HVTECK SPECIFICATIONS

HVTECK CU 3/C 115EPR TS PVC AIA PVC 8KV 100% CSA

PRODUCT HIGHLIGHTS

Southwire's 8KV HVTECK is a CSA armoured cable for industrial and commercial medium voltage applications. Rated FT4, -40°C, Hazardous Locations (HL) and 105°C for use in harsh Canadian environments. For installation in cable trays, duct banks, direct burial, troughs, continuous rigid cable supports and concrete encaseable.

CONSTRUCTION

Conductor
- Class B compressed stranded copper
  - in accordance with ASTM B3 and ASTM B8

Options
- Class B compact stranded -8000 Series Aluminum -ACM
- Class B compact stranded copper

Conductor Shield
- Extruded semi-conducting thermosetting polymeric layer

Insulation
- No-lead EPR (Ethylene Propylene Rubber)
- Thickness: 0.115 inches (2.92mm) - nominal
- Insulation level: 100% - grounded system
- 105°C rated

Insulation Shield
- Extruded Semi-conducting thermosetting polymeric layer
- CSA 68.10 - Shield Removal/termination requirements are printed on the surface
- Phase identification as per ICEA Method 3, using printed circuit numbers
- Meets requirement of ICEA but built to CSA standards

Copper Tape Shield
- Helically wrapped 5 mil copper tape with 25% overlap

Bonding Conductor
- Class B compressed stranded bare copper
  - in accordance with ASTM B3 and B8

Fillers
- Non-wicking, non-hygroscopic

Inner Jacket
- Black PVC
- Thickness:
  No.2 AWG to No.1 AWG = 0.08 inches (2.03mm)
  No.1/0 AWG to 350 kcmil = 0.11 inches (2.79mm)
  500 kcmil to 750 kcmil = 0.14 inches (3.56mm)

Armour
- Aluminum Interlocked Armour (AIA)
- Optional Galvanized Steel Interlocked Armour (GSIA)

Overall Jacket
- Black PVC (optional colours available)
- Nominal Thickness:
  No.2 AWG to No.2/0 AWG = 0.06 inches (1.52mm)
  No.3/0 AWG to 350 kcmil = 0.075 inches (1.91mm)
  500 kcmil to 750 kcmil = 0.085 inches (2.16mm)

Typical Print Legend
- (CSA) SOUTHWIRE (NESC) #P# 3/C [#AWG or #kcmil] CU 115 EPR AIA 8KV 100% INS LEVEL 25% TS SUN RES 105° FT4 HL (-40°C) LTGG RoHS YEAR [SEQUENTIAL METER MARKS]

TABLE 1 - WEIGHTS & MEASUREMENTS

HVTECK Product Code	Conductor Size *	Conductor Diameter		Diameter Over Insulation		Diameter Over Insulation Shield		Bonding Cond. Size	Diameter Over Inner Jacket		Diameter Over Armour		Approx. Overall Diameter		Minimum Bend Radius		Approx. Weight of Cable		Max. Reel Weight (reel and cable) **		Max. Reel Diameter / Width **		Max. Length of Cable on Reel **	
	AWG or Kcmil	inches	mm	inches	mm	inches	mm	AWG	inches	mm	inches	mm	inches	mm	inches	mm	lb / 1000ft	kg/km	lbs	kg	inches	m	feet	m
CU115G87-002	2(7)	0.283	7.2	0.543	13.8	0.623	15.8	6	1.549	39.3	1.879	47.7	1.999	50.8	14.0	355	2079	3095	11952	5421	108/70.5	2.74/1.79	5000	1524
CU115G87-001	1(19)	0.322	8.2	0.582	14.8	0.662	16.8	6	1.633	41.5	1.963	49.9	2.083	52.9	14.6	370	2325	3459	13178	5977	108/70.5	2.74/1.79	5000	1524
CU115G87-010	1/0(19)	0.362	9.2	0.622	15.8	0.702	17.8	6	1.780	45.2	2.110	53.6	2.230	56.6	15.6	396	2734	4069	13860	6287	108/70.5	2.74/1.79	4500	1372
CU115G87-020	2/0(19)	0.405	10.3	0.665	16.9	0.745	18.9	6	1.872	47.6	2.202	55.9	2.322	59.0	16.3	413	3088	4596	13445	6099	108/70.5	2.74/1.79	3850	1173
CU115G87-030	3/0(19)	0.456	11.6	0.716	18.2	0.796	20.2	4	1.983	50.4	2.313	58.7	2.463	62.5	17.2	438	3643	5422	14488	6572	108/70.5	2.74/1.79	3550	1082
CU115G87-040	4/0(19)	0.512	13.0	0.772	19.6	0.852	21.6	4	2.104	53.4	2.434	61.8	2.584	65.6	18.1	459	4265	6347	14137	6413	108/70.5	2.74/1.79	2950	899
CU115G87-250	250(37)	0.558	14.2	0.828	21.0	0.908	23.1	4	2.224	56.5	2.554	64.9	2.704	68.7	18.9	481	4590	6831	14408	6535	108/70.5	2.74/1.79	2800	853
CU115G87-350	350(37)	0.661	16.8	0.931	23.6	1.011	25.7	3	2.447	62.2	2.777	70.5	2.927	74.3	20.5	520	5985	8906	14721	6677	108/70.5	2.74/1.79	2200	671
CU115G87-500	500(37)	0.789	20.0	1.059	26.9	1.139	28.9	3	2.783	70.7	3.113	79.1	3.283	83.4	23.0	584	7931	11802	14244	6461	108/70.5	2.74/1.79	1600	488
CU115G87-750	750(61)	0.968	24.6	1.248	31.7	1.328	33.7	2	3.192	81.1	3.522	89.5	3.692	93.8	25.8	656	10807	16083	13443	6098	108/70.5	2.74/1.79	1100	335

NOTE: These are minimum average dimensions as per CSA Standards.

* Other conductor sizes and outer jacket colours are available upon request. (#s in brackets represent # of strands / conductor)

** Longer maximum lengths may be possible. Standard sizes and lengths may be supplied. Reel sizes are not guaranteed. The factory reserves the right to make changes as necessary to optimize manufacturing requirements.

SPS_G87_INDUSTRIAL-E(06/23/2016) Rev: 3.05R

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DESIGN

Qualification Standards

- 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 C22.2 No. 174 - Cables in Hazardous Locations
- ICEA S-93-639 (NEMA WC 74) 5 to 46 kV - Shielded Power Cable
- AEIC CS-8 - Qualification Testing Requirements

Flame Test Ratings

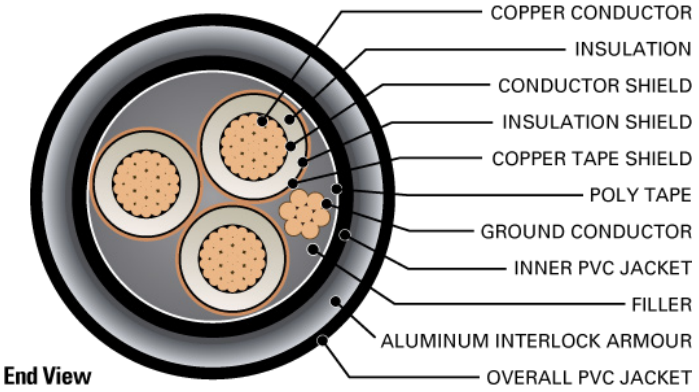
- FT1 - Flame Test - (1,706 BTU/Hr. nominal - Vertical Wire Flame Test)
- FT4, Flame Test - (70,000 BTU/Hr. - Vertical Tray Flame Test)
- IEEE 1202 - Flame Test - (70,000 BTU/Hr. - Vertical Tray Test)
- IEEE 383 - Flame Test - (70,000 BTU/Hr.)
- ICEA T-29-520 - Vertical Cable Tray Flame Test - (210,000 BTU/Hr)

Product Ratings

- CSA C22.2 No. 2556 & No. 0.3. - Wire and Cable Test Methods
- CSA LTGG [-40°C] - as per C68.10 - for Cold Bend and Impact rating
- CSA HL - for Hazardous Locations rating
- CSA FT4 - for Flame Retardancy rating
- CSA SUN RES - for Sunlight Resistant rating

Operating Temperatures

- -40°C - CSA Cold Bend and Impact Temperature
- -25°C - Min. Installation Temperature
- 105°C - Max Continuous Operating Temperature
- 140°C for Emergency Overload Temperature
- 250°C for Short Circuit Temperature



End View

TABLE 2 - ENGINEERING SPECIFICATIONS

HVTECK Product Code	Maximum Pulling Tension		DC Resistance @ 25°C R_{DC}		AC Resistance @ 90°C 60 Hz (triplex formation) R_{AC}		Inductance L		Capacitance C		Inductive Reactance @ 60Hz (triplexed) X_L		Capacitive Reactance @ 60Hz (triplexed) X_C		Positive - Sequence Impedance*	Zero - Sequence Impedance*	Short Circuit Current (each phase conductor) @ 60Hz	Allowable Ampacities in Ventilated Cable Tray †	Allowable Ampacities Directly Buries in Earth ‡
	lb	Newtons	Ω / 1000 ft.	Ω / km	Ω / 1000 ft.	Ω / km	mH / 1000 ft	mH / km	µF / 1000 ft	µF / km	Ω / 1000 ft.	Ω / km	MΩ • 1000ft	MΩ • km	Ω / 1000ft	Ω / 1000ft	kAmps	Amps	Amps
CU115G87-002	1593	7084	0.162	0.532	0.203	0.665	0.0973	0.3192	0.0754	0.2474	0.0367	0.1204	0.0352	0.0107	0.203 + j0.041	0.574 + j0.507	4.5	172	201
CU115G87-001	2009	8935	0.129	0.423	0.161	0.530	0.0937	0.3073	0.0830	0.2724	0.0353	0.1158	0.0319	0.0097	0.162 + j0.039	0.535 + j0.485	5.7	197	228
CU115G87-010	2534	11274	0.102	0.335	0.128	0.419	0.0906	0.2972	0.0908	0.2979	0.0341	0.1120	0.0292	0.0089	0.128 + j0.038	0.503 + j0.464	7.2	225	257
CU115G87-020	3194	14209	0.081	0.266	0.102	0.333	0.0878	0.2881	0.0991	0.3252	0.0331	0.1086	0.0268	0.0082	0.102 + j0.036	0.477 + j0.442	9.0	260	292
CU115G87-030	4027	17914	0.064	0.211	0.081	0.264	0.0851	0.2791	0.1089	0.3574	0.0321	0.1052	0.0244	0.0074	0.081 + j0.035	0.456 + j0.418	11.4	297	330
CU115G87-040	5078	22590	0.051	0.167	0.064	0.211	0.0826	0.2710	0.1197	0.3927	0.0311	0.1022	0.0222	0.0068	0.065 + j0.034	0.438 + j0.393	14.3	342	372
CU115G87-250	6000	26689	0.043	0.141	0.054	0.179	0.0816	0.2678	0.1245	0.4086	0.0308	0.1010	0.0213	0.0065	0.055 + j0.033	0.426 + j0.370	16.9	376	410
CU115G87-350	8400	37365	0.031	0.101	0.039	0.129	0.0784	0.2574	0.1435	0.4708	0.0296	0.0970	0.0185	0.0056	0.040 + j0.032	0.404 + j0.332	23.7	460	487
CU115G87-500	12000	53379	0.022	0.071	0.028	0.093	0.0755	0.2477	0.1670	0.5479	0.0285	0.0934	0.0159	0.0048	0.029 + j0.030	0.382 + j0.292	33.9	556	573
CU115G87-750	18000	80068	0.014	0.047	0.020	0.065	0.0731	0.2397	0.1934	0.6347	0.0275	0.0904	0.0137	0.0042	0.020 + j0.029	0.355 + j0.244	50.8	678	668

* Calculations are based on 5 mil 25 % over lapping copper tape shield / Conductor temperature of 90°C / Shield temperature of 45°C / Earth resistivity of 100 ohms-meter

† Ampacities are based on Table D17N of the 2015 Canadian Electrical Code Part I (40°C Ambient Air Temperature, indoor installation)

‡ Ampacities are based on Table D17E of the 2015 Canadian Electrical Code Part I

SPS_G87_INDUSTRIAL-E(06/23/2016) Rev: 3.05R