

# 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

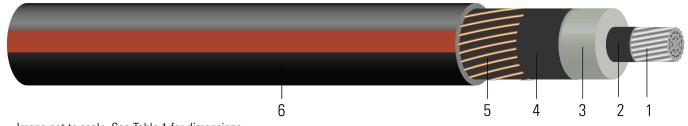


Image not to scale. See Table 1 for dimensions.

#### **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:**

- 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

#### **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**

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
250 (37)	0.558	1.294	345	1.404	14x14	0.187	75	1.682	1332	13.5	1500

All dimensions are nominal and subject to normal manufacturing tolerances

## **Table 2 – Electrical and Engineering Data**

Cond. Size	DC Resistance @ 25°C	AC Resistance @ 90°C	Capacitive Reactance @ 60Hz	Inductive Reactance @ 60Hz	Charging Current	Dielectric Loss	Zero Sequence Impedance	Positive Sequence Impedance	Short Circuit Current @ 30 Cycle
AWG/ Kcmil	Ω/1000ft	Ω/1000ft	MΩ*1000ft	Ω/1000ft	A/1000ft	W/1000ft	Ω/1000ft	Ω/1000ft	Amp
250 (37)	0.071	0.090	0.051	0.047	0.389	2.4	0.144 + j0.728	0.090 + j0.048	7242

<sup>\*</sup>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

## **Table 3 – Weights and Measurements (Metric)**

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
250 (37)	14.17	32.87	8.76	35.66	14x14	0.61	1.91	42.72	1982	342.90	6675

All dimensions are nominal and subject to normal manufacturing tolerances

## Table 4 – Electrical and Engineering Data (Metric)

Cond. Size	DC Resistance @ 25°C	AC Resistance @ 90°C	Capacitive Reactance @ 60Hz	Inductive Reactance @ 60Hz	Charging Current	Dielectric Loss	Zero Sequence Impedance*	Positive Sequence Impedance*	Short Circuit Current @ 30 Cycle
AWG/ Kcmil	Ω/km	Ω/km	MΩ*km	Ω/km	A/km	W/km	Ω/1000ft	Ω/1000ft	Amp
250 (37)	0.2329	0.30	0.0155	0.1542	1.276	7.8740	0.144 + j0.728	0.090 + j0.048	7242

<sup>\*</sup>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





<sup>♦</sup> Cable marked with this symbol is a standard stock item

<sup>†</sup> Hi-Dri only (not HI-DRI-PLUS®). No water swellable powder.

<sup>\*</sup>Ampacities for Duct are based on ICEA P-117-734-2016 for Single-Conductor Solid Dielectric 15-35kV. Single Circuit Trefoil Conduit Figure 7.

<sup>\*</sup>Sequence Impedance values are based on Rho Earth Resistivity: 100 Ohm-Meter/1000ft.

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