

POLYCAB SC MV AS/NZS 1429.1 12.7/22 (24) KV

MV Cable AL Conductor, XLPE Insulation, Cu Screen and UA



Images not to scale. Follow table for dimensions

APPLICATION

POLYCAB MV 12.7/22 KV XLPE insulated with Aluminium conductor single core cable is suitable to use for power supply to wide networks i.e. Commercial, Industrial and Urban / Residential.

CHARACTERISTICS

Voltage Rating

Nominal Voltage: 12.7/22 (24) kV

Operation Temperature

Min. installation temperature: 0°C

Operating temperature: -25°C to +90°C

Emergency operating temperature: 105°C
(max. operation of 36hrs, at 3 periods for 12 consecutive months use)

Max. Short Circuit Temperature: 250°C

Bending Radius:

Fixed Installation: 12D (PVC) / 15D (HDPE)

During Installation: 18D (PVC) / 25D (HDPE)

D is overall diameter of cable

CONSTRUCTION

- Conductor: Stranded Compacted Circular aluminium conductor as per AS/NZS 1125
- Conductor Screen: Extruded Semi-conductive compound
- Insulation: XLPE
- Insulation Screen: Extruded strippable Semi-conductive compound
- Longitudinal Water blocking : Water blocking tape above and below copper screen (Optional)
- Metallic Insulation Screen: Copper Wire Screen + helically applied copper tape (E/F current capacity – Based on requirement)
- Metallic Sheath: Lead Alloy (optional)
- Outer Sheath: Extruded Polyvinyl Chloride, Colour: Black

(Alternative Sheath: PVC+HDPE Composite Sheath or LSZH Outer sheath and parameters will change accordingly)

OUTSTANDING FEATURES

- Long life
- UV resistant
- Resistant to chemical exposure
- Resistant to water (AD7/AD8 with HDPE)
- Resistant to weather exposure

STANDARD FOLLOWS

AS/NZS 1429.1

AS/NZS 1125

AS/NZS 3808

COMPLIANCE

- Conductor resistance AS/NZS 1125
- Insulation resistance AS/NZS 1429.1
- Voltage test AS/NZS 1429.

OUR ACCREDITATIONS



APPROVAL



NOTES

High Voltage Test (kV AC)	Partial discharge test (kV AC)		Impulse test Voltage (kV peak)
	200% to rated voltage	150% to rated voltage	
42	25	19	150

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DIMENSIONAL CHARACTERISTICS:

Product Code	No. of Cores	Core Cross sectional Area	Nominal Diameter		
	No.	mm ²	Under metallic screen mm	Over metallic screen mm	Overall mm
MVNZ54AXUAPH001C035SAXXXX	1	35	21.1	23.0	27.0
MVNZ54AXUAPH001C050SAXXXX	1	50	22.2	24.1	28.0
MVNZ54AXUAPH001C070SAXXXX	1	70	23.8	25.7	30.0
MVNZ54AXUAPH001C095SAXXXX	1	95	25.4	27.3	31.0
MVNZ54AXUAPH001C120SAXXXX	1	120	27	28.9	33.0
MVNZ54AXUAPH001C150SAXXXX	1	150	28.3	30.2	35.0
MVNZ54AXUAPH001C185SAXXXX	1	185	30	31.9	36.0
MVNZ54AXUAPH001C240SAXXXX	1	240	32.3	34.2	39.0
MVNZ54AXUAPH001C300SAXXXX	1	300	34.5	36.4	41.0
MVNZ54AXUAPH001C400SAXXXX	1	400	37.2	39.1	44.0
MVNZ54AXUAPH001C500SAXXXX	1	500	40.6	42.5	48.0
MVNZ54AXUAPH001C630SAXXXX	1	630	43.8	45.7	51.0
MVNZ54AXUAPH001C800SAXXXX	1	800	47.7	49.6	55.0
MVNZ54AXUAPH001C01KSAXXXX	1	1000	52.2	54.1	60.0

• Above mentioned parameters are based on 3kA/sec earth fault current capacity of copper screen

ELECTRICAL CHARACTERISTICS:

No. of Cores	Core Cross sectional Area	Max. DC Resistance at 20°C	Max. AC Resistance at 90°C	Approx. Capacitance	Approx. Inductance	Approx. Reactance	Continuous Current Rating					
							In ground at 20°C		In Ducts		In air at 30°C	
							Flat	Trefoil	Flat	Trefoil	Flat	Trefoil
No.	mm ²	Ω/km	Ω/km	μF/km	mH/km	Ω/km	Amps					
1	35	0.868	1.113	0.16	0.472	0.148	134	129	123	122	157	154
1	50	0.641	0.822	0.17	0.450	0.142	157	152	146	142	189	184
1	70	0.443	0.568	0.2	0.418	0.131	192	186	178	176	236	230
1	95	0.32	0.411	0.22	0.397	0.125	229	221	213	210	287	280
1	120	0.253	0.325	0.24	0.379	0.119	260	252	242	240	332	324
1	150	0.206	0.265	0.25	0.368	0.116	288	281	271	267	376	368
1	185	0.164	0.211	0.28	0.356	0.112	324	317	307	303	432	424
1	240	0.125	0.161	0.31	0.341	0.107	373	367	356	351	511	502
1	300	0.1	0.130	0.33	0.329	0.103	419	414	402	397	586	577
1	400	0.0778	0.102	0.37	0.318	0.100	466	470	457	451	676	673

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No.	mm ²	Ω/km	Ω/km	μF/km	mH/km	Ω/km	Amps					
1	500	0.0605	0.080	0.41	0.306	0.096	525	530	510	505	760	750
1	630	0.0469	0.063	0.45	0.297	0.093	580	585	560	555	860	850
1	800	0.0367	0.051	0.5	0.288	0.090	650	655	620	615	960	950
1	1000	0.0291	0.043	0.56	0.279	0.088	715	705	670	665	1060	1050

*: Current Ratings are based on IEC 60502-2 & IEC 60287, Max. Conductor Temperature at 90°C, Ambient temperature at 30°C in Air / at 20°C in Ground, Thermal resistivity of Soil 1.5 k.m/W & for earthenware ducts 1.2k.m/W and Depth of Laying 0.8m.

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

20	25	35	40	45	50	55	60
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.

10	15	25	30	35	40	45	50
1.07	1.04	0.96	0.93	0.89	0.85	0.80	0.76