

# Low Voltage Mains 3 Core XLPE Cables

## 1kV Al Armoured

Description 3 Core Al XLPE FRPVC SWA FRPVC, 1000 V

F2CA 3nnn ZZ 111 0K0S

Description 3 Core Al XLPE LHFRPVC SWA LHFRPVC, 1000 V

F2CA 3nnn ZZ 212 0K0S

Specification SANS 1507

Last updated: December 2025

PHYSICAL	...3nnn...	3025	3035	3050	3070	3095	3120	3150	3185	3240	3300	3400
Conductor size	mm <sup>2</sup> nom	25	35	50	70	95	120	150	185	240	300	400
Conductor diameter	mm app	5,0	5,9	6,9	8,3	9,7	11,0	12,2	13,7	15,6	16,9	19,8
Insulation diameter	mm app	6,9	7,8	8,9	10,6	12,0	13,5	15,1	17,0	19,2	20,7	24,0
Bedding diameter	mm app	14,9	16,8	19,2	22,7	25,7	28,8	32,6	36,7	41,3	44,4	51,5
Armour diameter	mm app	20,0	21,9	24,4	29,4	32,8	35,9	39,7	45,3	49,8	52,9	60,1
Cable diameter	mm app	23,7	25,6	28,0	33,3	37,1	40,7	44,5	50,5	55,0	58,6	66,6
Length of cable on a drum	m	300	300	300	300	300	300	300	300	300	300	300
Cable mass (approximate)	kg/m app	1,0	1,2	1,4	2,1	2,6	3,0	3,5	4,7	5,5	6,3	7,7
Gross mass on drum	kg app	344	394	455	711	856	994	1237	1578	1855	2129	2561
Bending radius	mm min	237	256	280	333	371	407	445	505	550	586	666

ELECTRICAL												
DC Resistance @ 20 °C	Ω/km	1,200	0,868	0,641	0,443	0,320	0,253	0,206	0,164	0,125	0,100	0,078
AC Resistance @ 90 °C	Ω/km	1,539	1,113	0,822	0,568	0,411	0,325	0,265	0,211	0,161	0,130	0,102
Reactance X+	Ω/km	0,046	0,049	0,048	0,048	0,047	0,045	0,048	0,049	0,048	0,045	0,046
Impedance Z+	Ω/km	1,539	1,114	0,823	0,570	0,413	0,328	0,269	0,217	0,168	0,137	0,112
Capacitance C+	µF/km	0,342	0,395	0,434	0,508	0,563	0,634	0,609	0,603	0,726	0,811	1,304
Resistance Ro	Ω/km	12,83	11,28	9,884	6,027	5,250	4,761	4,178	3,050	2,739	2,572	2,244
Reactance Xo	Ω/km	0,305	0,295	0,287	0,283	0,274	0,267	0,270	0,273	0,266	0,261	0,256

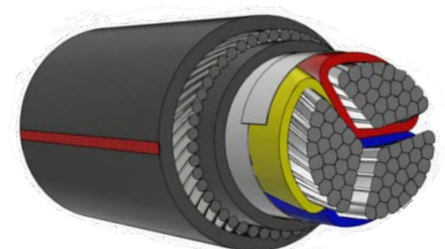
CURRENT RATINGS												
Ground	Amps	108	130	154	191	228	260	291	330	384	431	494
110mm Ducts in ground	Amps	88	105	125	156	186	213	238	271	315	354	405
Air in Shade	Amps	102	125	151	195	237	276	313	364	432	491	577
Air in sunlight	Amps	89	109	132	169	205	238	269	311	369	418	490

SHORT CIRCUIT RATING												
Symmetrical (250 °C)	kA (1 sec)	2,4	3,3	4,7	6,6	9,0	11,3	14,2	17,5	22,7	28,3	37,8
Earth fault (200 °C)	kA (1 sec)	2,6*	2,9	3,2	5,7	6,5	7,0	8,0	11,3	12,5	13,2	15,0
Three Phase Volt Drop	mV/A/m	2,67	1,93	1,43	0,99	0,72	0,57	0,47	0,38	0,29	0,24	0,19

\* In practice the earth fault rating must be limited to symmetrical fault rating.

The ratings above are based on standard laying conditions for a single circuit in isolation, with the following parameters:

- Conductor temperature = 90 °C
- Soil thermal resistance = 1,2 Km/W
- Soil temperature = 25 °C
- Air temperature = 30 °C
- Depth of burial = 500 mm
- Single circuit in isolation
- 5% tolerance on dimensions



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