

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_0/U

450/750V Suitable for 1kV in fixed application.

Operating Temperature

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

STANDARDS

EN 50525-2-21, EN 60228

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

Water Resistant according to AD8

UV Resistant

THE CABLE TEST

We have world-class testing facility, and made rigorous testing regime, every meter of cable before leaving the factory must go through strict testing, testing qualified products will be shipped to customers, effectively ensure product quality and meet customer requirements.

SUSTAINABILITY COMMITMENT

Guowang Cable actively implements the "carbon reduction" goal, strives to promote the green's low-carbon transformation, strengthens energy-saving and emission reduction technology innovation, and promotes the company's healthy and sustainable development.

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; customization is available

DIMENSIONS

NO. OF CORES	NOMINAL CROSS SECTIONAL AREA	NOMINAL THICKNESS OF INSULATION	NOMINAL OVERALL DIAMETER	NOMINAL WEIGHT	A2 GLANDS	A2PL GLAND
	mm ²	mm	mm	kg/km	Brass	Plastic
1	1.5	0.8	5.8	52	20/16	20S
1	2.5	0.9	6.5	67	20/16	20S
1	4	1	7.4	92	20/16	20S
1	6	1	8.1	119	20S	20S
1	10	1.2	9.8	185	20S	20S
1	16	1.2	11.35	258	20	20
1	25	1.4	13.3	375	25	20
1	35	1.4	14.6	485	25	25
1	50	1.6	17.2	669	25	25
1	70	1.6	19.35	892	32	32
1	95	1.8	22.2	1160	32	32
1	120	1.8	24.3	1436.0	32	32
1	150	2	25.9	1748	40	40
1	185	2.2	29.7	2142.0	40	40
1	240	2.4	31.5	2698	50S	50S
1	300	2.6	36.5	3348	50	50S
1	400	2.8	40.4	4293	50	50
1	500	3	42.6	5262	50	50
1	630	3	47.2	6790	63S	63S
2	1	0.8	8.1	94	20S	20S
2	1.5	0.8	9	120	20S	20S
2	2.5	0.9	10.7	173	20S	20S
2	4	1	12.3	239	20	20
2	6	1	13.8	313	25	25
2	10	1.2	18.6	563	32	25
2	16	1.2	21.7	830	32	32
2	25	1.4	25.8	1211	40	40
3	1	0.8	8.74	117	20S	20S
3	1.5	0.8	9.68	147	20S	20S
3	2.5	0.9	11.48	123	20	20
3	4	1	13.2	297	25	25
3	6	1	14.78	390	25	25
3	10	1.2	19.9	705	32	32
3	16	1.2	23.31	1031	32	32
3	25	1.4	27.7	1512	40	40
3	35	1.4	30.2	1907	50S	50S
3	50	1.6	35.8	2651	50	50S
3	70	1.6	40.1	3484	50	50
3	95	1.8	46.4	4594	63S	63S
4	1	0.8	9.63	142	20S	20S
4	1.5	0.8	10.63	180	20S	20S
4	2.5	0.9	12.6	260	20	20
4	4	1	14.6	336	25	25
4	6	1	16.4	449	25	32
4	10	1.2	21.8	833	32	32
4	16	1.2	25.4	1138	40	40
4	25	1.4	30.7	1714	50S	50
4	35	1.4	33.4	2204	50S	50
4	50	1.6	39.6	3029	50	-
4	70	1.6	44.9	4121	63	-
4	95	1.8	51.9	5361	63	-
4	120	1.8	55.3	6546	-	-
4	150	2	60.8	8095	-	-
4	185	2.2	65.7	9652	-	-
4	240	2.4	75.7	12614	-	-

DIMENSIONS

NO. OF CORES	NOMINAL CROSS SECTIONAL AREA	NOMINAL THICKNESS OF INSULATION	NOMINAL OVERALL DIAMETER	NOMINAL WEIGHT	A2 GLANDS	A2PL GLAND
	mm ²	mm	mm	kg/km	Brass	Plastic
5	2.5	0.9	14	297	25	25
5	6	1	18.2	567	32	32
5	16	1.2	28.2	1400	40	40
5	35	1.4	37.2	2700	50	50
5	50	1.6	44	3730	63S	63S
5	70	1.6	48	5033	63	-
5	95	1.6	53.2	6271	63	-
7	1.5	0.8	15.13	315	25	25
7	2.5	0.9	17.6	445	25	32
12	1.5	0.8	18.2	493	25	32
12	2.5	0.9	21.4	702	32	32
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	MAXIMUM DIAMETER OF WIRES IN CONDUCTOR	MAXIMUM RESISTANCE OF CONDUCTOR AT 20°C
mm ²	mm	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

ELECTRICAL CHARACTERISTICS (1mm² to 2.5mm²)

Current Carrying Capacity and Mass Supportable

NOMINAL CROSS SECTIONAL AREA	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)
mm ²	Single-Phase AC or DC	Three-Phase AC or DC	kg
1	10	10	5
1.5	16	16	5
2.5	25	20	5

Voltage Drop

NOMINAL CROSS SECTIONAL AREA	DC OR SINGLE-PHASE AC	THREE-PHASE AC
mm ²	mV/A/m	mV/A/m
1	46	40
1.5	32	27
2.5	19	16

ELECTRICAL CHARACTERISTICS (4mm² and above)

Current Carrying Capacity

NOMINAL CROSS SECTIONAL AREA mm ²	60°C CONDUCTOR OPERATING TEMPERATURE Amps			90°C CONDUCTOR OPERATING TEMPERATURE** Amps		
	Single-Phase AC or DC		Three-Phase AC or DC	Single-Phase AC or DC		Three-Phase AC or DC
	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	42	-	37
6	39	-	34	56	-	49
10	51	-	47	76	-	66
16	73	-	63	103	-	89
25	97	-	83	136	-	119
35	-	140	102	-	200	146
50	-	175	124	-	250	177
70	-	216	158	-	310	225
95	-	258	192	-	369	273
120	-	302	222	-	432	316
150	-	347	255	-	497	363
185	-	394	291	-	564	414
240	-	471	343	-	673	487
300	-	541	394	-	773	560
400	-	644	-	-	924	-
500	-	738	-	-	1062	-
630	-	861	-	-	1242	-

Ambient temperature: 30°C

Conductor operating temperature: 60°C / 90°C

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

** 90°C Table is in accordance with Table 4F2A of the 18th Edition of IET 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:

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%

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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	SINGLE CORE		1 TWO CORE CABLE *, SINGLE PHASE A.C. OR D.C.	1 THREE CORE CABLE*, THREE PHASE A.C.
mm ²	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	A	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