HVTECK AL 3/C 220NLEPR TS PVC AIA PVC 15kV 133% CSA

3 Conductor, 220 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

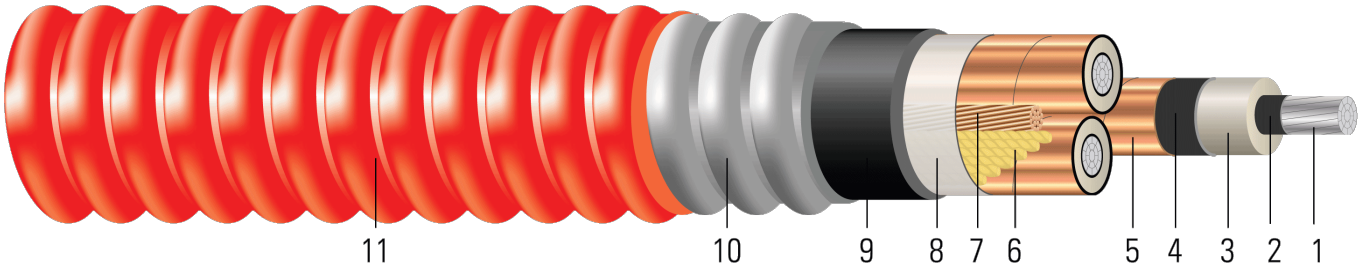

Image not to scale. See Table 1 for dimensions.

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:** 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 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:** Red Polyvinyl Chloride (PVC) Jacket

APPLICATIONS AND FEATURES:

Southwire's 15kV 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

- 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

SAMPLE PRINT LEGEND:

(CSA) SOUTHWIRE (NESC) #P# 3/C [#AWG or #kcmil] CPT AL 220 NLEPR AIA 15kV 133% INS LEVEL 25% TS SUN RES 105°C FT4 HL (-40°C) LTGG RoHS YEAR [SEQUENTIAL METER MARKS]

Table 1 – Weights and Measurements

Stock Number	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
TBA	2	7	0.268	0.746	220	0.806	8	110	2.360	75	2.510	2529
TBA	1	19	0.298	0.776	220	0.836	6	110	2.424	75	2.574	2673
TBA	1/0	19	0.336	0.814	220	0.874	6	110	2.507	75	2.657	2864
TBA	2/0	19	0.376	0.854	220	0.914	6	110	2.593	75	2.743	3073
TBA	3/0	19	0.422	0.900	220	0.960	6	110	2.692	75	2.842	3325
TBA	4/0	19	0.474	0.952	220	1.012	6	110	2.805	75	2.955	3627
TBA	250	37	0.520	1.006	220	1.066	4	110	2.921	75	3.071	3929
TBA	350	37	0.615	1.101	220	1.161	4	125	3.156	85	3.326	4694
TBA	500	37	0.735	1.221	220	1.281	3	125	3.416	85	3.586	5561
669887	750	58	0.908	1.416	220	1.476	1/0	125	3.860	85	4.030	7182

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

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	17.5	1194	0.267	0.336	0.053	0.048	0.711 + j0.431	0.336 + j0.047	2497	135	157
1	18.0	1506	0.211	0.266	0.049	0.046	0.64 + j0.415	0.266 + j0.044	2590	154	178
1/0	18.5	1900	0.168	0.211	0.046	0.044	0.584 + j0.398	0.211 + j0.043	2707	176	202
2/0	19.2	2395	0.133	0.167	0.042	0.043	0.538 + j0.381	0.167 + j0.041	2831	204	229
3/0	19.8	3020	0.105	0.133	0.039	0.041	0.501 + j0.362	0.133 + j0.04	2974	234	260
4/0	20.6	3808	0.084	0.105	0.036	0.040	0.47 + j0.342	0.105 + j0.038	3135	268	294
250	21.4	4500	0.071	0.090	0.034	0.039	0.451 + j0.324	0.09 + j0.037	3302	296	323
350	23.2	6300	0.050	0.065	0.030	0.037	0.417 + j0.294	0.065 + j0.035	3597	363	386
500	25.1	9000	0.035	0.046	0.026	0.035	0.387 + j0.262	0.046 + j0.033	3968	447	465
750	28.2	13500	0.024	0.033	0.022	0.033	0.356 + j0.222	0.034 + j0.031	4536	566	563

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

Table 3 – Weights and Measurements (Metric)

Stock Number	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
TBA	2	7	6.81	18.95	5.59	20.47	8	2.79	59.94	1.91	63.75	3764
TBA	1	19	7.57	19.71	5.59	21.23	6	2.79	61.57	1.91	65.38	3978
TBA	1/0	19	8.53	20.68	5.59	22.20	6	2.79	63.68	1.91	67.49	4262
TBA	2/0	19	9.55	21.69	5.59	23.22	6	2.79	65.86	1.91	69.67	4573
TBA	3/0	19	10.72	22.86	5.59	24.38	6	2.79	68.38	1.91	72.19	4948
TBA	4/0	19	12.04	24.18	5.59	25.70	6	2.79	71.25	1.91	75.06	5398
TBA	250	37	13.21	25.55	5.59	27.08	4	2.79	74.19	1.91	78.00	5847
TBA	350	37	15.62	27.97	5.59	29.49	4	3.18	80.16	2.16	84.48	6985
TBA	500	37	18.67	31.01	5.59	32.54	3	3.18	86.77	2.16	91.08	8276
669887	750	58	23.06	35.97	5.59	37.49	1/0	3.18	98.04	2.16	102.36	10688

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

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	444.50	5313	0.8760	1.10	0.0162	0.1575	0.711 + j0.431	0.336 + j0.047	2497	135	157
1	457.20	6702	0.6923	0.87	0.0149	0.1509	0.64 + j0.415	0.266 + j0.044	2590	154	178
1/0	469.90	8455	0.5512	0.69	0.0140	0.1444	0.584 + j0.398	0.211 + j0.043	2707	176	202
2/0	487.68	10658	0.4364	0.55	0.0128	0.1411	0.538 + j0.381	0.167 + j0.041	2831	204	229
3/0	502.92	13439	0.3445	0.44	0.0119	0.1345	0.501 + j0.362	0.133 + j0.04	2974	234	260
4/0	523.24	16946	0.2756	0.34	0.0110	0.1312	0.47 + j0.342	0.105 + j0.038	3135	268	294
250	543.56	20025	0.2329	0.30	0.0104	0.1280	0.451 + j0.324	0.09 + j0.037	3302	296	323
350	589.28	28035	0.1640	0.21	0.0091	0.1214	0.417 + j0.294	0.065 + j0.035	3597	363	386
500	637.54	40050	0.1148	0.15	0.0079	0.1148	0.387 + j0.262	0.046 + j0.033	3968	447	465
750	716.28	60075	0.0787	0.11	0.0067	0.1083	0.356 + j0.222	0.034 + j0.031	4536	566	563

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