H07RN-F AD8 EN 50525-2-21 Flexible Rubber Cable

APPLICATION

These cables are designed to provide high flexibility and have the capacity to withstand weather, oil/grease, 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. AD8 rated and suitable for installation in buried ducts.

CHARACTERISTICS

Voltage Rating U/Uo
450/750V *Suitable for 1kV in fixed application.*

Temperature Rating
Fixed: -30°C to +90°C
Flexed: - 15°C to +90°C

Minimum Bending Radius
Fixed: 4 x overall diameter
Flexed: 6 x overall diameter

CONSTRUCTION

Conductor
Class 5 flexible copper conductor

Insulation
EPR (Ethylene Propylene Rubber)

Sheath
PCP (Polychloroprene)

Core Identification
1 core: ● Black
2 core: ● Blue ● Brown
3 core: ◐ Green/Yellow ● Blue ● Brown
4 core: ◐ Green/Yellow ● Brown ● Black ● Grey
5 core: ◐ Green/Yellow ● Blue ● Brown ● Black ● Grey
6 core and above: ● Black with ○ White numbers
◐ Green/Yellow

Sheath Colour
● Black

STANDARDS

EN 50525-2-21, EN 60228

Flame Retardant according to IEC/EN 60332-1-2

Water Resistant according to AD8

THE CABLE LAB®

AN ISO/IEC 17025 AND IECEE CBTL ACCREDITED FACILITY

Our world-class testing facility assures the quality and compliance of this cable through a continuous and rigorous testing regime.

ISO/IEC 17025 Accredited Testing Laboratory — IECEE CBTL Accredited Testing Laboratory

SUSTAINABILITY COMMITMENT

We are on a journey to Net Zero.

We've committed to near-term emissions reductions and a net-zero target with the Science Based Targets initiative and we're a signatory to the United Nations Global Compact Sustainable Development Goals.

Learn more about embodied carbon and our carbon emissions reduction actions. our comprehensive recycling services. and wider ESG activities for sustainable operations at: www.elandcables.com/company/about-us/esg-sustainability

SCIENCE BASED TARGETS — BUSINESS AMBITION FOR 1.5°C

REGULATORY COMPLIANCE

This cable is compliant with European Regulation EN 50575. the Construction Products Regulation.

CPR COMPLIANT EN 50575 — Eca

This cable meets the requirements of the Low Voltage Directive 2014/35/EU. the RoHS Directive 2015/65/EU and Reach Directive EC 1907/2006. RoHS compliance has been tested and confirmed by The Cable Lab®.

RoHS — REACH — CE

ELAND CABLES

DIMENSIONS

ELAND PART NO.	NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm²	NOMINAL THICKNESS OF INSULATION mm	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km	A2 GLANDS Brass	A2PL GLAND Plastic
A6G10015	1	1.5	0.8	5.8	52	20/16	20S
A6G10025	1	2.5	0.9	6.5	67	20/16	20S
A6G1004	1	4	1	7.4	92	20/16	20S
A6G1006	1	6	1	8.1	119	20S	20S
A6G1010	1	10	1.2	9.8	185	20S	20S
A6G1016	1	16	1.2	11.35	258	20	20
A6G1025	1	25	1.4	13.3	375	25	20
A6G1035	1	35	1.4	14.6	485	25	25
A6G1050	1	50	1.6	17.2	669	25	25
A6G1070	1	70	1.6	19.35	892	32	32
A6G1095	1	95	1.8	22.2	1160	32	32
A6G1120	1	120	1.8	24.3	1436	32	32
A6G1150	1	150	2	25.9	1748	40	40
A6G1185	1	185	2.2	29.7	2142	40	40
A6G1240	1	240	2.4	31.5	2698	50S	50S
A6G1300	1	300	2.6	36.5	3348	50	50S
A6G1400	1	400	2.8	40.4	4293	50	50
A6G1500	1	500	3	42.6	5262	50	50
A6G1630	1	630	3	47.2	6790	63S	63S
A5G02010	2	1	0.8	8.1	94	20S	20S
A5G02015	2	1.5	0.8	9	120	20S	20S
A5G02025	2	2.5	0.9	10.7	173	20S	20S
A5G02040	2	4	1	12.3	239	20	20
A5G02060	2	6	1	13.8	313	25	25
A5G0210	2	10	1.2	18.6	563	32	25
A5G0216	2	16	1.2	21.7	830	32	32
A5G0225	2	25	1.4	25.8	1211	40	40
A5G03010	3	1	0.8	8.74	117	20S	20S
A5G03015	3	1.5	0.8	9.68	147	20S	20S
A5G03025	3	2.5	0.9	11.48	123	20	20
A5G03040	3	4	1	13.2	297	25	25
A5G03060	3	6	1	14.78	390	25	25
A5G0310	3	10	1.2	19.9	705	32	32
A5G0316	3	16	1.2	23.31	1031	32	32
A5G0325	3	25	1.4	27.7	1512	40	40
A5G0335	3	35	1.4	30.2	1907	50S	50S
A5G0350	3	50	1.6	35.8	2651	50	50S
A5G0370	3	70	1.6	40.1	3484	50	50
A5G0395	3	95	1.8	46.4	4594	63S	63S
A5G04010	4	1	0.8	9.63	142	20S	20S
A5G04015	4	1.5	0.8	10.63	180	20S	20S
A5G04025	4	2.5	0.9	12.6	260	20	20
A5G04040	4	4	1	14.6	336	25	25
A5G04060	4	6	1	16.4	449	25	32
A5G0410	4	10	1.2	21.8	833	32	32
A5G0416	4	16	1.2	25.4	1138	40	40
A5G0425	4	25	1.4	30.7	1714	50S	50

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ELAND PART NO.	NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm²	NOMINAL THICKNESS OF INSULATION mm	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km	A2 GLANDS Brass	A2PL GLAND Plastic
A5G0435	4	35	1.4	33.4	2204	50S	50
A5G0450	4	50	1.6	39.6	3029	50	-
A5G0470	4	70	1.6	44.9	4121	63	-
A5G0495	4	95	1.8	51.9	5361	63	-
A5G04120	4	120	1.8	55.3	6546	-	-
A5G04150	4	150	2.0	60.8	8095	-	-
A5G04185	4	185	2.2	65.7	9652	-	-
A5G04240	4	240	2.4	75.7	12614	-	-
A5G05015	5	1.5	0.8	11.8	206	20	20L
A5G05025	5	2.5	0.9	14	297	25	25
A5G05040	5	4	1	16.2	422	25	25
A5G05060	5	6	1	18.2	567	32	32
A5G0510	5	10	1.2	24	1010	40	40
A5G0516	5	16	1.2	28.2	1400	40	40
A5G0525	5	25	1.4	33.9	2096	50S	50
A5G0535	5	35	1.4	37.2	2700	50	50
A5G0550	5	50	1.6	44	3730	63S	63S
A5G0570	5	70	1.6	48	5033	63	-
A5G0595	5	95	1.6	53.2	6271	63	-
A5G07015	7	1.5	0.8	15.13	315	25	25
A5G07025	7	2.5	0.9	17.6	445	25	32
A5G1215	12	1.5	0.8	18.2	493	25	32
A5G1225	12	2.5	0.9	21.4	702	32	32
A5G1915	19	1.5	0.8	22.1	710	32	32

CONDUCTORS

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

NOMINAL CROSS SECTIONAL AREA mm²	MAXIMUM DIAMETER OF WIRES IN CONDUCTOR mm	MAXIMUM RESISTANCE OF CONDUCTOR AT 20°C ohms/km
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
120	0.51	0.161
150	0.51	0.129
185	0.51	0.106
240	0.51	0.0801
300	0.51	0.0641
400	0.51	0.0486
500	0.61	0.0384
630	0.61	0.0287

The above table is in accordance with EN 60228

ELAND CABLES

ELECTRICAL CHARACTERISTICS (1mm² to 2.5mm²)

Current Carrying Capacity and Mass Supportable

NOMINAL CROSS SECTIONAL AREA mm²	CURRENT CARRYING CAPACITY Amps		MAXIMUM MASS SUPPORTABLE BY TWIN FLEXIBLE CABLE (See Regulations 522.7.2 and 559.6.1.5 of the 17th Edition of IEE Wiring Regulations) kg
	Single-Phase AC	Three-Phase AC	
1	10	10	5
1.5	16	16	5
2.5	25	20	5

Voltage Drop

NOMINAL CROSS SECTIONAL AREA mm²	DC OR SINGLE-PHASE AC mV/A/m	THREE-PHASE AC mV/A/m
1	46	40
1.5	32	27
2.5	19	16

Conductor operating temperature: 60°C

ELECTRICAL CHARACTERISTICS (4mm² and above)

Current Carrying Capacity

NOMINAL CROSS SECTIONAL AREA mm²	60°C CONDUCTOR OPERATING TEMPERATURE Amps			85°C CONDUCTOR OPERATING TEMPERATURE** Amps		
	Single-Phase AC		Three-Phase AC	Single-Phase AC		Three-Phase AC
	1 Two Core Cable, With or Without Protective Conductor	2 Single Core Cables	1 Three Core, Four Core or Five Core Cable	1 Two Core Cable, With or Without Protective Conductor	2 Single Core Cables Touching	1 Three Core, Four Core or Five Core Cable
4	30	-	26	41	-	36
6	39	-	34	53	-	47
10	51	-	47	73	-	64
16	73	-	63	99	-	86
25	97	-	83	131	-	114
35	-	140	102	-	192	140
50	-	175	124	-	240	170
70	-	216	158	-	297	216
95	-	258	192	-	354	262
120	-	302	222	-	414	303
150	-	347	255	-	476	348
185	-	394	291	-	540	397
240	-	471	343	-	645	467
300	-	541	394	-	741	537
400	-	644	-	-	885	-
500	-	738	-	-	1017	-
630	-	861	-	-	1190	-

Ambient temperature: 30°C
Conductor operating temperature: 60°C / 85°C

The above table for 60°C conductor operating temperature is in accordance with Table 4F1A of the 18th Edition of IEE Wiring Regulations BS7671 and IEC 60364-5-52

** 85°C Table is in accordance with Table 4H2A of the 16th Edition of IEE Wiring Regulations.
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 2 below and for cables which may be covered, NOTE 3 below.

2. Flexible cables wound on reeling drums

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

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a) Radial type drum

ventilated: 85%
unventilated: 75%

b) Ventilated cylindrical type drum

1 layer of cable: 85%
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. If the flanges have suitable apertures the drum is described 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.

3. 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.

CURRENT CARRYING CAPACITY (IN DUCT)

NOMINAL CROSS SECTIONAL AREA mm²	SINGLE CORE		1 TWO CORE CABLE *, SINGLE PHASE A.C. OR D.C. A	1 THREE CORE CABLE*, THREE PHASE A.C. A
	Three Cables, Three Phase A.C. In Individual Ducts In Ground Laid Horizontal And Spaced A	Three Cables, Three Phase A.C. Trefoil Formation, In One Duct In Ground A		
1.5	23	21	23	19
2.5	31	27	30	25
4	40	35	39	32
6	49	44	49	41
10	67	59	66	55
16	85	77	86	72
25	110	100	111	93
35	133	121	136	114
50	163	150	168	141
70	198	184	207	174
95	233	217	245	206
120	268	251	284	238
150	304	287	324	272
185	340	323	364	306
240	397	379	428	360
300	448	429	-	-
400	519	500	-	-
500	583	565	-	-
630	663	645	-	-

* With or without protective conductor
Current Carrying Capacity Based On: CEI-UNEL 35026
Conductor Operating Temperature: 90˚C
Ground Temperature: 20˚C
Depth Of Lay: 0.8m
Soil Thermal Resistivity: 1.5K.m/W

FOR AMBIENT GROUND TEMPERATURES OTHER THAN 20°C

AMBIENT TEMPERATURE °C	10	15	25	30	35
DE-RATING FACTOR	1.07	1.04	0.96	0.93	0.89

FOR DEPTHS OTHER THAN 0.8m

DEPTH m	0.5	0.8	1	1.2
DE-RATING FACTOR	1.02	1	0.98	0.96

FOR SOIL THERMAL RESISTIVITY OTHER THAN 1.5K.M/W

Single Core

THERMAL RESISTIVITY K.m/W	1	1.2	1.5	2	2.5
DE-RATING FACTOR	1.08	1.05	1	0.9	0.82

Multi Core

THERMAL RESISTIVITY K.m/W	1	1.2	1.5	2	2.5
DE-RATING FACTOR	1.06	1.04	1	0.91	0.84

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