



Images not to scale. Follow table for dimensions

## APPLICATION

POLY CAB MV CU BS 7835 3.8/6.6 KV XLPE insulated with copper conductor single & multi core cable is designed for low smoke & low halogen evolution and this suitable to use for power distribution for external and direct burial applications in power network system.

## CHARACTERISTICS

### Voltage Rating

Nominal Voltage: 3.8/6.6 (7.2) kV

### Operation Temperature

Max. operating temperature: +90°C

Max. Short Circuit Temperature: 250°C

### Bending Radius:

Single core cable

Fixed Installation: 15 x Overall diameter

Three core cable

Fixed Installation: 12 x Overall diameter

## CONSTRUCTION

- Conductor: Circular Compacted Copper conductor as per BS EN/IEC 60228, class 2
- Conductor Screen: Extruded Semi-conductive compound
- Insulation: XLPE as per BS 7655 – 1.3 or EPR as per BS 7655-1.2
- Non-Metallic Insulation Screen: Extruded Semi-conductive compound
- Metallic Insulation Screen: Copper tape screen
- Inner Covering: Extruded LSZH (Low Smoke Zero Halogen) Compound
- Armour:
  - Single Core: Aluminium Round Wire Armoured (AWA)
  - Multi Core: Galvanised Steel Round Wire Armoured (SWA)
- Outer Sheath: Extruded LSZH compound as per BS 7655-6.1, Colour: Black

### Test Voltage

15kV AC

### Impulse Test Voltage

Peak 75kV AC

## OUTSTANDING FEATURES

- Flame retardant
- High life
- UV resistant
- Oil resistant
- Low smoke emission

## STANDARD FOLLOWS

BS EN/IEC 60228

BS 7655-1.3/1.2

BS 7655-6.1

BS 7835

## COMPLIANCE

Conductor resistance BS EN/IEC 60228

Insulation resistance BS 7835

Flame Retardant test BS EN/IEC 60332-1-2

Partial Discharge test BS 7835

Smoke emission test BS EN/IEC 61034-2

## OUR ACCREDITATIONS



## APPROVAL



**POLY CAB MV CU BS 7835 3.8/6.6 KV  
Medium Voltage Armoured Cable, 3.8/6.6 (7.2) KV AC**

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**WEIGHT & DIMENSION DATA :**

Product Code	No. of Cores	Nominal Cross sectional Area	Nominal Diameter			Weight (Approx.)
			Under armour	Over armour	Overall	
		mm <sup>2</sup>	mm	mm	mm	Kg/Km
MVBS21CXAWLS001C070S	1	70	19.00	22.20	26.0	1300
MVBS21CXAWLS001C095S	1	95	20.80	24.00	28.0	1600
MVBS21CXAWLS001C120S	1	120	22.40	25.60	29.5	1900
MVBS21CXAWLS001C150S	1	150	24.10	27.30	31.5	2250
MVBS21CXAWLS001C185S	1	185	25.80	29.00	33.0	2600
MVBS21CXAWLS001C240S	1	240	28.80	32.80	37.0	3350
MVBS21CXAWLS001C300S	1	300	31.70	35.70	40.5	4050
MVBS21CXAWLS001C400S	1	400	35.30	39.30	44.0	5100
MVBS21CXAWLS001C500S	1	500	39.00	44.00	49.0	6400
MVBS21CXAWLS001C630S	1	630	42.90	47.90	53.0	7800
MVBS21CXAWLS001C800S	1	800	46.90	51.90	57.5	9550
MVBS21CXAWLS001C01KS	1	1000	51.60	56.60	62.5	11650
MVBS21CXSWLS003C070S	3	70	39.70	44.70	50.0	5450
MVBS21CXSWLS003C095S	3	95	43.60	48.60	54.0	6550
MVBS21CXSWLS003C120S	3	120	46.90	51.90	58.0	7600
MVBS21CXSWLS003C150S	3	150	51.10	56.10	62.0	9000
MVBS21CXSWLS003C185S	3	185	54.70	59.70	66.0	10300
MVBS21CXSWLS003C240S	3	240	60.40	65.40	72.0	12500
MVBS21CXSWLS003C300S	3	300	67.10	73.40	80.0	16050
MVBS21CXSWLS003C400S	3	400	74.90	81.20	89.0	19800
MVBS21CXSWLS003C500S	3	500	82.00	88.30	96.0	23750
MVBS21CXSWLS003C630S	3	630	89.90	96.20	104.0	28600

**Electrical characteristics:**

No. of Cores	Nominal Cross sectional Area	Max. DC Resistance at 20°C	Max. AC Resistance at 90°C	Short circuit current rating	Capacitance (Approx.)	Inductance (Approx.)	Reactance (Approx.)
No.	mm <sup>2</sup>	Ω/km	Ω/km	kA/s	μF/km	mH/km	Ω/km
1	70	0.268	0.342	10.02	0.33	0.37	0.12
1	95	0.193	0.247	13.59	0.38	0.35	0.11
1	120	0.153	0.196	17.17	0.41	0.34	0.11

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**POLY CAB MV CU BS 7835 3.8/6.6 KV**  
**Medium Voltage Armoured Cable, 3.8/6.6 (7.2) KV AC**

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1	150	0.124	0.159	21.46	0.46	0.33	0.10
1	185	0.0991	0.128	26.47	0.50	0.32	0.10
1	240	0.0754	0.098	34.34	0.54	0.31	0.10
1	300	0.0601	0.080	42.93	0.57	0.31	0.10
1	400	0.047	0.064	57.23	0.61	0.30	0.09
1	500	0.0366	0.052	71.54	0.708	0.24	0.08
1	630	0.0283	0.042	90.14	0.784	0.24	0.07
1	800	0.0221	0.036	114.47	0.870	0.23	0.07
1	1000	0.0176	0.032	143.08	0.963	0.22	0.07
3	70	0.268	0.342	10.02	0.33	0.30	0.092
3	95	0.193	0.247	13.59	0.38	0.29	0.088
3	120	0.153	0.196	17.17	0.41	0.28	0.085
3	150	0.124	0.159	21.46	0.46	0.27	0.083
3	185	0.0991	0.128	26.47	0.50	0.26	0.081
3	240	0.0754	0.098	34.34	0.54	0.26	0.079
3	300	0.0601	0.080	42.93	0.57	0.25	0.078
3	400	0.047	0.064	57.23	0.61	0.25	0.077
3	500	0.0366	0.052	71.54	0.68	0.25	0.075
3	630	0.0283	0.042	90.14	0.75	0.25	0.074

**Current Carrying Capacity :**

No. of core	Nominal cross sectional area mm <sup>2</sup>	Continuous Current Rating					
		Ground at 20°C		In single-way ducts		In air	
		Trefoil	Flat spaced	Trefoil ducts	Flat touching	Trefoil	Flat touching
1	70	239	246	227	229	296	303
1	95	285	293	271	274	361	369
1	120	323	332	308	311	417	426
1	150	361	366	343	347	473	481
1	185	406	410	387	391	543	550
1	240	469	470	447	453	641	647
1	300	526	524	504	510	735	739
1	400	590	572	564	571	845	837
1	500	604	550	525	454	911	837

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No. of core	Nominal cross sectional area mm <sup>2</sup>	Continuous Current Rating					
		Ground at 20°C		In single-way ducts		In air	
		Trefoil	Flat spaced	Trefoil ducts	Flat touching	Trefoil	Flat touching
		Amp.	Amp.	Amp.	Amp.	Amp.	Amp.
1	630	660	586	571	482	1022	917
1	800	689	593	593	483	1102	959
1	1000	726	615	621	497	1191	1020

No. of core	Nominal cross sectional area mm <sup>2</sup>	Continuous Current Rating		
		In ground at 20°C	In a buried duct	In air
		Amp.	Amp.	Amp.
3	70	220	194	253
3	95	263	232	307
3	120	298	264	352
3	150	332	296	397
3	185	374	335	453
3	240	431	387	529
3	300	482	435	599
3	400	541	492	683
3	500	610	537	803

Maximum conductor temperature	90°C
Ambient air temperature	30°C
Ground temperature	20°C
Depth of laying	0.8 m
Thermal resistivity of soil	1.5 K.m/W
Thermal resistivity of earthenware ducts	1.2 K.m/W

#### De-rating factor

Current rating de-rating factors for other than 30°C ambient air temperature.

Air Temperature	20	25	35	40	45	50	55	60
De-rating factor	1.08	1.04	0.96	0.91	0.87	0.82	0.76	0.71

Current rating de-rating factors for other than 20°C ground temperature.

Ground Temperature	10	15	25	30	35	40	45	50
De-rating factor	1.07	1.04	0.96	0.93	0.89	0.85	0.8	0.76