HVTECK AL 3/C 115NLEPR TS PVC AIA PVC 5kV 133% CSA

3 Conductor, 115 Mils No Lead Ethylene Propylene Rubber (NL-EPR), 133% Insulation Level, Tape Shield, Polyvinyl Chloride (PVC) Inner Jacket, Aluminum Interlocked Armour (AIA), Polyvinyl Chloride (PVC) Jacket

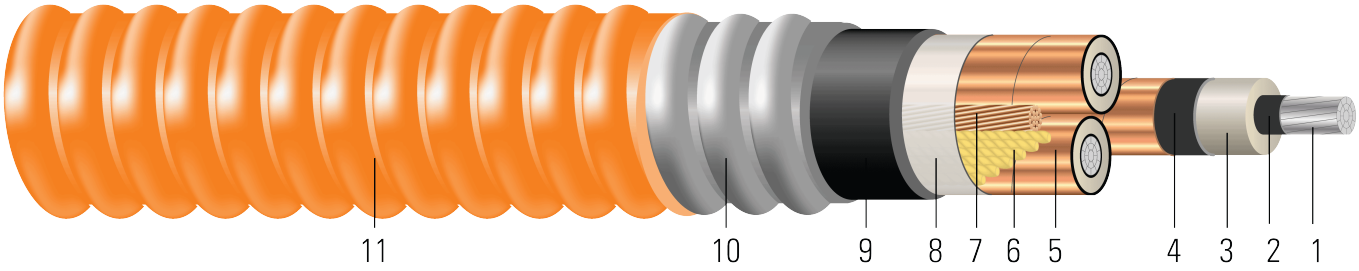

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class B compact stranded 8000 Series aluminum per ASTM B800 and ASTM 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:** 115 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. **Filler:** Interstices filled with non-hydroscoping/non-wicking fillers
7. **Grounding Conductor:** Class B compressed stranded bare copper ground per ASTM B3 and ASTM B8
8. **Binder:** Polypropylene tape
9. **Inner Jacket:** PVC inner jacket
10. **Armour:** Aluminum Interlocked Armour (AIA)
11. **Overall Jacket:** Orange Polyvinyl Chloride (PVC) Jacket

APPLICATIONS AND FEATURES:

Southwire's 5kV HVTECK is a CSA armoured cable for industrial and commercial medium voltage applications. Rated FT4, -40°C, Hazardous Locations (HL). 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 for 1000 lbs /FT maximum sidewall pressure. These cables feature sunlight and moisture resistance, exceptional corona resistance, resistance to most chemical soils and acids and are flame retardant.

SPECIFICATIONS:

- ASTM B801 Concentric-Lay-Stranded Conductors of 8000 Series Aluminum Alloy
- ASTM B836 Compact Rounded Stranded Aluminum Conductors
- CSA C22.2 No. 174 Cables in Hazardous Locations
- CSA C22.2 No. 2556 & No. 0.3 Wire and Cable Test Methods
- CSA C68.10 Shielded Power Cables for Commercial and Industrial Applications - 5 to 46 KV
- CSA C68.3 Shielded & Concentric Neutral Power Cable - 5 to 46 kV
- CSA LTGG [-40°C] - as per C68.10 - for Cold Bend and Impact rating
- CSA HL - for Hazardous Locations rating
- CSA SUN RES - for Sunlight Resistant rating
- ICEA S-93-639 (NEMA WC 74) 5-46 KV Shielded Power Cable

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- ICEA T-29-520 Flame Test (210,000 BTU/Hr)
- IEEE 383 Flame Test (70,000 btu)
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test
- FT1 Flame Test (1,706 BTU/Hr nominal - Vertical Wire Flame Test)
- AEIC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV (Qualification Test Requirements)

SAMPLE PRINT LEGEND:

(CSA) SOUTHWIRE (NESC) #P# 3/C [#AWG or #kcmil] CPT AL 115 NLEPR AIA 5kV 133% INS LEVEL 25% TS SUN RES 105°C FT4 HL (-40°C) LTGG RoHS YEAR [SEQUENTIAL METER MARKS]

Table 1 – Weights and Measurements

Cond. Size	Strand	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Diameter Over Insulation Shield	Ground Size	Inner Jacket Thickness	Dia. Over Armour	Overall Jacket Thickness	Approx. OD	Approx. Weight
AWG/ Kcmil	No.	inch	inch	mil	inch	AWG	mil	inch	mil	inch	lb/1000ft
2	7	0.268	0.536	115	0.596	8	80	1.846	60	1.966	1593
1	19	0.298	0.566	115	0.626	6	80	1.911	60	2.031	1717
1/0	19	0.336	0.604	115	0.664	6	80	1.993	60	2.113	1874
2/0	19	0.376	0.644	115	0.704	6	110	2.139	60	2.259	2174
3/0	19	0.422	0.690	115	0.750	6	110	2.239	60	2.359	2398
4/0	19	0.474	0.742	115	0.802	6	110	2.351	75	2.501	2735
250	37	0.520	0.796	115	0.856	4	110	2.468	75	2.618	3005
350	37	0.615	0.891	115	0.951	4	110	2.673	75	2.823	3557
500	37	0.735	1.011	115	1.071	3	110	2.932	75	3.082	4332
750	61	0.908	1.194	115	1.254	2	125	3.357	85	3.527	5775
1000	61	1.060	1.346	115	1.406	2	125	3.686	85	3.856	6970

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

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Table 2 – Electrical and Engineering Data

Cond. Size	Min Bending Radius	Max Pull Tension	DC Resistance @ 25°C	AC Resistance @ 90°C	Capacitive Reactance @ 60Hz	Inductive Reactance @ 60Hz	Zero Sequence Impedance*	Positive Sequence Impedance*	Phase Short Circuit Current @ 60Hz	Allowable Ampacity In Air 90°C	Allowable Ampacity Directly Buried 90°C
AWG/ Kcmil	inch	lb	Ω/1000ft	Ω/1000ft	MΩ*1000ft	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
2	13.7	1194	0.267	0.336	0.036	0.041	0.703 + j0.529	0.336 + j0.041	1846	135	157
1	14.2	1506	0.211	0.266	0.033	0.039	0.636 + j0.51	0.266 + j0.038	1939	154	178
1/0	14.7	1900	0.168	0.211	0.030	0.038	0.583 + j0.488	0.211 + j0.037	2057	176	202
2/0	15.8	2395	0.133	0.167	0.028	0.037	0.541 + j0.466	0.167 + j0.035	2181	204	229
3/0	16.5	3020	0.105	0.133	0.025	0.035	0.508 + j0.443	0.133 + j0.034	2323	234	260
4/0	17.5	3808	0.084	0.105	0.023	0.034	0.48 + j0.418	0.105 + j0.033	2484	268	294
250	18.3	4500	0.071	0.090	0.022	0.034	0.463 + j0.395	0.09 + j0.032	2652	296	323
350	19.7	6300	0.050	0.065	0.019	0.032	0.434 + j0.356	0.065 + j0.031	2946	363	386
500	21.5	9000	0.035	0.046	0.016	0.031	0.406 + j0.315	0.046 + j0.029	3318	447	465
750	24.6	13500	0.024	0.033	0.014	0.029	0.377 + j0.263	0.033 + j0.028	3885	566	563
1000	26.9	18000	0.018	0.026	0.012	0.029	0.354 + j0.229	0.027 + j0.027	4356	661	638

* Inductive impedance is based on non-ferrous conduit with one diameter spacing.

Table 3 – Weights and Measurements (Metric)

Cond. Size	Strand	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Diameter Over Insulation Shield	Ground Size	Inner Jacket Thickness	Dia. Over Armour	Overall Jacket Thickness	Approx. OD	Approx. Weight
AWG/ Kcmil	No.	mm	mm	mm	mm	AWG	mm	mm	mm	mm	kg/km
2	7	6.81	13.61	2.92	15.14	8	2.03	46.89	1.52	49.94	2371
1	19	7.57	14.38	2.92	15.90	6	2.03	48.54	1.52	51.59	2555
1/0	19	8.53	15.34	2.92	16.87	6	2.03	50.62	1.52	53.67	2789
2/0	19	9.55	16.36	2.92	17.88	6	2.79	54.33	1.52	57.38	3235
3/0	19	10.72	17.53	2.92	19.05	6	2.79	56.87	1.52	59.92	3569
4/0	19	12.04	18.85	2.92	20.37	6	2.79	59.72	1.91	63.53	4070
250	37	13.21	20.22	2.92	21.74	4	2.79	62.69	1.91	66.50	4472
350	37	15.62	22.63	2.92	24.16	4	2.79	67.89	1.91	71.70	5293
500	37	18.67	25.68	2.92	27.20	3	2.79	74.47	1.91	78.28	6447
750	61	23.06	30.33	2.92	31.85	2	3.18	85.27	2.16	89.59	8594
1000	61	26.92	34.19	2.92	35.71	2	3.18	93.62	2.16	97.94	10373

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

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Table 4 – Electrical and Engineering Data (Metric)

Cond. Size	Min Bending Radius	Max Pull Tension	DC Resistance @ 25°C	AC Resistance @ 90°C	Capacitive Reactance @ 60Hz	Inductive Reactance @ 60Hz	Zero Sequence Impedance*	Positive Sequence Impedance*	Phase Short Circuit Current @ 60Hz	Allowable Ampacity In Air 90°C	Allowable Ampacity Directly Buried 90°C
AWG/ Kcmil	mm	newton	Ω/km	Ω/km	MΩ*km	Ω/km	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
2	347.98	5313	0.8760	1.10	0.0110	0.1345	0.703 + j0.529	0.336 + j0.041	1846	135	157
1	360.68	6702	0.6923	0.87	0.0101	0.1280	0.636 + j0.51	0.266 + j0.038	1939	154	178
1/0	373.38	8455	0.5512	0.69	0.0091	0.1247	0.583 + j0.488	0.211 + j0.037	2057	176	202
2/0	401.32	10658	0.4364	0.55	0.0085	0.1214	0.541 + j0.466	0.167 + j0.035	2181	204	229
3/0	419.10	13439	0.3445	0.44	0.0076	0.1148	0.508 + j0.443	0.133 + j0.034	2323	234	260
4/0	444.50	16946	0.2756	0.34	0.0070	0.1115	0.48 + j0.418	0.105 + j0.033	2484	268	294
250	464.82	20025	0.2329	0.30	0.0067	0.1115	0.463 + j0.395	0.09 + j0.032	2652	296	323
350	500.38	28035	0.1640	0.21	0.0058	0.1050	0.434 + j0.356	0.065 + j0.031	2946	363	386
500	546.10	40050	0.1148	0.15	0.0049	0.1017	0.406 + j0.315	0.046 + j0.029	3318	447	465
750	624.84	60075	0.0787	0.11	0.0043	0.0951	0.377 + j0.263	0.033 + j0.028	3885	566	563
1000	683.26	80100	0.0591	0.09	0.0037	0.0951	0.354 + j0.229	0.027 + j0.027	4356	661	638

* Inductive impedance is based on non-ferrous conduit with one diameter spacing.