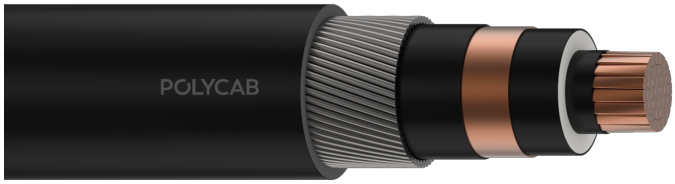
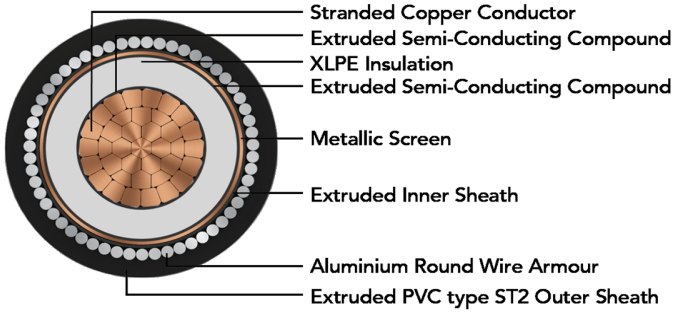
POLYCAB MV SC CU IS 7098-2, 19/33 KV(E)

Medium Voltage Single Core Copper Armoured Cable,19/33 KV (E) AC





Images not to scale. Follow table for dimensions

APPLICATION

POLYCAB MV 19/33 KV(E) XLPE insulated with copper conductor single core cable is suitable to use for power distribution for external and direct burial applications in power network system.

CHARACTERISTICS

Voltage Rating
Nominal Voltage: 19/33 KV (E)

Operation Temperature
Max. operating temperature: 90°C
Max. Short Circuit Temperature: 250°C

Bending Radius:
Fixed Installation: 20D
D is overall diameter of cable

CONSTRUCTION

- Conductor: Circular Compacted Copper conductor as per IS 8130, class 2
- Conductor Screen: Extruded Semi-conductive compound
- Insulation: XLPE
- Non-Metallic Insulation Screen: Extruded Semi-conductive compound
- Metallic Insulation Screen: Copper tape screen
- Inner Sheath: Extruded Polyvinyl Chloride
- Armour: Aluminium Round/Flat Wire Armoured
- Outer Sheath: Extruded Polyvinyl Chloride

Colour: Black

OUTSTANDING FEATURES

- Flame retardant
- High life
- UV resistant

STANDARD FOLLOWS

IS 8130:2013
IS 5831:1984
IS 3975:1979
IS 7098-2:2011

COMPLIANCE

• Conductor resistance	IS 8130
• Insulation resistance	IS 7098-2
• Flammability test	IEC 60332-1-2
• Partial Discharge test	IS 7098-2

OUR ACCREDITATIONS

APPROVAL

NOTES

- Inner sheath available with FR/ FRLS
- Outer/ Inner available with FR/FRLS

Test Voltage
63kV AC 50 Hz

Impulse test Voltage
170 KV

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DIMENSIONS AND WEIGHTS:

Product Code	No. of Cores	Core Cross sectional Area	Nominal Diameter			Weight
			Under armour	Over armour	Overall	(Approx.)
2XWaY	No.	mm^2	mm	mm	mm	Kg/Km
MVIS13CXAWY2001C035SA001S	1C	35	27.3	31.3	34.4	1514
MVIS13CXAWY2001C050SA001S	1C	50	28.8	32.8	36.0	1743
MVIS13CXAWY2001C070SA001S	1C	70	30.4	34.4	37.5	1998
MVIS13CXAWY2001C095SA001S	1C	95	32.2	36.2	39.7	2354
MVIS13CXAWY2001C120SA001S	1C	120	33.8	37.8	41.2	2670
MVIS13CXAWY2001C150SA001S	1C	150	35.5	39.5	42.9	3042
MVIS13CXAWY2001C185SA001S	1C	185	37.4	41.4	45.1	3495
MVIS13CXAWY2001C240SA001S	1C	240	39.8	43.8	47.6	4140
MVIS13CXAWY2001C300SA001S	1C	300	42.3	47.3	51.4	5054
MVIS13CXAWY2001C400SA001S	1C	400	45.5	50.5	54.9	6133
MVIS13CXAWY2001C500SA001S	1C	500	49.0	54.0	58.4	7342
MVIS13CXAWY2001C630SA001S	1C	630	52.4	57.4	62.1	8721
MVIS13CXAWY2001C800SA001S	1C	800	56.7	63.0	68.0	10863
MVIS13CXAWY2001C01KSA001S	1C	1000	61.0	67.3	72.6	13015

Product Code	No. of Cores	Core Cross sectional Area	Nominal Diameter			Weight
			Under armour	Over armour	Overall	(Approx.)
2XFaY	No.	mm^2	mm	mm	mm	Kg/Km
MVIS13CXAFY2001C035SA001S	1C	35	27.3	28.9	32.0	1284
MVIS13CXAFY2001C050SA001S	1C	50	28.8	30.4	33.6	1495
MVIS13CXAFY2001C070SA001S	1C	70	30.4	32.0	35.1	1739
MVIS13CXAFY2001C095SA001S	1C	95	32.2	33.8	36.9	2052
MVIS13CXAFY2001C120SA001S	1C	120	33.8	35.4	38.8	2378
MVIS13CXAFY2001C150SA001S	1C	150	35.5	37.1	40.5	2740
MVIS13CXAFY2001C185SA001S	1C	185	37.4	39.0	42.4	3145
MVIS13CXAFY2001C240SA001S	1C	240	39.8	41.4	45.2	3803
MVIS13CXAFY2001C300SA001S	1C	300	42.3	43.9	47.7	4501
MVIS13CXAFY2001C400SA001S	1C	400	45.5	47.1	51.2	5534
MVIS13CXAFY2001C500SA001S	1C	500	49.0	50.6	55.0	6750
MVIS13CXAFY2001C630SA001S	1C	630	52.4	54.0	58.4	8048

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			Under armour	Over armour	Overall	(Approx.)
2XFaY	No.	mm^2	mm	mm	mm	Kg/Km
MVIS13CXAFY2001C800SA001S	1C	800	56.7	58.3	63.0	9864
MVIS13CXAFY2001C01KSA001S	1C	1000	61.0	62.6	67.6	11944

The above data is approximate & subject to manufacturing tolerance.

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	
No.	mm^2	Ω/km	Ω/km	µF/km	mH/km		Ω/km	
					2XFaY	2XWaY	2XFaY	2XWaY
1	35	0.524	0.672	0.11	0.49	0.50	0.15	0.16
1	50	0.387	0.496	0.13	0.45	0.47	0.14	0.15
1	70	0.268	0.344	0.14	0.43	0.44	0.14	0.14
1	95	0.193	0.248	0.15	0.41	0.42	0.13	0.13
1	120	0.153	0.197	0.17	0.39	0.41	0.12	0.13
1	150	0.124	0.159	0.18	0.38	0.39	0.12	0.12
1	185	0.0991	0.128	0.19	0.37	0.38	0.12	0.12
1	240	0.0754	0.098	0.21	0.35	0.36	0.11	0.11
1	300	0.0601	0.078	0.23	0.34	0.36	0.11	0.11
1	400	0.047	0.062	0.26	0.33	0.34	0.10	0.11
1	500	0.0366	0.049	0.28	0.32	0.33	0.10	0.10
1	630	0.0283	0.038	0.31	0.31	0.32	0.10	0.10
1	800	0.0221	0.031	0.34	0.30	0.32	0.09	0.10
1	1000	0.0176	0.026	0.38	0.29	0.31	0.09	0.10

CURRENT CARRYING CAPACITY:

Nominal area of conductor	Buried direct in the ground		In single -way Ducts		In air	
	Trefoil	Flat touching	Trefoil ducts	Flat touching ducts	Trefoil	Flat Touching
Sqmm	A	A	A	A	A	A
35	150	153	132	129	185	188

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Nominal area of conductor	Buried direct in the ground		In single -way Ducts		In air	
	Trefoil	Flat touching	Trefoil ducts	Flat touching ducts	Trefoil	Flat Touching
Sqmm	A	A	A	A	A	A
50	176	178	154	150	224	227
70	214	215	187	180	278	280
95	253	253	221	212	336	336
120	285	284	249	236	386	384
150	317	313	276	260	434	429
185	355	346	308	286	494	485
240	404	387	350	320	575	556
300	442	413	382	339	644	611
400	490	449	422	367	734	683
500	538	482	462	393	825	753
630	586	513	501	416	920	823
800	629	540	550	447	1014	890
1000	643	552	560	453	1074	938

Air Ambient temperature: 40°C
Ground ambient temperature: 30°C
Conductor operating temperature: 90°C
The above table is in accordance with IS 3961(part 7):2016

De-Rating Factor

Rating factor for variation in ambient air temperature for cable in free air

Ambient air Temperature	25°C	30°C	35°C	40°C	45°C	50°C	55°C	60°C
De-Rating Factor	1.14	1.10	1.05	1.00	0.95	0.89	0.84	0.77

Maximum conductor temperature 90°C

Rating factor for variation in ground temperature for direct buried cables.

Ground Temperature	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C
De-Rating Factor	1.12	1.08	1.04	1.00	0.96	0.91	0.87	0.82

Maximum conductor temperature 90°C

Rating factor for variation in ground temperature for cable in duct.

Ground Temperature	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C
De-Rating Factor	1.12	1.08	1.04	1.00	0.96	0.91	0.87	0.82

Maximum conductor temperature 90°C