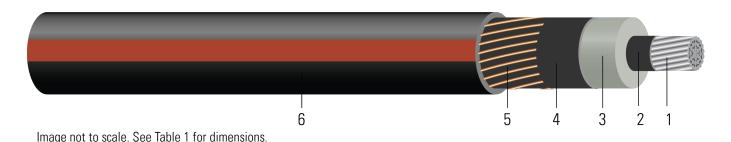
# 35kV AL 100% TRXLPE One-Eighth Neutral (Based on Short Circuit) HI-DRI-PLUS® Renewable (Solar or Wind)

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



#### **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-Eighth 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 counts and sizes 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







### **SAMPLE PRINT LEGEND:**

{SQFTG} SOUTHWIRE(R) HI-DRI-PLUS(R) (UL) XXXX KCMIL 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
459252	1500 (61)	1.368	2.119	345	2.259	14x12	0.1187	75	2.574	3339	20.6	9000

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
1500 (61)	0.012	0.021	0.027	0.036	2.8	1.1	0.076 + j0.727	0.022 + j0.079	11506

<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)**

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
459252	1500 (61)	34.75	53.82	8.76	57.38	14x12	0.39	1.91	65.38	4969	523.24	40050

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
1500 (61)	0.0394	0.07	0.0082	0.1181	9.186	3.6089	0.076 + j0.727	0.022 + j0.079	11506

<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

Concentric Neutral Calculator





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

<sup>\*</sup> Pulling tension based on pulling eye directly connected to conductor

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.

<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.

 $<sup>\</sup>Diamond$  Cable marked with this symbol is a standard stock item

<sup>\*</sup> Pulling tension based on pulling eye directly connected to conductor

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.

<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.