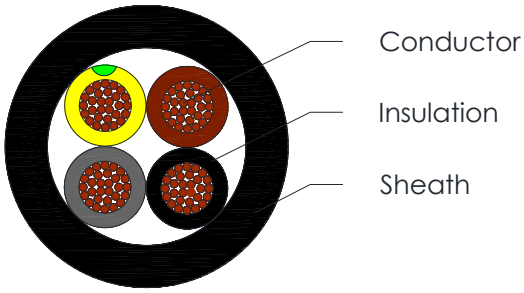
Flexible Rubber Cables
H07RN-F
PCP Sheath

C6044 to C6101

Applications

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.

Cross Section Drawing



Design

Unit	Properties
Conductor	Flexible copper wire, Class 5
Insulation	Ethylene Propylene Rubber (ERP) Core Identification 1Core: Black 2Core: Blue and Brown 3Core: Green/Yellow, Blue and Brown 4Core: Green/Yellow, Brown, Black and Grey 5Core: Green/Yellow, Blue, Brown, Black and Grey 6Core and above Black with White numbers and Green/Yellow
Outer Sheath Material	Polychloroprene (PCP) Standard Colour: Black
Standard Put Up Length	305M or 500m

*Other Colors, Put Up Lengths and structures can be manufactured upon request, please contact your local B3 International sales representative.

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Conductors

Nom. Cross Section area (mm^2)	Max. Diameter of wires in conductor (mm)	Max. Resistance of Conductor at 20℃ (Ω/km)
1.0	0.21	19.5
1.5	0.26	13.3
2.5	0.31	7.98
4.0	0.31	4.95
6.0	0.41	3.3
10.0	0.41	1.91
16.0	0.41	1.21
25.0	0.41	0.78
35.0	0.41	0.554
50.0	0.41	0.386
70.0	0.51	0.272
95.0	0.51	0.206
120.0	0.51	0.161

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

Electrical Characteristics (1.0mm^2 to 2.5mm^2)

Current Carrying Capacity and Mass Supportable

Nom. Cross Section area (mm^2)	CURRENT CARRYING CAPACITY Amps		AXIMUM 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	
1.0	10	10	5
1.5	16	16	5
2.5	25	20	5

Voltage Drop

Nom. Cross Section area (mm^2)	DC OR SINGLE-PHASE AC mV/A/m	THREE-PHASE AC mV/A/m
1.0	46	40
1.5	32	27
2.5	19	16

Conductor operating temperature: 60℃

ELECTRICAL CHARACTERISTICS (4.0mm² and above)

Current Carrying Capacity

Nom. Cross Section 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	1 Three Core, Four Core or Five Core Cable
4.0	30	-	26	41	-	36
6.0	39	-	34	53	-	47
10.0	51	-	47	73	-	64
16.0	73	-	63	99	-	86
25.0	97	-	83	131	-	114
35.0	-	140	102	-	192	140
50.0	-	175	124	-	240	170
70.0	-	216	158	-	297	216
95.0	-	258	192	-	354	262
120.0	-	302	222	-	414	303

Ambient temperature: 30oC
Conductor operating temperature: 60oC / 85oC
The above table for 60oC conductor operating temperature is in accordance with Table 4F1A of the 17th Edition of IEE Wiring Regulations
** 85oC 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:
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. 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.

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VOLTAGE DROP

Nom. Cross Section area (mm2)	TWO 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 mV/A/m			
								DC	Single-Phase AC*		
4.0	12	12			10			-	-		
6.0	7.8	7.8			6.7			-	-		
10.0	4.6	4.6			4.0			-	-		
16.0	2.9	2.9			2.5			-	-		
		r	x	z	r	x	z		r	x	z
25.0	1.80	1.80	0.175	1.85	1.55	0.150	1.55	-	-	-	-
35.0					1.10	0.150	1.15	1.31	1.31	0.21	1.32
50.0					0.83	0.145	0.84	0.91	0.91	0.21	0.93
70.0					0.57	0.140	0.58	0.64	0.64	0.195	0.53
95.0					0.42	0.135	0.44	0.49	0.49	0.195	0.53
120.0					0.33	0.135	0.36	0.38	0.38	0.190	0.43

Conductor operating temperature: 60oC
r = Resistive Component
x = Reactive Component
z = Impedance Value
* A larger voltage drop will result if the cables are spaced.

DE-RATING FACTORS

AMBIENT TEMPERATURE	35℃	40℃	45℃	50℃	55℃
DE-RATING FACTOR	0.95	0.91	0.86	0.82	0.41

Characteristics

Voltage Rating U/U0(V)	Min. Bending Radius		Temperature Rating Fixed (℃)	Temperature Rating Fixed Protected Installations (℃)	Temperature Rating Flexed (℃)
	Fixed	Flexed			
450/750	4*OD	6*OD	-30 to +60	+85	-15 to 60

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Dimensions

P/N	Number of Cores	Conductor Construction (sq mm)	Nom. Radial Thickness of Insulation (mm)	Overall Diameter (mm)	Nom. Weight (kg/km)
C6044	1	1.5	0.8	5.8	52
C6045	1	2.5	0.9	6.5	67
C6046	1	4.0	1.0	7.4	92
C6047	1	6.0	1.0	8.1	119
C6048	1	10.0	1.2	9.8	185
C6049	1	16.0	1.2	11.4	258
C6050	1	25.0	1.4	13.3	375
C6051	1	35.0	1.4	14.6	485
C6052	1	50.0	1.6	17.2	669
C6053	1	70.0	1.6	19.4	892
C6054	1	95.0	1.8	22.2	1160
C6055	1	120	1.8	24.3	1436
C6056	2	1.0	0.8	8.1	94
C6057	2	1.5	0.8	9.0	120
C6058	2	2.5	0.9	10.7	173
C6059	2	4.0	1.0	12.3	239
C6060	2	6.0	1.0	13.8	313
C6061	2	10.0	1.2	18.6	563
C6062	2	16.0	1.2	21.7	830
C6063	2	25.0	1.4	25.8	1211
C6064	3	1.0	0.8	8.7	117
C6065	3	1.5	0.8	9.7	147
C6066	3	2.5	0.9	11.5	123
C6067	3	4.0	1.0	13.2	297
C6068	3	6.0	1.0	14.8	390
C6069	3	10.0	1.2	19.9	705
C6070	3	16.0	1.2	23.3	1031
C6071	3	25.0	1.4	27.7	1512
C6072	3	35.0	1.4	30.2	1907
C6073	3	50.0	1.6	35.8	2651
C6074	3	70.0	1.6	40.1	3484
C6075	3	95.0	1.8	46.4	4594
C6076	4	1	0.8	9.63	142
C6077	4	1.5	0.8	10.6	180
C6078	4	2.5	0.9	12.6	260
C6079	4	4	1.0	14.6	336
C6080	4	6.0	1.0	16.4	449
C6081	4	10.0	1.2	21.8	833

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P/N	Number of Cores	Conductor Construction (sq mm)	Nom. Radial Thickness of Insulation (mm)	Overall Diameter (mm)	Nom. Weight (kg/km)
C6082	4	16.0	1.2	21.8	833
C6083	4	25.0	1.4	30.7	1714
C6084	4	35.0	1.4	33.4	2204
C6085	4	50.0	1.6	39.6	3029
C6086	4	70.0	1.6	44.9	4121
C6087	4	95.0	1.8	51.9	5361
C6088	5	1.5	0.8	11.8	206
C6089	5	2.5	0.9	14.0	297
C6090	5	4.0	1.0	16.2	422
C6091	5	6.0	1.0	18.2	567
C6092	5	10.0	1.2	24.0	1010
C6093	5	16.0	1.2	28.2	1400
C6094	5	25.0	1.4	33.9	2096
C6095	5	35.0	1.4	37.2	2700
C6096	5	50.0	1.6	44.0	3730
C6097	7	1.5	0.8	15.1	315
C6098	7	2.5	0.9	17.6	445
C6099	12	1.5	0.8	18.2	493
C6100	12	2.5	0.9	21.4	702
C6101	19	1.5	0.8	22.1	710

Reference Standards

BS EN 50525-2-21	BS EN 60228
BS EN/IEC 60332-1-2	RoHS directives