Concentric Neutral Calculator

Copyright © 2026 Southwire Company, LLC. All Rights Reserved