

# POLYCAB 3 CORE MV AS/NZS 1429.1 12.7/22 (24) KV

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

**POLYCAB**  
IDEAS. CONNECTED.



Images not to scale. Follow table for dimensions

### APPLICATION

POLYCAB MV 12.7/22 KV XLPE insulated with Copper conductor Three 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)/20D (Nylon)

During Installation: 18D (PVC) / 25D (HDPE)/30D (Nylon)

D is overall diameter of cable

### CONSTRUCTION

- Conductor: Stranded Compacted Circular Copper conductor as per AS/NZS 1125
- Conductor Screen: Extruded Semi-conductive compound
- Insulation: XLPE
- Insulation Screen: Extruded Semi-conductive compound
- Longitudinal Water blocking : Water blocking tape below copper screen (Optional)
- Metallic Insulation Screen: Copper Wire Screen + helically applied copper tape (E/F current capacity – Based on requirement)
- binder tape / sheath over assembled cores
- Metallic Sheath: Lead Alloy (optional)
- Outer Sheath: Extruded Polyvinyl Chloride, Colour: Black
- Insect attack Protection: Polyamide Nylon (optional)
- (Alternative Sheath: PVC+HDPE Composite Sheath or PVC + Nylon + HDPE (composite sheath with anti-termite properties) 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
- Termite resistant (Optional)

### 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 1429.1

### 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	
45	25	19	150

Document No.: 00390.Rev No.: 00 Date: 05-01-2024 / We reserve the rights to make technical changes.

IN TOLL FREE 1800 267 0008 | [enquiry@polycab.com](mailto:enquiry@polycab.com) | [www.polycab.com](http://www.polycab.com)

Product Specification

# POLYCAB 3 CORE MV AS/NZS 1429.1 12.7/22 (24) KV MV Cable Cu Conductor, XLPE Insulation, Cu Screen and UA



## DIMENSIONAL CHARACTERISTICS:

Product Code	No. of Cores	Core Cross sectional Area	Nominal Diameter		
	No.	mm <sup>2</sup>	Under metallic screen mm	Over metallic screen mm	Overall mm
MVNZ12CXUAPH003C035SAXXXX	3	35	21.1	22.6	54.0
MVNZ12CXUAPH003C050SAXXXX	3	50	22.2	23.7	57.0
MVNZ12CXUAPH003C070SAXXXX	3	70	23.9	25.4	60.0
MVNZ12CXUAPH003C095SAXXXX	3	95	25.4	26.9	64.0
MVNZ12CXUAPH003C120SAXXXX	3	120	27	28.5	67.0
MVNZ12CXUAPH003C150SAXXXX	3	150	28.4	29.9	71.0
MVNZ12CXUAPH003C185SAXXXX	3	185	30.1	31.6	75.0
MVNZ12CXUAPH003C240SAXXXX	3	240	32.4	33.9	80.0
MVNZ12CXUAPH003C300SAXXXX	3	300	34.4	35.9	84.0
MVNZ12CXUAPH003C400SAXXXX	3	400	37.2	38.7	91.0
MVNZ12CXUAPH003C500SAXXXX	3	500	40.6	42.1	99.0

• 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		
							Buried direct in ground	In a buried duct	In Air
No.	mm <sup>2</sup>	Ω/km	Ω/km	μF/km	mH/km	Ω/km	Amps		
3	35	0.524	0.668	0.16	0.625	0.196	153	133	170
3	50	0.387	0.494	0.17	0.604	0.190	181	158	204
3	70	0.268	0.342	0.2	0.569	0.179	221	193	253
3	95	0.193	0.246	0.22	0.551	0.173	262	231	304
3	120	0.153	0.196	0.24	0.533	0.167	298	264	351
3	150	0.124	0.159	0.26	0.521	0.164	334	297	398
3	185	0.0991	0.127	0.28	0.509	0.160	377	336	455

Document No.: 00390.Rev No.: 00 Date: 05-01-2024 / We reserve the rights to make technical changes.

# POLYCAB 3 CORE MV AS/NZS 1429.1 12.7/22 (24) KV MV Cable Cu Conductor, XLPE Insulation, Cu Screen and UA



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		
							Buried direct in ground	In a buried duct	In Air
No.	mm <sup>2</sup>	Ω/km	Ω/km	μF/km	mH/km	Ω/km	Amps		
3	240	0.0754	0.097	0.31	0.496	0.156	434	390	531
3	300	0.0601	0.078	0.33	0.484	0.152	489	441	606
3	400	0.047	0.062	0.37	0.473	0.149	553	501	696
3	500	0.0366	0.049	0.41	0.462	0.145	632	574	800

\*: 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

# POLYCAB 3 CORE MV AS/NZS 1429.1 12.7/22 (24) KV MV Cable Cu Conductor, XLPE Insulation, Cu Screen and UA



No. of Cores	Core Cross sectional Area	Max. pulling tension on conductor	Charging Current per phase	Zero sequence impedance	Electric Stress at Conductor Screen	Short circuit rating of Phase conductor
No.	mm <sup>2</sup>	kN	Amps/Km	Ohms/Km	kV/mm	kA, 1 sec
3	35	2.45	0.64	1.83	3.7	5.0
3	50	3.5	0.68	1.66	3.5	7.2
3	70	4.9	0.8	1.50	3.4	10.0
3	95	6.65	0.88	1.41	3.2	13.6
3	120	8.4	0.96	1.36	3.1	17.1
3	150	10.5	1.04	1.32	3.1	21.4
3	185	12.95	1.12	1.29	3.0	26.4
3	240	16.8	1.24	1.26	2.9	34.3
3	300	21	1.32	1.24	2.9	42.8
3	400	28	1.48	1.22	2.8	56.9
3	500	35	1.64	1.21	2.7	71.5