

PowrServ™ XL Underground Secondary Cable Type USEB-90

600V Al 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 #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 #38 for Type RW90 insulation.

Neutral Conductor:

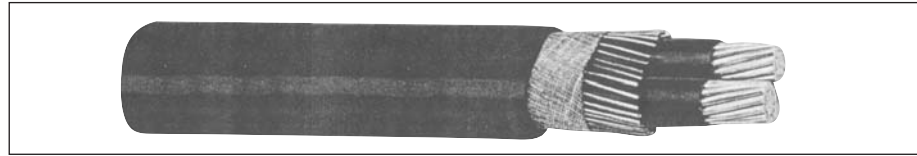
An annealed, plain copper wire serving is applied over top of the two power conductors. The neutral conductor may be equal to the equivalent copper AWG size of the power conductor or it may be reduced.

Separator Tape:

A separator tape is applied overtop the helically applied neutral conductor wires. The tape acts as a reinforcing bedding for the PVC jacket.

Jacket:

A PVC jacket is extruded overtop of the cable assembly. The jacket is a weather resistant, 60°C / -40°C FT1 rated material.



TWO CONDUCTOR TYPE USEB-90 - XLPE / PVC - FULL NEUTRAL - 600 VOLTS								
PHASE CONDUCTORS				FULL NEUTRAL CONDUCTOR	EFFECTIVE DIAMETER	NOMINAL WEIGHT	AMPACITY (1)	AMPACITY (2)
SIZE (AWG OR kcmil)	NO. WIRES	INSULATION THICKNESS (mm)	JACKET THICKNESS (mm)	NO. WIRES X SIZE (AWG)	THICKNESS X WIDTH (mm)	(kg/km)	AMPS	AMPS
4	7	1.14	2.03	11 x #16	14 x 22	440	65	140
2	7	1.14	2.03	17 x #16	16 x 26	620	95 / 100*	180
1	18	1.40	2.03	21 x #16	18 x 29	760	105	205
1/0	18	1.40	2.03	26 x #16	19 x 30	910	120	235
2/0	18	1.40	2.03	33 x #16	20 x 33	1100	145	265
3/0	18	1.40	2.03	26 x #14	21 x 35	1300	165	300
4/0	18	1.40	2.03	33 x #14	23 x 38	1600	185 / 200*	350
250	36	1.65	2.80	26 x #12	27 x 44	2100	215	370
350	36	1.65	2.80	25 x #10	31 x 50	2800	260	445
500	37	1.65	2.80	34 x #10	34 x 56	3800	330	540

(1) The ampacity ratings are based on Table 4 of the Canadian Electrical Code (CSA 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.
 (2) 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 cable installation, soil rho 90°C-cm/W.
 * NOTE: The CEC allows 100A for the #2 AWG and 200A for the 4/0 AWG when used for 3 wire 120/240V or 120/208V residential services or subservices. When the higher ampacity rating is used, the CEC 5% ampacity adjustment rule 8-106 (1) cannot be used.

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TWO CONDUCTOR TYPE USEB-90 / XLPE / PVC - REDUCED NEUTRAL - 600 VOLTS								
PHASE CONDUCTORS				REDUCED NEUTRAL CONDUCTOR	EFFECTIVE DIAMETER	NOMINAL WEIGHT	AMPACITY (1)	AMPACITY (2)
SIZE (AWG OR kcmil)	NO. WIRES	INSULATION THICKNESS (mm)	JACKET THICKNESS (mm)	NO. WIRES X SIZE (AWG)	THICKNESS X WIDTH (mm)	(kg/km)	AMPS	AMPS
4	7	1.14	2.03	9 x 1.12mm	15 x 23	420	65	140
2	7	1.14	2.03	11 x #16	16 x 26	550	95 / 100*	180
1	18	1.40	2.03	13 x #16	18 x 29	670	105	205
1/0	18	1.40	2.03	17 x #16	19 x 30	800	120	235
2/0	18	1.40	2.03	21 x #16	20 x 33	950	145	265
3/0	18	1.40	2.03	26 x #16	21 x 35	1150	165	300
4/0	18	1.40	2.03	33 x #16	22 x 38	1400	185 / 200*	350
250	36	1.65	2.03	26 x #14	25 x 42	1650	215	370
350	36	1.65	2.80	26 x #12	30 x 49	2400	260	445
500	37	1.65	2.80	25 x #10	34 x 56	3400	330	540

(1) The ampacity ratings are based on Table 4 of the Canadian Electrical Code (CSA 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.

(2) 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 cable installation, soil rho 90°C-cm/W.

* NOTE: The CEC allows 100A for the #2 AWG and 200A for the 4/0 AWG when used for 3 wire 120/240V or 120/208V residential services or subservices. When the higher ampacity rating is used, the CEC 5% ampacity adjustment rule 8-106 (1) cannot be used.

Colour Coding:

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.

Options:

The product is available with Class B compact ACM (series 8000) type aluminum alloy conductors or with Class B compact copper conductors. Conductor water block option using STRANDFILL® is also available.

Features and Benefits:

The USEB-90 Cables are suitable for direct burial or installed in ducts. The cable is rated 600V 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 600V 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 #7 Underground Systems. Portions of the cable may be exposed to sunlight on termination poles and during storage.