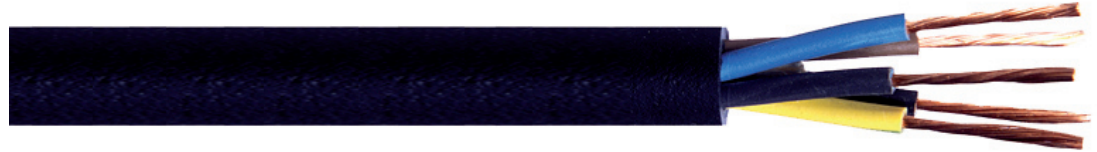


H07RN-F Cable

Eland Product Group A6G and A5G

Application

These cables are designed to provide high flexibility and have the capacity to withstand weather, oils/greases, mechanical and thermal stresses. Applications include handling equipment, mobile power supplies, worksites, stage and audio visual equipment, port areas and dams. Also for use in drainage and water treatment, cold environments and severe industrial environments.



Dimensions

Eland Part Number	No. of Cores x Nominal Cross Sectional Area mm ²	Nominal Thickness of Insulation mm	Nominal Overall Diameter mm	Nominal Weight kg/Km	FCGA2 Gland (Brass)	FCGA2PL Gland (Plastic)
H07RN-F Cable - 1 Core						
A6G10015	1 x 1.5	0.8	5.9	50	20/16	20S
A6G10025	1 x 2.5	0.9	6.6	65	20/16	20S
A6G1004	1 x 4.0	1.0	7.8	115	20/16	20
A6G1006	1 x 6.0	1.0	9.0	142	20S	20
A6G1010	1 x 10.0	1.2	10.8	219	20S	20
A6G1016	1 x 16.0	1.2	12.1	302	20	20L
A6G1025	1 x 25.0	1.4	14.1	436	25	25
A6G1035	1 x 35.0	1.4	15.9	567	25	25
A6G1050	1 x 50.0	1.6	18.5	790	25	32
A6G1070	1 x 70.0	1.6	21.0	1050	32	32
A6G1095	1 x 95.0	1.8	23.9	1350	32	32
A6G1120	1 x 120.0	1.8	25.8	1650	32	40
A6G1150	1 x 150.0	2.0	28.6	2050	40	40
A6G1185	1 x 185.0	2.2	31.5	2450	40	40
A6G1240	1 x 240.0	2.4	35.1	3200	50S	50
A6G1300	1 x 300.0	2.6	38.7	3900	50	-
A6G1400	1 x 400.0	2.8	43.5	5000	50	-
A6G1630	1 x 630.0	3.0	51.5	7650	63	-
H07RN-F Cable - 2 Cores						
A5G02010	2 x 1.0	0.8	8.6	95	20S	20
A5G02015	2 x 1.5	0.8	9.6	115	20S	20
A5G02025	2 x 2.5	0.9	11.2	140	20S	20
A5G02040	2 x 4.0	1.0	13.2	302	20	20L
A5G02060	2 x 6.0	1.0	15.6	400	25	25
A5G0210	2 x 10.0	1.2	20.6	750	32	32
A5G0216	2 x 16.0	1.2	23.3	990	32	32
A5G0225	2 x 25.0	1.4	27.4	1400	40	40
H07RN-F Cable - 3 Cores						
A5G03010	3 x 1.0	0.8	9.3	115	20S	20
A5G03015	3 x 1.5	0.8	10.3	140	20S	20
A5G03025	3 x 2.5	0.9	12.0	200	20	20
A5G03040	3 x 4.0	1.0	14.1	360	25	25
A5G03060	3 x 6.0	1.0	16.6	490	25	25
A5G0310	3 x 10.0	1.2	22.1	900	32	32
A5G0316	3 x 16.0	1.2	24.8	1200	32	32
A5G0325	3 x 25.0	1.4	29.3	1700	40	40
A5G0335	3 x 35.0	1.4	32.9	2200	50S	50
A5G0350	3 x 50.0	1.6	38.5	3100	50	-
A5G0370	3 x 70.0	1.6	43.6	4130	63S	-
A5G0395	3 x 95.0	1.8	50.0	5300	63	-
H07RN-F Cable - 4 Cores						
A5G04010	4 x 1.0	0.8	10.3	140	20S	20
A5G04015	4 x 1.5	0.8	11.4	170	20S	20
A5G04025	4 x 2.5	0.9	13.2	245	20	20L
A5G04040	4 x 4.0	1.0	15.5	460	25	25
A5G04060	4 x 6.0	1.0	18.5	610	25	32
A5G0410	4 x 10.0	1.2	24.1	1100	32	32
A5G0416	4 x 16.0	1.2	27.1	1500	40	40
A5G0425	4 x 25.0	1.4	32.5	2310	50S	50
A5G0435	4 x 35.0	1.4	36.5	2800	50S	50
A5G0450	4 x 50.0	1.6	42.6	3910	50	-
A5G0470	4 x 70.0	1.6	48.6	5200	63	-
A5G0495	4 x 95.0	1.8	56.0	6810	75S	-
H07RN-F Cable - 5 Cores						
A5G05015	5 x 1.5	0.8	12.5	210	20	20L
A5G05025	5 x 2.5	0.9	14.5	305	25	25
A5G05040	5 x 4.0	1.0	17.2	560	25	25
A5G05060	5 x 6.0	1.0	20.5	750	32	32
A5G0510	5 x 10.0	1.2	26.5	1300	40	40
A5G0516	5 x 16.0	1.2	30.1	1800	40	40
A5G0525	5 x 25.0	1.4	36.1	2600	50S	50
A5G0535*	5 x 35.0	1.4	40.5	3590	50	-
A5G0550*	5 x 50.0	1.6	47.3	4550	63S	-

Standards

BS7919, CENELEC HD22.4 S4

Conductor

Class 5 flexible plain copper to BS EN 60228:2005 (previously BS6360)

Insulation

EPR (Ethylene Propylene Rubber) Type EI4 to BS7655

Sheath

PCP (Polychloroprene) Type EM2 to BS7655

Sheath Colour

Black

Voltage Rating

450/750V

Temperature Rating

Conductor operating temperature -30°C to +60°C (85°C max)

Minimum Bending Radius

Up to 25mm²: 6 x overall diameter
Above 25mm²: 8 x overall diameter

Core Identification

2 Cores: Blue, Brown
3 Cores: Green/Yellow, Blue, Brown
4 Cores: Green/Yellow, Brown, Black, Grey
5 Cores: Green/Yellow, Blue, Brown, Black, Grey
6 Cores and above: Black with White numerals, Green/Yellow



Eland Part Number	No. of Cores x Nominal Cross Sectional Area mm ²	Nominal Thickness of Insulation mm	Nominal Overall Diameter mm	Nominal Weight kg/Km	FCGA2 Gland (Brass)	FCGA2PL Gland (Plastic)
H07RN-F Cable - 7 Cores						
A5G07015*	7 x 1.5	0.8	16.5	335	25	25
A5G07025*	7 x 2.5	0.9	18.5	475	25	32
A5G07060*	7 x 6.0	1.0	25.7	1090	32	40
A5G0710*	7 x 10.0	1.2	31.6	1710	40	40
A5G0716*	7 x 16.0	1.2	35.7	2330	50S	50
H07RN-F Cable - 8 Cores						
A5G08015*	8 x 1.5	0.8	17.7	385	25	25
H07RN-F Cable - 12 Cores						
A5G1215	12 x 1.5	0.8	19.5	495	25	32
A5G1225	12 x 2.5	0.9	22.5	710	32	32
H07RN-F Cable - 18 Cores						
A5G1815	18 x 1.5	0.8	23.0	700	32	32

* Generally to BS7919

Conductors

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

1	2	3
Nominal Cross Sectional Area mm ²	Maximum Diameter of Wires in Conductor mm	Maximum Resistance of Conductor at 20°C Plain Wires ohms/Km
1.00	0.21	19.5000
1.50	0.26	13.3000
2.50	0.26	7.9800
4.00	0.31	4.9500
6.00	0.31	3.3000
10.00	0.41	1.9100
16.00	0.41	1.2100
25.00	0.41	0.7800
35.00	0.41	0.5540
50.00	0.41	0.3860
70.00	0.51	0.2720
95.00	0.51	0.2060
120.00	0.51	0.1610
150.00	0.51	0.1290
185.00	0.51	0.1060
240.00	0.51	0.0801
300.00	0.51	0.0641
400.00	0.51	0.0486
630.00	0.61	0.0287

Table in accordance with BS EN 60228:2005 (previously BS6360)

Electrical Characteristics

Current Carrying Capacity (amperes)

Conductor Cross Sectional Area mm ²	DC or Single Phase AC (1 Two Core Cable with or without protective conductor) A	Three Phase AC (1 Three Core, Four Core or Five Core Cable) A	Single Phase AC or DC 2 Single Core Cables Touching A
1	2	3	4
4	41	36	-
6	53	47	-
10	73	64	-
16	99	86	-
25	131	114	-
35	-	140	192
50	-	170	240
70	-	216	297
95	-	262	354
120	-	303	414
150	-	348	476
185	-	397	540
240	-	467	645
300	-	537	741
400	-	-	885
630	-	-	1190

Ambient temperature: 30°C

Conductor operating temperature: 85°C

Datasheet Continues »

Correction factor for ambient temperature

85°C thermosetting (rubber) insulated cables:

Ambient Temperature	35°C	40°C	45°C	50°C	55°C	60°C	65°C	70°C	75°C	80°C
Correction Factor	0.95	0.91	0.86	0.82	0.76	0.70	0.64	0.57	0.50	0.40

180°C thermosetting (rubber) insulated cables:

Ambient Temperature	35 to 85°C	90°C	95°C	100°C	105°C	110°C	115°C	120°C	125°C	130°C	135°C	140°C	145°C
Correction Factor	1.0	0.96	0.92	0.88	0.83	0.78	0.73	0.68	0.62	0.55	0.48	0.39	0.28

1. The current ratings tabulated are for cables in free air but may also be used for cables resting on a surface. If the cable is to be wound on a drum on load the ratings should be reduced in accordance with NOTE 3 below and for cables which may be covered, NOTE 4 below.

2. Where the conductor is to be protected by a semi-enclosed fuse to BS 3036, see item 6.2 of the preface to this appendix.

3. *Flexible cables wound on reeling drums*

The current ratings of cables used on reeling drums are to be reduced by the following factors:

a) Radial type drum	b) Ventilated cylindrical type drum
ventilated: 85%	1 layer of cable: 85%
unventilated: 75%	2 layers of cable: 65%
	3 layers of cable: 45%
	4 layers of cable: 35%

A radial type drum is one where spiral layers of cable are accommodated between closely spaced flanges; if fitted with solid flanges the ratings given above should be reduced and the drum is described as non-ventilated and if the flanges have suitable apertures as ventilated. A ventilated cylindrical cable drum is one where layers of cable are accommodated between widely spaced flanges and the drum and end flanges have suitable ventilating apertures.

4. Where cable may be covered or coiled up whilst on load, or the air movement over the cable restricted, the current rating should be reduced. It is not possible to specify the amount of reduction but the table of rating factors for reeling drums can be used as a guide.

5. The temperature limits given in Table 52B should be taken into account when it is intended to operate these cables at maximum permissible temperature.

6. Where a conductor operates at a temperature exceeding 70°C it shall be ascertained that the equipment connected to the conductor is suitable for the conductor operating temperature (see Regulation 512-02).

7. For 180°C cables, the correction factors for ambient temperature allow a conductor operating temperature up to 150°C. Consult the cable manufacturer for further information.

The above table is in accordance with Table 4H2A of the 16th Edition of IEE Wiring Regulations.

The Current Carrying Capacities in this appendix are based upon the following reference ambient temperatures:
 For non-sheathed and sheathed cables in air, irrespective of the Installation Method: 30°C
 For buried cables, either directly in the soil or in ducts in the ground: 20°C

The current ratings stated are based on conservative assumptions, and therefore, in some instances, may be adjusted according to the ambient installation and operating conditions.

Voltage Drop (per ampere per metre)

Conductor Cross Sectional Area mm ²	1 Two Core or 2 Single Core Cables DC mV/A/m	Two Core Cable Single Phase AC mV/A/m			1 Three Core, Four Core or Five Core Cable Three Phase AC mV/A/m			2 Single Core Cables Touching Single Phase AC* mV/A/m		
		r	x	z	r	x	z	r	x	z
1	2	3	4	5	6	7	8	9	10	11
4	13.0	13.0	11.0	-	4	13.0	11.0	-	-	-
6	8.4	8.4	7.3	-	6	8.4	7.3	-	-	-
10	5.0	5.0	4.3	-	10	5.0	4.3	-	-	-
16	3.1	3.1	2.7	-	16	3.1	2.7	-	-	-
25	2.000	2.00	1.700	-	25	2.000	1.700	-	-	-
35	1.420	-	1.200	-	35	1.420	1.200	1.420	0.210	1.430
50	0.990	-	0.900	-	50	0.990	0.910	0.990	0.210	1.010
70	0.700	-	0.610	-	70	0.700	0.630	0.700	0.200	0.720
95	0.530	-	0.460	-	95	0.530	0.480	0.530	0.195	0.560
120	0.410	-	0.360	-	120	0.410	0.390	0.410	0.190	0.460
150	0.330	-	0.290	-	150	0.330	0.320	0.330	0.190	0.380
185	0.270	-	0.240	-	185	0.270	0.270	0.270	0.190	0.330
240	0.210	-	0.185	-	240	0.210	0.220	0.210	0.185	0.280
300	0.165	-	0.145	-	300	0.165	0.195	0.170	0.180	0.250
400	0.125	-	-	-	400	0.125	-	0.130	0.175	0.220
630	0.073	-	-	-	630	0.073	-	0.084	0.170	0.190

Conductor operating temperature: 85°C

1. The voltage drop figures given above are based on a conductor operating temperature of 85°C and are therefore not accurate when the operating temperature is in excess of 85°C. In the case of the 180°C cables with a conductor temperature of 150°C the above resistive values should be increased by a factor of 1.2.

2. * A larger voltage drop will result if the cables are spaced.

The above table is in accordance with Table 4H2B of the 16th Edition of IEE Wiring Regulations.

For cables having conductors of 16mm² or less cross-sectional area their inductances can be ignored and (mV/A/m)_r values only are tabulated. For cables having conductors greater than 16mm², cross-sectional area the impedance values are given as (mV/A/m)_z, together with the resistive component (mV/A/m)_r and the reactive component (mV/A/m)_x.

The above paragraph is extracted from Appendix 4 of the 16th Edition of IEE Wiring Regulations.