POLYCAB MV AL BS 7835 3.8/6.6 KV
Medium Voltage Armoured Cable, 3.8/6.6 (7.2) KV AC

Images not to scale. Follow table for dimensions

APPLICATION

POLYCAB MV AL BS 7835 3.8/6.6 KV XLPE insulated with aluminium 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.

OUTSTANDING FEATURES

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

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

STANDARD FOLLOWS

BS EN/IEC 60228
BS 7655-1.3/1.2
BS 7655-6.1
BS 7835

COMPLIANCE

Conductor resistance 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

CONSTRUCTION

- Conductor: Circular Compacted Aluminium 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

OUR ACCREDITATIONS

APPROVAL

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POLYCAB
IDEAS. CONNECTED.

WEIGHT & DIMENSION DATA :

Product Code	No. of Cores	Nominal Cross sectional Area	Nominal Diameter			Weight (Approx.)
			Under armour	Over armour	Overall	
		mm^2	mm	mm	mm	Kg/Km
MVBS21AXAWLS001C070S	1	70	19.00	22.20	26.0	900
MVBS21AXAWLS001C095S	1	95	20.80	24.00	28.0	1000
MVBS21AXAWLS001C120S	1	120	22.40	25.60	29.5	1150
MVBS21AXAWLS001C150S	1	150	24.10	27.30	31.5	1300
MVBS21AXAWLS001C185S	1	185	25.80	29.00	33.0	1500
MVBS21AXAWLS001C240S	1	240	28.80	32.80	37.0	1900
MVBS21AXAWLS001C300S	1	300	31.70	35.70	40.5	2200
MVBS21AXAWLS001C400S	1	400	35.30	39.30	44.0	2650
MVBS21AXAWLS001C500S	1	500	39.00	44.00	49.0	3300
MVBS21AXAWLS001C630S	1	630	42.90	47.90	53.0	3900
MVBS21AXAWLS001C800S	1	800	46.90	51.90	57.5	4650
MVBS21AXAWLS001C01KS	1	1000	51.60	56.60	62.5	5500
MVBS21AXSWLS003C070S	3	70	39.70	44.70	50.0	4100
MVBS21AXSWLS003C095S	3	95	43.60	48.60	54.0	4750
MVBS21AXSWLS003C120S	3	120	46.90	51.90	58.0	5350
MVBS21AXSWLS003C150S	3	150	51.10	56.10	62.0	6100
MVBS21AXSWLS003C185S	3	185	54.70	59.70	66.0	6800
MVBS21AXSWLS003C240S	3	240	60.40	65.40	72.0	8000
MVBS21AXSWLS003C300S	3	300	67.10	73.40	80.0	10300
MVBS21AXSWLS003C400S	3	400	74.90	81.20	89.0	12250
MVBS21AXSWLS003C500S	3	500	82.00	88.30	96.0	14200
MVBS21AXSWLS003C630S	3	630	89.90	96.20	104.0	16600

Electrical characteristics:

No. of Cores No.	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.)
	mm^2	Ω/km	Ω/km	kA/s	µF/km	mH/km	Ω/km
1	70	0.443	0.568	6.61	0.33	0.37	0.12
1	95	0.320	0.411	8.98	0.38	0.35	0.11
1	120	0.253	0.325	11.34	0.41	0.34	0.11

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No. of Cores No.	Nominal Cross sectional Area mm^2	Max. DC Resistance at 20°C Ω/km	Max. AC Resistance at 90°C Ω/km	Short circuit current rating kA/s	Capacitance (Approx.) µF/km	Inductance (Approx.) mH/km	Reactance (Approx.) Ω/km
1	150	0.206	0.265	14.17	0.46	0.33	0.10
1	185	0.164	0.211	17.48	0.50	0.32	0.10
1	240	0.125	0.161	22.68	0.54	0.31	0.10
1	300	0.100	0.129	28.35	0.57	0.31	0.10
1	400	0.0778	0.101	37.79	0.61	0.30	0.09
1	500	0.0605	0.080	47.24	0.708	0.24	0.08
1	630	0.0469	0.063	59.52	0.784	0.24	0.07
1	800	0.0367	0.051	75.59	0.870	0.23	0.07
1	1000	0.0291	0.042	94.48	0.963	0.22	0.07
3	70	0.443	0.568	6.61	0.33	0.30	0.092
3	95	0.320	0.411	8.98	0.38	0.29	0.088
3	120	0.253	0.325	11.34	0.41	0.28	0.085
3	150	0.206	0.265	14.17	0.46	0.27	0.083
3	185	0.164	0.211	17.48	0.50	0.26	0.081
3	240	0.125	0.161	22.68	0.54	0.26	0.079
3	300	0.100	0.129	28.35	0.57	0.25	0.078
3	400	0.0778	0.101	37.79	0.61	0.25	0.077
3	500	0.0605	0.080	47.24	0.68	0.25	0.075
3	630	0.0469	0.063	59.52	0.75	0.25	0.074

Current Carrying Capacity

No. of core	Nominal cross sectional area	Continuous Current Rating					
		Buried direct in the ground		In single-way ducts		In air	
		Trefoil	Flat spaced	Trefoil ducts	Flat touching	Trefoil	Flat touching
	mm^2	Amp.	Amp.	Amp.	Amp.	Amp.	Amp.
1	70	186	192	176	178	230	236
1	95	221	229	210	213	280	287
1	120	252	260	240	242	324	332

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		Buried direct in the ground		In single-way ducts		In air	
		Trefoil	Flat spaced	Trefoil ducts	Flat touching	Trefoil	Flat touching
	mm^2	Amp.	Amp.	Amp.	Amp.	Amp.	Amp.
1	150	281	288	267	271	368	376
1	185	317	324	303	307	424	432
1	240	367	373	351	356	502	511
1	300	414	419	397	402	577	586
1	400	470	466	451	457	673	676
1	500	498	471	433	389	748	712
1	630	555	513	481	421	855	798
1	800	596	535	514	435	949	858
1	1000	643	565	550	457	1049	931

No. of core	Nominal cross sectional area	Continuous current capacity		
		In ground at 20°C	In a buried duct	In air
	mm^2	Amp.	Amp.	Amp.
3	70	171	150	196
3	95	204	180	238
3	120	232	206	274
3	150	259	231	309
3	185	293	262	354
3	240	338	304	415
3	300	380	343	472
3	400	432	393	545
3	500	494	435	649

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