

Flexible Cables

450/750V 1-Core ~ 5-Core

EPR Rubber Insulated, Chlorinated Polyethylene Sheathed Neoprene Cable

Description: CU/EPR/CPE

Model Code: H07RN-F



Application :	This flexible cable can be either installed as a fixed or mobile cable under adverse conditions such as in oily, acidic, or alkaline environments, anti-UV and sunlight resistant.
Voltage rating :	450/750V (0.6/1kV REF IEC 60092-353)
Construction :	Plain annealed copper (IEC 60228 Class 5), EPR rubber insulated, chlorinated polyethylene (CPE) sheathed cable
Insulation colour :	1-Core: White; 2-Core: Brown, Blue; 3-Core: Brown, Blue, Green/Yellow; 4-Core: Brown, Black, Grey, Green/Yellow; 5-Core: Brown, Black, Grey, Blue, Green/Yellow; (Other colour upon request)
Sheath colour :	Black
Specification :	BS EN 50525-2-21, IEC 60332-1-2
Operating temperature :	-25°C to 90°C
Certification :	VDE

1-CORE [1C]

Conductor	Insulation	Sheath	Part No.	Approx. Overall Diam.	Approx. Weight
Nominal Area	Thickness	Thickness			
(mm ²)	(mm)	(mm)		(mm)	(kg/km)
1.5	0.8	1.4	07019686	6.0	50
2.5	0.9	1.4	08019686	6.5	65
4	1.0	1.5	09019686	7.5	90
6	1.0	1.6	10019686	8.5	115
10	1.2	1.8	11019686	10.0	180
16	1.2	1.9	12019686	11.5	255
25	1.4	2.0	13019686	13.0	365
35	1.4	2.2	14019686	15.0	485
50	1.6	2.4	15019686	17.0	680
70	1.6	2.6	16019686	19.0	900
95	1.8	2.8	17019686	21.5	1160
120	1.8	3.0	18019686	23.5	1460
150	2.0	3.2	19019686	25.5	1800
185	2.2	3.4	20019686	28.5	2200
240	2.4	3.5	21019686	31.5	2830
300	2.6	3.6	22019686	34.0	3480
400	2.8	3.8	23019686	38.5	4500
500	3.0	4.0	24019686	44.0	5800

Current rating and voltage drop
Please refer to Table 20 & 21 (Page 60)

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2-CORE [2C]

(Brown, Blue) (1-phase and neutral)

Conductor	Insulation	Sheath	Part No.	Approx. Overall Diam.	Approx. Weight
Nominal Area	Thickness	Thickness			
(mm ²)	(mm)	(mm)		(mm)	(kg/km)
1	0.8	1.3	06028501	8.3	90
1.5	0.8	1.5	07028501	9.2	115
2.5	0.9	1.7	08028501	11.0	165
4	1.0	1.8	09028501	12.6	230
6	1.0	2.0	10028501	14.2	300
10	1.2	3.1	11028501	19.2	545
16	1.2	3.3	12028501	22.0	765
25	1.4	3.6	13028501	25.4	1090

3-CORE [3G]

(Brown, Blue, Green/Yellow) (1-phase and earth)

Conductor	Insulation	Sheath	Part No.	Approx. Overall Diam.	Approx. Weight
Nominal Area	Thickness	Thickness			
(mm ²)	(mm)	(mm)		(mm)	(kg/km)
1	0.8	1.4	06038502	9.0	110
1.5	0.8	1.6	07038502	10.0	140
2.5	0.9	1.8	08038502	12.0	200
4	1.0	1.9	09038502	13.5	280
6	1.0	2.1	10038502	15.5	375
10	1.2	3.3	11038502	20.5	675
16	1.2	3.5	12038502	23.5	950
25	1.4	3.8	13038502	27.5	1360
35	1.4	4.1	14038502	30.5	1795
50	1.6	4.5	15038502	35.0	2480
70	1.6	4.8	16038502	39.0	3285
95	1.8	5.3	17038502	45.3	4210
120	1.8	5.6	18038502	49.0	5280
150	2.0	6.0	19038502	60.0	6420

Current rating and voltage drop
Please refer to Table 20 & 21 (Page 60)

Flexible Cables

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4-CORE [4G]

(Brown, Black, Grey, Green/Yellow) (3-phase and earth)

Conductor	Insulation	Sheath	Part No.	Approx. Overall Diam.	Approx. Weight
Nominal Area	Thickness	Thickness			
(mm ²)	(mm)	(mm)		(mm)	(kg/km)
1	0.8	1.5	06048503	10.0	135
1.5	0.8	1.7	07048503	11.0	170
2.5	0.9	1.9	08048503	13.0	250
4	1.0	2.0	09048503	15.0	350
6	1.0	2.3	10048503	17.0	470
10	1.2	3.4	11048503	22.5	830
16	1.2	3.6	12048503	25.5	1170
25	1.4	4.1	13048503	30.0	1700
35	1.4	4.4	14048503	34.0	2300
50	1.6	4.8	15048503	39.0	3160
70	1.6	5.2	16048503	43.5	4200
95	1.8	5.9	17048503	50.0	5450
120	1.8	6.0	18048503	54.0	6770

5-CORE [5G]

(Brown, Black, Grey, Blue, Green/Yellow) (3-phase, neutral and earth)

Conductor	Insulation	Sheath	Part No.	Approx. Overall Diam.	Approx. Weight
Nominal Area	Thickness	Thickness			
(mm ²)	(mm)	(mm)		(mm)	(kg/km)
1	0.8	1.6	06058504	11.0	160
1.5	0.8	1.8	07058504	12.0	205
2.5	0.9	2.0	08058504	14.5	300
4	1.0	2.2	09058504	16.5	420
6	1.0	2.5	10058504	19.0	580
10	1.2	3.6	11058504	25.0	1120
16	1.2	3.9	12058504	28.0	1440
25	1.4	4.4	13058504	33.5	2120

Current rating and voltage drop
Please refer to Table 20 & 21 (Page 60)

Current Rating and Voltage Drop

EPR Insulated Cables



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Single-Core EPR Insulated, Chlorinated Polyethylene Outersheath Neoprene Cable 450/750V or 0.6/1kV

Table 18 : Current-Carrying Capacities (Amp)
[CU/EPR/CPE Cables]

Conductor Operating Temperature : 90°C
Ambient Temperature : 30°C

BS EN 50525-2-21

Conductor Cross-sectional Area	Reference Method 3 (enclosed in conduit etc. in or on a wall)		Reference Method 1 (clipped direct)		Reference Method 11 (on a perforated cable tray) Horizontal or Vertical		Reference Method 12 (in free air)	
	2 cables, 1-phase a.c. or d.c.	3 or 4 cables, 3-phase a.c.	2 cables, 1-phase a.c. or d.c. flat and touching	3 or 4 cables, 3-phase a.c. flat and touching or trefoil	2 cables, 1-phase a.c. or d.c. flat and touching	3 or 4 cables, 3-phase a.c. flat and touching or trefoil	2 cables, 1-phase a.c. or d.c. or 3 or 4 cables, 3-phase a.c. flat spaced horizontal or vertical	3 cables trefoil, 3-phase a.c.
1	2	3	4	5	6	7	8	9
mm ²	A	A	A	A	A	A	A	A
1	17	15	19	17.5	-	-	-	-
1.5	22	19.5	25	23	-	-	-	-
2.5	30	27	34	31	-	-	-	-
4	40	36	45	42	-	-	-	-
6	52	46	59	54	-	-	-	-
10	72	63	81	75	-	-	-	-
16	96	85	108	100	-	-	-	-
25	127	112	143	133	153	140	154	134
35	157	138	177	164	189	174	192	167
50	190	167	215	199	229	211	235	204
70	242	213	274	254	293	269	303	262
95	293	258	332	308	356	327	370	320
120	339	298	384	357	412	379	431	373
150	372	334	442	411	475	437	499	432
185	428	379	519	469	542	499	573	495
240	510	443	607	553	639	589	679	587
300	593	506	695	636	735	679	786	680
400	719	602	827	755	860	798	929	799
500	835	689	946	865	989	918	1081	919
630	975	791	1088	996	1143	1062	1263	1060

Note : For rating factors of ambient temperature other than 30°C, please refer to Table 23 (Page 62)

Table 19 : Voltage Drop (Per Amp Per Meter)
[CU/EPR/CPE Cables]

Conductor Operating Temperature : 90°C

BS EN 50525-2-21

Conductor Cross- sectional Area	2 cables, d.c.	2 cables, 1-phase a.c.									3 or 4 cables, 3-phase a.c.											
		Reference Method 3 (enclosed in conduit etc. in or on a wall)	Reference Methods 1 & 11 (clipped direct or on trays, touching)	Reference Method 12 (spaced*)	Reference Method 3 (enclosed in conduit etc. in or on a wall)	Reference Method 1, 11 & 12 (in trefoil touching)	Reference Methods 1 & 11 (flat and touching)	Reference Method 12 (flat spaced*)														
1	2	3	4	5	6	7	8	9														
mm ²	mV/A/m	mV/A/m	mV/A/m	mV/A/m	mV/A/m	mV/A/m	mV/A/m	mV/A/m														
1	46	46	46	-	40	40	40	-														
1.5	31	31	31	-	26	26	26	-														
2.5	18	18	18	-	16	16	16	-														
4	12	12	12	-	10	10	10	-														
6	7.7	7.7	7.7	-	6.7	6.7	6.7	-														
10	4.6	4.6	4.6	-	4.0	4.0	4.0	-														
16	2.9	2.9	2.9	-	2.5	2.5	2.5	-														
		r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
25	1.80	1.85	0.32	1.90	1.85	0.20	1.85	1.85	0.29	1.85	1.60	0.28	1.65	1.60	0.175	1.60	1.60	0.25	1.60	1.60	0.32	1.65
35	1.30	1.35	0.31	1.40	1.30	0.195	1.35	1.30	0.28	1.35	1.15	0.27	1.20	1.15	0.170	1.15	1.15	0.24	1.15	1.15	0.32	1.20
50	0.95	1.00	0.30	1.05	0.97	0.190	0.99	0.97	0.28	1.00	0.87	0.26	0.91	0.84	0.165	0.86	0.84	0.24	0.88	0.84	0.32	0.90
70	0.65	0.68	0.29	0.74	0.66	0.185	0.69	0.66	0.27	0.72	0.60	0.25	0.65	0.57	0.160	0.60	0.57	0.24	0.62	0.57	0.31	0.65
95	0.48	0.51	0.28	0.58	0.49	0.180	0.52	0.49	0.27	0.56	0.44	0.25	0.51	0.43	0.155	0.45	0.43	0.23	0.48	0.42	0.31	0.52
120	0.38	0.40	0.27	0.49	0.39	0.175	0.43	0.39	0.26	0.47	0.35	0.24	0.43	0.34	0.155	0.37	0.34	0.23	0.41	0.34	0.30	0.45
150	0.30	0.33	0.27	0.42	0.31	0.175	0.36	0.31	0.26	0.40	0.29	0.24	0.37	0.27	0.150	0.31	0.27	0.23	0.35	0.27	0.30	0.40
185	0.25	0.27	0.27	0.38	0.25	0.170	0.30	0.25	0.26	0.36	0.23	0.23	0.33	0.22	0.150	0.26	0.22	0.22	0.31	0.22	0.30	0.37
240	0.190	0.21	0.26	0.33	0.195	0.165	0.26	0.195	0.25	0.32	0.180	0.23	0.29	0.170	0.145	0.22	0.170	0.22	0.28	0.170	0.30	0.34
300	0.150	0.170	0.26	0.31	0.155	0.165	0.23	0.155	0.25	0.29	0.150	0.23	0.27	0.135	0.140	0.195	0.135	0.22	0.26	0.135	0.29	0.32
400	0.115	0.140	0.26	0.30	0.125	0.160	0.20	0.120	0.25	0.28	0.130	0.22	0.26	0.110	0.140	0.175	0.110	0.21	0.24	0.105	0.29	0.31
500	0.091	0.115	0.26	0.28	0.100	0.155	0.185	0.097	0.24	0.26	0.105	0.22	0.24	0.089	0.135	0.165	0.089	0.21	0.23	0.085	0.29	0.30
630	0.072	0.100	0.25	0.27	0.082	0.155	0.175	0.077	0.24	0.25	0.085	0.22	0.24	0.073	0.135	0.155	0.073	0.21	0.22	0.067	0.28	0.29

Note : r = resistive component; x = reactive component; z = impedance value

Table 23 : Correction Factor for Ambient Air Temperature Other Than 30°C to be Applied to the Current-Carrying Capacities for Cables in Free Air

Ambient Temperature (°C)	Insulation				
	PVC (70°C)	XLPE (90°C)	HT-PVC (90°C)	Rubber (85°C)	Rubber (60°C)
10	1.22	1.15	-	-	-
15	1.17	1.12	-	-	-
20	1.12	1.08	-	-	-
25	1.06	1.04	1.03	1.02	-
30	1.00	1.00	1.00	1.00	1.00
35	0.94	0.96	0.97	0.95	0.91
40	0.87	0.91	0.94	0.90	0.82
45	0.79	0.87	0.91	0.85	0.71
50	0.71	0.82	0.87	0.80	0.58
55	0.61	0.76	0.84	0.74	0.41
60	0.50	0.71	0.80	0.67	-
65	0.35	0.65	0.76	0.60	-
70	-	0.58	0.71	0.52	-
75	-	0.50	0.61	0.43	-
80	-	0.41	0.50	0.30	-
85	-	0.29	0.35	-	-

Table 24 : Correction Factor for Ambient Ground Temperature Other Than 15°C to be Applied to the Current-Carrying Capacities for Cables in Ducts or in Ground

Ground Temperature (°C)	Insulation	
	PVC (70°C)	XLPE (90°C)
10	1.04	1.03
15	1.00	1.00
20	0.95	0.97
25	0.90	0.93
30	0.85	0.89
35	0.80	0.86
40	0.74	0.82
45	0.67	0.77
50	0.60	0.73
55	-	0.68
60	-	0.63
65	-	0.58