

# PowerServ® XL Underground Secondary Cable Type USEB-90

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

## Product Construction:

### Complete Cable:

USEB-90 Underground Service Entrance Cable consists of two compact aluminum conductors individually insulated with RW90 XLPE insulation, laid in parallel, with a helical plain copper wire serving and an overall PVC jacket covering. The copper wire serving is the neutral. The product meets the USEB-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. 38 for Type RW90 insulation.

### Neutral Conductor:

An annealed, plain copper wire serving is applied over top of the two power conductors. The neutral conductor may be equal to the equivalent copper AWG size of the power conductor, or it may be reduced.

### Binder/Separator Tape:

A separator tape is applied overtop the helically applied neutral conductor wires.

### Jacket:

Black PVC jacket is extruded over top of the cable assembly. The jacket is a weather-resistant, sunlight-resistant, 60°C/-40°C FT1-rated material.

### Phase Identification:

Both of the XLPE insulated power conductors are black. One conductor will have a white coloured print legend on the surface of the insulation. The print legend includes the required CSA markings and General Cable manufacturing plant code, year marking, and "1-ONE-1" printed phase identifier. The other conductor will only have the "2-TWO-2" marking. All cables provided with sequential print marking.



TWO CONDUCTOR TYPE USEB-90 – XLPE/PVC – FULL NEUTRAL – 600 VOLTS									
PHASE CONDUCTORS				FULL NEUTRAL CONDUCTOR		OVERALL			
SIZE (AWG OR kcmil)	NO. OF WIRES (1)	INS. THKN. (mm)	JACKET THKN. (mm)	NO. OF WIRES x SIZE (AWG)	EQUIVALENT AWG SIZE	EFFECTIVE DIAMETER THKN. X WIDTH (mm)	APPROX. WEIGHT (kg/km)	AMPACITY (2)	AMPACITY (3)
4	7	1.14	2.03	11 x #16	6	15 x 22	456	65	140
2	7	1.14	2.03	17 x #16	4	16 x 25	632	95/100*	180
1	19	1.40	2.03	21 x #16	3	17 x 28	770	105	205
1/0	19	1.40	2.03	26 x #16	2	18 x 30	916	120	235
2/0	19	1.40	2.03	33 x #16	1	19 x 32	1105	145	265
3/0	19	1.40	2.03	26 x #14	1/0	21 x 35	1340	165	300
4/0	19	1.40	2.03	33 x #14	2/0	22 x 37	1633	185/200*	350
250	37	1.65	2.03	26 x #12	3/0	25 x 41	1969	215	370
350	37	1.65	2.79	25 x #10	250	30 x 49	2985	260	445
500	37	1.65	2.79	34 x #10	350	33 x 55	3843	330	540

(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) (75°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.

(3) The ampacity ratings are based on an engineering calculation for direct buried cable, 36" depth of burial, 90°C conductor temperature, 20°C ambient, 100% load factor, single cable installation, soil rho 90°C-cm/W.

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

# PowrServ® XL Underground Secondary Cable Type USEB-90

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

## TWO CONDUCTOR TYPE USEB-90 – XLPE/PVC – REDUCED NEUTRAL – 600 VOLTS

PHASE CONDUCTORS				REDUCED NEUTRAL CONDUCTOR		OVERALL			
SIZE (AWG OR kcmil)	NO. OF WIRES (1)	INS. THKN. (mm)	JACKET THKN. (mm)	NO. OF WIRES x SIZE (AWG)	EQUIVALENT AWG SIZE	EFFECTIVE DIAMETER THKN. x WIDTH (mm)	APPROX. WEIGHT (kg/km)	AMPACITY (2)	AMPACITY (3)
4	7	1.14	2.03	9 x 1.12 mm	8	15 x 22	405	65	140
2	7	1.14	2.03	11 x #16	6	16 x 25	557	95/100*	180
1	19	1.40	2.03	13 x #16	5	17 x 28	670	105	205
1/0	19	1.40	2.03	17 x #16	4	18 x 30	804	120	235
2/0	19	1.40	2.03	21 x #16	3	19 x 32	956	145	265
3/0	19	1.40	2.03	26 x #16	2	20 x 34	1143	165	300
4/0	19	1.40	2.03	33 x #16	1	22 x 37	1385	185/200*	350
250	37	1.65	2.03	26 x #14	1/0	24 x 40	1651	215	370
350	37	1.65	2.79	26 x #12	3/0	29 x 48	2436	260	445
500	37	1.65	2.79	25 x #10	250	33 x 55	3392	330	540

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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) (75°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.

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(3) The ampacity ratings are based on an engineering calculation for direct buried cable, 36" depth of burial, 90°C conductor temperature, 20°C ambient, 100% load factor, single cable installation, soil rho 90°C-cm/W.

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 USEB-90 cables are suitable for direct burial or installed in ducts. 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 USEB-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
- Solid red coloured polyvinyl chloride (PVC) jacket
- CSA C68.7 for distribution utilities

For more information, contact your General Cable sales representative or e-mail [infoca@generalcable.com](mailto:infoca@generalcable.com).