

# SY PVC / BS EN 50525-2-51 Control Flexible Cable



Eland Product Group: **A5J**

## APPLICATION

Used as interconnecting cable for measuring, controlling or regulation in control equipment for assembly and production lines, conveyors and for computer units. Suitable for fixed installations or for flexible use in conditions of light mechanical stress. Can be used outdoors when protected, and in dry or moist conditions indoors. The braided screen offers the best possible protection against mechanical damage and offers a level of electro-magnetic shielding. The galvanized coating helps protect against corrosion. SY Cables are not suitable for direct connection to the public mains supply.

## CABLE STANDARDS

Generally to BS EN 50525-2-51 (previously BS 6500), VDE0250, BS EN/IEC 60332-1



The electrical and dimensional properties of this product are measured by the Technical and Quality Assurance department at the Eland Cables laboratory. Cable performance in respect of conductor resistance, construction quality (workmanship), dimensional consistency, and other parameters are verified to published standards and approved product drawings. Conformance to RoHS (Restriction of the use of Hazardous Substances) is determined and confirmed.

## CONSTRUCTION

### Conductor

Class 5 flexible copper conductor according to BS EN 60228 (previously BS 6360)

### Insulation

PVC (Polyvinyl Chloride) Type T12 according to BS EN 50363

### Bedding

PVC (Polyvinyl Chloride) Type TM2 according to BS EN 50363

### Braiding

GSWB (Galvanized Steel Wire Braid) minimum coverage of braiding shall be 50%

### Sheath

PVC (Polyvinyl Chloride) Type TM2 according to BS EN 50363

## CHARACTERISTICS

### Voltage Rating (U<sub>0</sub>/U)

300/500V

### Operating Temperature

Fixed: -15°C to +70°C

### Minimum Bending Radius

Flexed: 10 x overall diameter

### Core Identification

● Black with ○ White numbers  
3 cores and above to include ● Green/Yellow

### Colour Code

2 core: ● Blue ● Brown  
3 core: ● Blue ● Brown ● Green/Yellow  
4 core: ● Brown ● Black ● Grey ● Green/Yellow  
5 core: ● Blue ● Brown ● Black ● Grey ● Green/Yellow

### Sheath Colour

● Transparent

## DIMENSIONS

ELAND PART NO.	NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km	CXT GLAND
A5J20075	2	0.75	7.3	72	16/20
A5J2010	2	1	7.6	80	16/20
A5J2015	2	1.5	8.1	100	16/20
A5J30075	3	0.75	7.6	85	16/20
A5J3010	3	1	8	100	16/20
A5J3015	3	1.5	8.6	120	20S
A5J3025	3	2.5	9.3	140	20S
A5J3040	3	4	11.8	240	20
A5J3060	3	6	13.8	330	20
A5J310	3	10	16.4	520	25
A5J316	3	16	20.1	780	25
A5J325	3	25	24.5	1160	32
A5J335	3	35	29.5	1750	32
A5J40075	4	0.75	8.1	100	16/20
A5J4010	4	1	8.7	120	20S
A5J4015	4	1.5	9.3	140	20S
A5J4025	4	2.5	10.8	210	20S
A5J4040	4	4	12.7	300	20
A5J4060	4	6	14.8	410	25
A5J410	4	10	18	660	25
A5J416	4	16	21.6	980	32
A5J425	4	25	27	1460	40
A5J435	4	35	33	2054	40
A5J450	4	50	37	3000	50S
A5J470	4	70	42.5	4050	50
A5J495	4	95	47.2	5100	50
A5J50075	5	0.75	8.9	120	20S
A5J5010	5	1	9.2	140	20S
A5J5015	5	1.5	10.1	175	20S
A5J5025	5	2.5	11.7	250	20
A5J5040	5	4	14.1	360	25
A5J5060	5	6	16.6	530	25
A5J510	5	10	19.8	820	32
A5J516	5	16	24.1	1240	32
A5J525	5	25	29.5	1850	40
A5J535	5	35	36.6	2500	50S
A5J70075	7	0.75	9.4	135	20S
A5J7010	7	1	10	160	20S
A5J7015	7	1.5	11	200	20
A5J7025	7	2.5	12.8	280	20

ELAND PART NO.	NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km	CXT GLAND
A5J80075	8	0.75	10.5	181	20S
A5J8010	8	1	10.8	203	20S
A5J8015	8	1.5	12.4	302	20
A5J12075	12	0.75	11.6	210	20
A5J12010	12	1	12.6	250	20
A5J1215	12	1.5	13.6	310	25
A5J12025	12	2.5	16.1	470	25
A5J180075	18	0.75	14	280	25
A5J18010	18	1	15	350	25
A5J18015	18	1.5	17	450	25
A5J18025	18	2.5	19.5	670	32
A5J250075	25	0.75	15.6	380	25
A5J25010	25	1	16.5	460	25
A5J02515	25	1.5	18.8	620	32
A5J2525	25	2.5	21.9	880	32

## CONDUCTORS

Class 5 Flexible Copper Conductors for Single Core and Multi-Core Cables

NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	MAXIMUM DIAMETER OF WIRES IN CONDUCTOR mm	MAXIMUM RESISTANCE OF CONDUCTOR AT 20°C
		Plain Wires ohms/km
0.75	0.21	26
1	0.21	19.5
1.5	0.26	13.3
2.5	0.26	7.98
4	0.31	4.95
6	0.31	3.3
10	0.41	1.91
16	0.41	1.21
25	0.41	0.78
35	0.41	0.554
50	0.41	0.386
70	0.51	0.272
95	0.51	0.206

The above table is in accordance with BS EN 60228 (previously BS 6360)

## ELECTRICAL CHARACTERISTICS

NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	REFERENCE METHOD C (CLIPPED DIRECT)		REFERENCE METHOD E (IN FREE AIR OR ON A PERFORATED CABLE TRAY ETC HORIZONTAL OR VERTICAL ETC)	
	1 Two Core Cable Single-Phase AC or DC Amps	1 Three Core Cable or 1 Four Core Cable, Three-Phase AC Amps	1 Two Core Cable Single-Phase AC or DC Amps	1 Three Core Cable or 1 Four Core Cable, Three-Phase AC Amps
1.5	21	18	22	19
2.5	28	25	31	26
4	38	33	41	35
6	49	42	53	45
10	67	58	72	62
16	89	77	97	83
25	118	102	128	110
35	145	125	157	135
50	175	151	190	163
70	222	192	241	207
95	269	231	291	251
120	310	267	336	290
150	356	306	386	332
185	405	348	439	378
240	476	409	516	445
300	547	469	592	510
400	621	540	683	590

The above table is in accordance with Table 4D4A of the 17th Edition of IEE Wiring Regulations.

## Voltage Drop

NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	TWO CORE CABLE DC mV/A/m	SINGLE-PHASE TWO CORE CABLE AC mV/A/m			THREE-PHASE THREE OR FOUR CORE CABLE AC mV/A/m		
		r	x	z	r	x	z
1	44	44			38		
1.5	29	29			25		
2.5	18	18			15		
4	11	11			9.5		
6	7.3	7.3			6.4		
10	4.4	4.4			3.8		
16	2.8	2.8			2.4		
25	1.75	1.75	0.170	1.75	1.50	0.145	1.50
35	1.25	1.25	0.165	1.25	1.10	0.145	1.10
50	0.93	0.93	0.165	0.94	0.80	0.140	0.81
70	0.63	0.63	0.160	0.65	0.55	0.140	0.57
95	0.46	0.47	0.155	0.50	0.41	0.135	0.43

Conductor operating Temperature: 70°C

r = Resistive Component  
x = Reactive Component  
z = Impedance Value

## DE-RATING FACTORS

NO. OF CORES	5	7	10	12	14	19	24	44	48
DE-RATING FACTOR	0.72	0.63	0.56	0.53	0.51	0.45	0.42	0.34	0.33