

PowrServ® XL Underground Secondary Cable Type USEI-90

600 V, Aluminum Conductor, XLPE Insulation, PVC Jacket, CSA Listed

Product Construction:

Complete Cable:

USEI-90 Underground Service Entrance Cable consists of two, three, or four compact aluminum conductors individually insulated with black RW90 XLPE insulation, a coloured PVC jacket, and twisted together. The neutral conductor will be white. The product meets the USEI-90 cable requirements of CSA C22.2 No. 52.

Conductors:

The aluminum stranded conductors are Class B compact 1350-H16 (3/4 hard) aluminum.

Insulation:

The insulation is a black Cross-linked Polyethylene (XLPE) meeting the requirements of CSA C22.2 No. 52 for Type RW90 insulation.

Jacket:

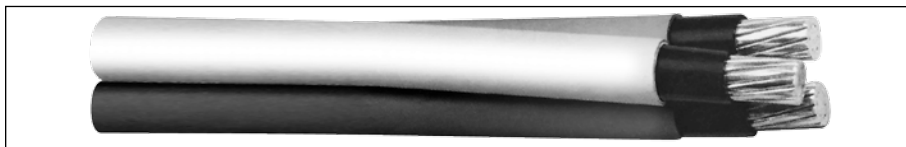
A continuous layer of PVC is extruded over the insulation. The jacket is a weather-resistant, non-sulphide-staining, cut-through-resistant, 90°C/-40°C FT1-rated material.

Neutral Conductor:

One of the insulated conductors is identified as a neutral conductor by the use of a white coloured PVC jacket. The neutral conductor may be the same size as the power conductor, or it may be reduced.

Phase Identification:

Phase identification is provided by means of jacket colour coding. Three conductor cable consists of a red and a black coloured power conductor and a white coloured neutral. Four conductor cable consists of a red, black, and blue coloured phase conductor and a white coloured neutral. All cables provided with sequential print marking.



THREE CONDUCTOR TYPE USEI-90 - XLPE/PVC - 600 VOLTS

PHASE CONDUCTORS				FULL NEUTRAL CONDUCTOR				OVERALL		
SIZE (AWG OR kcmil)	NO. OF WIRES (1)	INS. THKN. (mm)	JACKET THKN. (mm)	SIZE (AWG OR kcmil)	NO. OF WIRES (1)	INS. THKN. (mm)	JACKET THKN. (mm)	EFFECTIVE DIAMETER (mm)	APPROX. WEIGHT (kg/km)	AMPACITY (2)
4	7	1.14	0.76	4	7	1.14	0.76	20	324	65
2	7	1.14	0.76	2	7	1.14	0.76	23	458	95/100*
1	19	1.40	1.14	1	19	1.40	1.14	27	628	105
1/0	19	1.40	1.14	1/0	19	1.40	1.14	29	746	120
2/0	19	1.40	1.14	2/0	19	1.40	1.14	32	891	145
3/0	19	1.40	1.14	3/0	19	1.40	1.14	34	1068	165
4/0	19	1.40	1.14	4/0	19	1.40	1.14	37	1290	185/200*
250	37	1.65	1.65	250	37	1.65	1.65	43	1628	215
350	37	1.65	1.65	350	37	1.65	1.65	48	2135	260
500	37	1.65	1.65	500	37	1.65	1.65	55	2871	330

REDUCED NEUTRAL CONDUCTOR

PHASE CONDUCTORS				REDUCED NEUTRAL CONDUCTOR				OVERALL		
SIZE (AWG OR kcmil)	NO. OF WIRES (1)	INS. THKN. (mm)	JACKET THKN. (mm)	SIZE (AWG OR kcmil)	NO. OF WIRES (1)	INS. THKN. (mm)	JACKET THKN. (mm)	EFFECTIVE DIAMETER (mm)	APPROX. WEIGHT (kg/km)	AMPACITY (2)
4	7	1.14	0.76	6	7	1.14	0.76	19	295	65
2	7	1.14	0.76	4	7	1.14	0.76	22	413	95/100*
1	19	1.40	1.14	3	7	1.14	0.76	27	560	105
1/0	19	1.40	1.14	2	7	1.14	0.76	28	650	120
2/0	19	1.40	1.14	1	19	1.40	1.14	31	803	145
3/0	19	1.40	1.14	1/0	19	1.40	1.14	33	961	165
4/0	19	1.40	1.14	2/0	19	1.40	1.14	36	1157	185/200*
250	37	1.65	1.65	3/0	19	1.40	1.14	41	1450	215
350	37	1.65	1.65	250	37	1.65	1.65	47	1966	260
500	37	1.65	1.65	350	37	1.65	1.65	53	2626	330

(1) For compact stranded constructions, the number of wires may be reduced as follows:
 19-Wire Constructions – 18 Wires Minimum
 37-Wire Constructions – 35 Wires Minimum

(2) The ampacity ratings are based on Table 4 of the Canadian Electric Code (C22.1) (90°C conductor temperature, 30°C ambient). Ampacity ratings may be used for single circuit applications of cables directly buried, in buried duct, in duct bank, or in conduit.

*NOTE: The CEC allows 100A for No. 2 AWG and 200A for 4/0 AWG when used for 3 wire 120/240 V or 120/208 V residential services or subservices. When the higher ampacity is used, the CEC 5% ampacity adjustment rule 8-106 (1) cannot be used.

Dimensions and weights not designated minimum or maximum are nominal values and subject to manufacturing tolerances. In this context, weight means mass.



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FOUR CONDUCTOR TYPE USEI-90 – XLPE/PVC – 600 VOLTS

PHASE CONDUCTORS				FULL NEUTRAL CONDUCTOR				OVERALL		
SIZE (AWG OR kcmil)	NO. OF WIRES (1)	INS. THKN. (mm)	JACKET THKN. (mm)	SIZE (AWG OR kcmil)	NO. OF WIRES (1)	INS. THKN. (mm)	JACKET THKN. (mm)	EFFECTIVE DIAMETER (mm)	APPROX. WEIGHT (kg/km)	AMPACITY (2)
4	7	1.14	0.76	4	7	1.14	0.76	22	432	65
2	7	1.14	0.76	2	7	1.14	0.76	26	611	95
1	19	1.40	1.14	1	19	1.40	1.14	31	837	105
1/0	19	1.40	1.14	1/0	19	1.40	1.14	33	995	120
2/0	19	1.40	1.14	2/0	19	1.40	1.14	35	1188	145
3/0	19	1.40	1.14	3/0	19	1.40	1.14	38	1425	165
4/0	19	1.40	1.14	4/0	19	1.40	1.14	42	1720	185
250	37	1.65	1.65	250	37	1.65	1.65	48	2170	215
350	37	1.65	1.65	350	37	1.65	1.65	54	2847	260
500	37	1.65	1.65	500	37	1.65	1.65	61	3828	330

PHASE CONDUCTORS				REDUCED NEUTRAL CONDUCTOR				OVERALL		
SIZE (AWG OR kcmil)	NO. OF WIRES (1)	INS. THKN. (mm)	JACKET THKN. (mm)	SIZE (AWG OR kcmil)	NO. OF WIRES (1)	INS. THKN. (mm)	JACKET THKN. (mm)	EFFECTIVE DIAMETER (mm)	APPROX. WEIGHT (kg/km)	AMPACITY (2)
4	7	1.14	0.76	6	7	1.14	0.76	22	403	65
2	7	1.14	0.76	4	7	1.14	0.76	25	566	95
1	19	1.40	1.14	3	7	1.14	0.76	31	770	105
1/0	19	1.40	1.14	2	7	1.14	0.76	31	899	120
2/0	19	1.40	1.14	1	19	1.40	1.14	34	1100	145
3/0	19	1.40	1.14	1/0	19	1.40	1.14	37	1317	165
4/0	19	1.40	1.14	2/0	19	1.40	1.14	40	1587	185
250	37	1.65	1.65	3/0	19	1.40	1.14	46	1984	215
350	37	1.65	1.65	250	37	1.65	1.65	52	2678	260
500	37	1.65	1.65	350	37	1.65	1.65	59	3582	330

(1) For compact stranded constructions, the number of wires may be reduced as follows:

19-Wire Constructions – 18 Wires Minimum

37-Wire Constructions – 35 Wires Minimum

(2) The ampacity ratings are based on Table 4 of the Canadian Electric Code (C22.1) (90°C conductor temperature, 30°C ambient). Ampacity ratings may be used for single circuit applications of cables directly buried, in buried duct, in duct bank, or in conduit.

Dimensions and weights not designated minimum or maximum are nominal values and subject to manufacturing tolerances. In this context, weight means mass.

Features and Benefits:

The USEI-90 cables are suitable for direct burial or installed in ducts and are resistant to cut-through and sunlight. The cable is rated 600 V phase to phase, with a maximum conductor operating temperature of 90°C in wet or dry locations.

Applications:

CSA USEI-90 cable is intended for use in underground systems operating at 600 V or less. The cables are intended for underground installation, either directly buried or in duct systems, in accordance with the CEC (CSA C22.1) and CSA C22.3 No. 7 Underground Systems. Portions of the cable may be exposed to sunlight on termination poles and during storage.

Options:

- Class B stranded compact ACM (series 8000) type aluminum alloy conductors
- Class B stranded compact copper conductors
- Two conductor USEI-90 cables
- CSA C68.7 for distribution utilities

For more information, contact your General Cable sales representative or e-mail infoca@generalcable.com.

