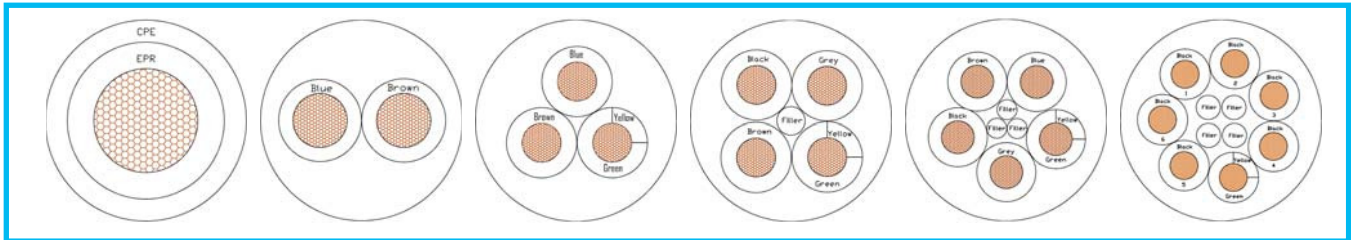


VIPERFLEX ELECTRIC CABLE

VIPERFLEX

Flexible Low Voltage Electric Cable - 0.6/1kV (Rubber insulated)

H07 RN-F & H07 BN-F



Single Core

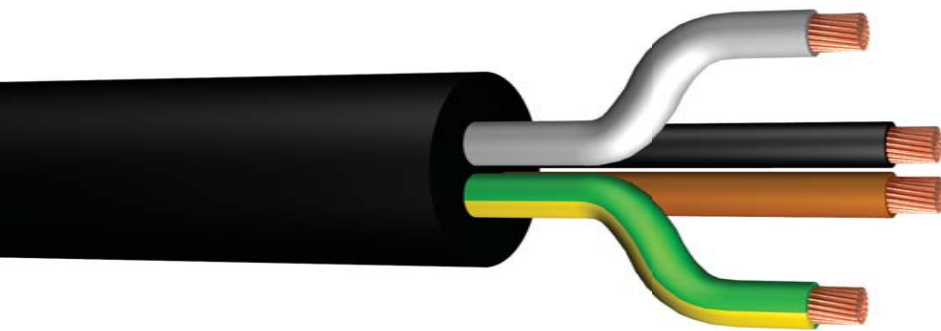
2-Core

2-Core and Earth

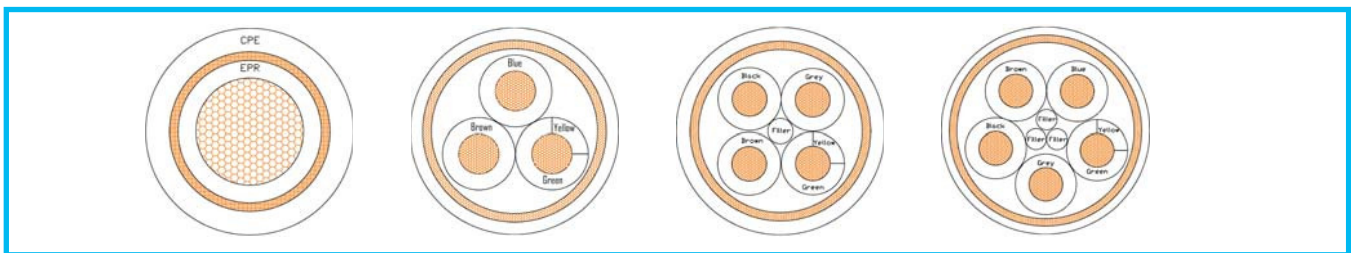
3-Core and Earth

4-Core and Earth

Multi-Core and Earth



H07 RCN-F & H07 BCN-F

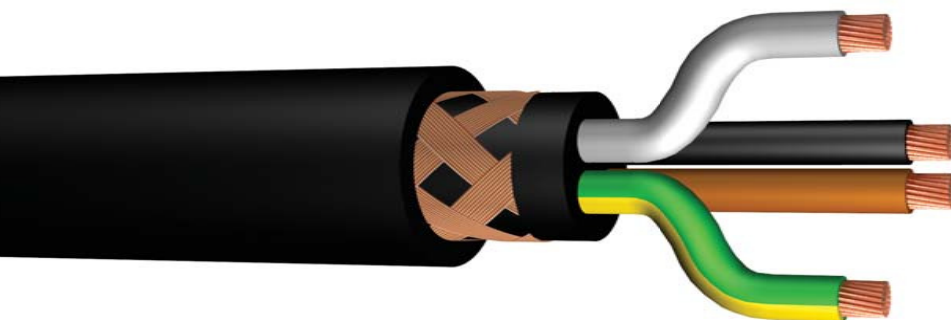


Single Core, CWS

2-Core and earth, CWS

3-Core and Earth, CWS

4-Core and Earth, CWS



VIPERFLEX ELECTRIC CABLE

H07 Rubber Insulated and Sheathed Cable

● Application

WW H07 heavy duty rubber-sheathed flexible cables are mostly used as power electric cable for equipment in industry work such as boilers, heating plates, hand lamps, transportable motor etc. They can be installed at medium mechanical stress in dry, damp and wet areas as well as in open air and in agriculture plants. These cables are also suitable for fixed installation on plaster, in temporary buildings and residential barracks. They are suitable for direct laying on components and mechanical parts of machines i.e. lifts and cranes. The cables are able to be used in case of protected and fixed installation in tubes or in equipment as well as rotor connecting cable of motors with a working voltage up to and including 1000V ac or 750V dc against ground. The cables are resistant to Ozone, Weather.

● Standard references

VDE0282	- Rubber cables and flexible cords for power installation, heat-resistant silicone rubber insulated cable, halogen-free insulated cables arc welding cable, rubber lift cable, rubber sheathed flexible cable.
VDE 0295	- Conductors of cables, wires and flexible cords for power installation
VDE0293	- Core identification for cables and flexible cords used in power installation
IEC 60245-4	- Rubber insulated cables - Rated voltages up to and including 450/750 V - Part 4: Cords and flexible cables
IEC60228	- Conductors of insulated cables
AS/NZS 1125	- Conductors in insulated electric cables and flexible cords
AS/NZS 3808	- Insulating and sheathing materials for electric cables
AS/NZS 5000.1	- Electric cables - polymeric insulated part 1: For working voltages up to and including 0.6/1 (1.2) kV

● Configurations

	Type H07 RN-F	Type H07 BN-F	Type H07 RCN-F	Type H07 BCN-F
Conductor:	plain or tinned annealed copper, class 5 fine wires stranded	plain or tinned annealed copper, class 5 fine wires stranded	plain or tinned annealed copper, class 5 fine wires stranded	plain or tinned annealed copper, class 5 fine wires stranded
Insulation:	rubber based compound to VDE 0207 part 20	ethylene propylene rubber (EPR) compound	rubber based compound to VDE 0207 part 20	ethylene propylene rubber (EPR) compound
Laying-up :	core stranded in layers with optimal lay-length	core stranded in layers with optimal lay-length	core stranded in layers with optimal lay-length	core stranded in layers with optimal lay-length
Bedding	n/a	n/a	heavy duty rubber based chlorinated polyethylene (CPE)	heavy duty rubber based chlorinated polyethylene (CPE)
Copper wires screen	n/a	n/a	plain or tinned annealed copper wires braiding with 82% coverage	Plain or tinned annealed copper wires braiding with 82% coverage
Sheath:	heavy duty rubber based chlorinated polyethylene (CPE)	heavy duty rubber based chlorinated polyethylene (CPE)	heavy duty rubber based chlorinated polyethylene (CPE)	heavy duty rubber based chlorinated polyethylene (CPE)
Conductor Operating temperature range:	-60°C ~ 70°C (120°C short circuit temp for 5 secs)	-40°C ~ 90°C (250°C short circuit temp for 5 secs)	-60°C ~ 70°C (120°C short circuit temp for 5 secs)	-40°C ~ 90°C (250°C short circuit temp for 5 secs)

–The maximum conductor temperature specified is based on the properties of the insulation material but in practice may need to be derated to take account of joints and terminations and environmental conditions.

● Insulation and sheath material characteristic

Insulation:	Flammable, Oxygen index LOI O ₂ ≤ 22%
Type H07 RN-F:	Shore hardness 60~70 A
Type H07 BN-F:	Shore hardness 65~85 A

● Sheath:

Environment	- excellent resistance to Ozone, Weather, Flame, Oxidation, Radiation, Sunlight, Water. Physical & Mechanical - Flexible, excellent resistance to Abrasion, Compression Set,
Chemical	- excellent resistance to Acids, Alcohol's, Oils
Submersible	- 100mtr (200mtr is available on request, subject to minimum quantities)

● Core identification to VDE 0293

2 cores:	Brown, Blue
2 cores + earth (3G):	Brown, Blue + Green/Yellow
3 cores + earth (4G):	Brown, Black, Grey + Green/Yellow
4 cores + earth (5G):	Brown, Blue, Black, Grey + Green/Yellow
6 core and more + earth:	Black core, white numbering + Green/Yellow
Sheath colour:	Black - Submersible depth to 100metre



VIPERFLEX ELECTRIC CABLE

H07 Rubber Insulated and Sheathed Cable

● Mechanical characteristic

Minimum Bending Radius: 4.0xCable Diameter for fixed installation

7.5xCable Diameter for guiding over roller

5.0 ~ 7.0xCable Diameter for during winding on drum

Pulling Tension: The safety pulling tension should be limited to 15N/mm² of the total cross-sectional area of conductor

● Physical & electrical characteristics:

Rated Voltage:

450/750V in accordance with VDE and IEC standard

600/1000V in accordance with AS/NZS 5000.1 standard

Maximum permissible operating voltage in three phase and single phase a.c system (VDE Standard):

495/825V

Maximum permissible operating voltage in three phase and single phase a.c system (AS/NZS Standard):

660/1100kV

Maximum permissible operating voltage in direct-current (d.c) system (VDE Standard):

743/1238V

Maximum permissible operating voltage in direct-current (d.c) system (AS/NZS Standard):

900/1650

Cable voltage test criteria (the following test will be conducted at manufacturer's work)

a. Insulation spark test at 6kV

b. Cable a.c. withstand voltage test at 3.5kV / 5 min.

Nominal CSA mm ²	Conductor Strands no/mm	Avg. insulation Thickness mm	Approx. Core Diameter mm	Max. D.C Resist @ 20°C	
				Plain Cu Ω /km	Tinned Cu Ω /km
1	32/0.20	0.8	2.9	19.5	20.0
1.5	30/0.25	0.8	3.2	13.3	13.7
2.5	50/0.25	0.8	3.9	7.98	8.21
4	56/0.30	1.0	4.7	4.95	5.09
6	84/0.30	1.0	5.3	3.3	3.39
10	80/0.40	1.2	6.6	1.91	1.95
16	126/0.40	1.2	7.8	1.21	1.24
25	200/0.40	1.4	9.5	0.78	0.795
35	280/0.40	1.4	10.7	0.554	0.565
50	400/0.40	1.6	12.7	0.386	0.393
70	356/0.50	1.6	14.4	0.272	0.227
95	485/0.50	1.8	16.7	0.206	0.210
120	614/0.50	1.8	18.3	0.161	0.164
150	765/0.50	2.0	20.4	0.129	0.132
185	944/0.50	2.2	22.7	0.106	0.108
240	1225/0.50	2.4	25.6	0.080	0.0817
300	1530/0.50	2.6	28.4	0.0641	0.0654



VIPERFLEX ELECTRIC CABLE

H07 Rubber Insulated and Sheathed Cable

● Cable a.c. characteristic

Nominal CSA mm ²	Current Rating for H07 RN-F at 70°C				3-phase Voltage Drop mV/Am (Max.)	Fault current rating kA
	2C (2 loaded) A	3G (2 loaded) A	4G (3 loaded) A	5G (3 loaded) A		
1	13	14	12	12	42.5	0.10
1.5	16	18	15	15	27.3	0.15
2.5	23	26	22	22	14.9	0.24
4	31	34	29	29	9.24	0.39
6	40	44	37	38	6.18	0.58
10	54	60	51	53	3.67	0.97
16	72	80	68	68	2.31	1.56
25	97	105	91	91	1.47	2.43
35	120	130	110	110	1.06	3.41
50	145	160	135	135	0.79	4.87
70	185	200	170	170	0.556	6.81
95	230	250	215	215	0.413	9.25
120	265	290	245	245	0.337	11.68
150	310	330	280	280	0.285	14.60
185	360	375	325	325	0.242	18.00
240	430	445	385	385	0.204	23.36
300	495	510	440	440	0.182	29.20

Nominal CSA mm ²	Current Rating for H07 BN-F at 90°C				3-phase Voltage Drop mV/Am (Max.)	Fault current rating kA
	2C (2 loaded) A	3G (2 loaded) A	4G (3 loaded) A	5G (3 loaded) A		
1	16	17	14	14	46.8	0.14
1.5	20	22	19	19	30.0	0.21
2.5	28	31	26	26	16.4	0.36
4	37	42	35	35	10.2	0.57
6	47	53	45	45	6.80	0.86
10	65	73	62	62	4.05	1.43
16	86	97	83	83	2.55	2.29
25	115	130	110	110	1.61	3.58
35	145	160	135	135	1.17	5.01
50	175	195	170	170	0.868	7.15
70	225	250	215	215	0.609	10.02
95	280	310	265	265	0.450	13.59
120	325	360	305	305	0.366	17.17
150	375	410	350	350	0.307	21.46
185	435	475	405	405	0.259	26.47
240	520	560	480	480	0.216	34.34
300	610	640	550	550	0.190	42.93

-- Current rating is calculated based on ambient air temperature at 40°C.



VIPERFLEX ELECTRIC CABLE

H07 Rubber Insulated and Sheathed Cable

● 1C, Single Core

Nominal CSA mm ²	Core Diameter mm	Cable Overall Diameter mm	Type H07 BN-F	
			Product Code	Approx. Weight kg/km
16	7.8	11.7	7816ER	252.8
25	9.5	13.9	7825ER	373.8
35	10.7	15.4	7835ER	490.0
50	12.7	17.9	7850ER	679.4
70	14.4	20.0	7870ER	903.8
95	16.7	22.8	7895ER	1204.1
120	18.3	24.9	7812ER	1478.2
150	20.4	27.5	7815ER	1833.5
185	22.7	30.3	7818ER	2245.1
240	25.6	34.0	7824ER	2874.6
300	28.4	37.6	7830ER	3559.1

● 2C, 2 core without earth

Nominal CSA mm ²	Core Diameter mm	Cable Overall Diameter mm	Type H07 RN-F		Type H07 BN-F	
			Product Code	Approx. Weight kg/km	Product Code	Approx. Weight kg/km
1	2.9	9.3	2001	116.2	2001ER	109.9
1.5	3.2	10.0	2015	141.2	2015ER	133.9
2.5	3.9	11.7	2002	201.6	2002ER	191.6
4	4.7	13.7	2040	283.5	2040ER	270.0
6	5.3	15.2	2060	366.1	2060ER	349.8
10	6.6	20.2	2011	644.2	2011ER	616.1
16	7.8	22.9	2016	876.3	2016ER	841.1
25	9.5	27.2	2025	1271.2	2025ER	1221.7
35	10.7	30.2	2035	1626.9	2035ER	1567.6
50	12.7	35.0	2050	2228.3	2050ER	2149.1

● 3G, 2 core + earth

Nominal CSA mm ²	Core Diameter mm	Cable Overall Diameter mm	Type H07 RN-F		Type H07 BN-F	
			Product Code	Approx. Weight kg/km	Product Code	Approx. Weight kg/km
1	2.9	9.3	3010	137.2	3010ER	129.6
1.5	3.2	10.0	3015	168.4	3015ER	159.6
2.5	3.9	11.7	3025	242.9	3025ER	230.7
4	4.7	13.7	3040	344.6	3040ER	328.2
6	5.3	15.2	3060	449.4	3060ER	429.8
10	6.6	20.2	3100	781.1	3100ER	747.8
16	7.8	22.9	3160	1076.6	3160ER	1035.1
25	9.5	27.2	3250	1574.5	3250ER	1516.1
35	10.7	30.2	3350	2032.0	3350ER	1962.5
50	12.7	35.0	3500	2797.4	3500ER	2704.5
70	14.4	41.9	3700	3670.4	3700ER	3558.1
95	16.7	47.8	3950	4866.1	3950ER	4720.8
120	18.3	52.1	3120	5923.7	3120ER	5756.6
150	20.4	57.7	3150	7332.3	3150ER	7127.2
185	22.7	63.5	3185	8960.2	3185ER	8711.9
240	25.6	71.2	3240	11427.6	3240ER	11118.6
300	28.4	78.7	3300	14107.6	3300ER	13733.1



VIPERFLEX ELECTRIC CABLE

H07 Rubber Insulated and Sheathed Cable

● 4G, 3 core + earth

Nominal CSA mm ²	Core Diameter mm	Cable Overall Diameter mm	Type H07 RN-F		Type H07 BN-F	
			Product Code	Approx. Weight kg/km	Product Code	Approx. Weight kg/km
1	2.9	10.8	4011	178	4011ER	168
1.5	3.2	11.7	4015	220	4015ER	209
2.5	3.9	13.8	4025	319	4025ER	303
4	4.7	16.1	4040	455	4040ER	434
6	5.3	18.0	4060	597	4060ER	571
10	6.6	23.6	4100	1023	4100ER	980
16	7.8	26.9	4160	1420	4160ER	1367
25	9.5	32.1	4250	2088	4250ER	2012
35	10.7	35.7	4350	2706	4350ER	2615
50	12.7	41.5	4500	3737	4500ER	3616
70	14.4	46.6	4700	4919	4700ER	4772
95	16.7	53.2	4950	6535	4950ER	6345
120	18.3	58.0	4200	7969	4200ER	7751
150	20.4	64.3	4150	9876	4150ER	9607
185	22.7	70.9	4185	12080	4185ER	11754
240	25.6	79.5	4240	15425	4240ER	15020
300	28.4	88.0	4300	19060	4300ER	18569

● 5G, 3 core + neutral + earth

Nominal CSA mm ²	Core Diameter mm	Cable Overall Diameter mm	Type H07 RN-F		Type H07 BN-F	
			Product Code	Approx. Weight kg/km	Product Code	Approx. Weight kg/km
1	2.9	10.8	5011	217	5011ER	209
1.5	3.2	11.7	5015	268	5015ER	260
2.5	3.9	13.8	5025	391	5025ER	379
4	4.7	16.1	5040	560	5040ER	543
6	5.3	18.0	5060	735	5060ER	715
10	6.6	23.6	5100	1247	5100ER	1216
16	7.8	26.9	5160	1738	5160ER	1699
25	9.5	32.1	5250	2564	5250ER	2509
35	10.7	35.7	5350	3330	5350ER	3265
50	12.7	41.5	5500	4609	5500ER	4521
70	14.4	46.6	5700	6076	5700ER	5972
95	16.7	53.2	5095	8083	5095ER	7948
120	18.3	58.0	5200	9867	5200ER	9713
150	20.4	64.3	5150	12236	5150ER	12047
185	22.7	70.9	5185	14978	5185ER	14747
240	25.6	79.5	5240	19139	5240ER	18853
300	28.4	88.0	5300	23663	5300ER	23316

● Multi core, >5 core with earth

Nominal CSA mm ²	No Of Core	Core Diameter mm	Core Laid-up Configuration	Cable Overall Diameter mm	Type H07 RN-F		Type H07 BN-F	
					Product Code	Approx. Weight kg/km	Product Code	Approx. Weight kg/km
1.5	7G	3.2	0+7	15.6	7015	378	7015ER	371
1.5	12G	3.2	3+9	19.7	1115	618	1115ER	606
1.5	18G	3.2	6+12	23.0	1118	867	1118ER	849
1.5	27G	3.2	3+9+15	27.5	2715	1262	2715ER	1235
2.5	7G	3.9	0+7	18.9	7025	575	7025ER	566
2.5	12G	3.9	3+9	23.9	1225	940	1225ER	924
2.5	18G	3.9	6+12	27.9	1825	1319	1825ER	1295
2.5	27G	3.9	3+9+15	33.4	2725	1921	2725ER	1884



VIPERFLEX ELECTRIC CABLE

H07 Rubber Insulated and Sheathed Cable EMC (copper braid screened)

● Type H07RCN-F, H07 BCN-F

No. of Core	Conductor Area (mm²)	Core Dia. (mm)	Over Bedding Dia. (mm)	Cable Dia. (mm)	H07 RCN-F		H07 BCN-F	
					Product Code	Approx.Weight (kg/km)	Product Code	Approx.Weight (kg/km)
1C	16	6.6	9.8	15.0	7816S	383.2	7816ERS	379.3
1C	25	7.8	11.5	17.1	7825S	530.1	7825ERS	524.5
1C	35	9.5	12.7	18.7	7835S	666.2	7835ERS	659.7
1C	50	10.7	14.7	21.1	7850S	888.8	7850ERS	880.0
1C	70	12.7	16.4	23.3	7870S	1145.4	7870ERS	1135.3
2C+E	1.5	2.9	9.0	14.2	3015S	292.9	3015ERS	290.0
2C+E	2.5	3.2	10.4	16.0	3025S	383.6	3025ERS	379.6
2C+E	4	3.9	12.1	18.0	3040S	503.9	3040ERS	498.5
2C+E	6	4.7	13.4	19.7	3060S	624.5	3060ERS	618.2
2C+E	10	5.3	16.3	23.3	3100S	910.3	3100ERS	900.7
2C+E	16	6.6	18.7	26.3	3160S	1234.2	3160ERS	1222.5
2C+E	25	7.8	22.5	31.0	3250S	1773.5	3250ERS	1756.6
2C+E	35	9.5	25.1	34.3	3350S	2266.8	3350ERS	2247.4
2C+E	50	10.7	29.7	40.1	3500S	3140.9	3500ERS	3114.5
2C+E	70	12.7	33.5	44.8	3700S	3980.7	3700ERS	3950.2
3C+E	1.5	3.2	10.1	15.1	4015S	324.2	4015ERS	320.4
3C+E	2.5	3.9	11.8	17.2	4025S	436.3	4025ERS	431.0
3C+E	4	4.7	13.7	19.6	4040S	586.6	4040ERS	579.3
3C+E	6	5.3	15.2	21.5	4060S	741.9	4060ERS	733.4
3C+E	10	6.6	18.5	25.8	4100S	1110.6	4100ERS	1097.7
3C+E	16	7.8	21.3	29.3	4160S	1526.4	4160ERS	1510.8
3C+E	25	9.5	26.1	35.3	4250S	2261.9	4250ERS	2239.4
3C+E	35	10.7	29.2	39.2	4350S	2905.3	4350ERS	2879.4
3C+E	50	12.7	34.0	45.3	4500S	3979.7	4500ERS	3944.6
3C+E	70	14.4	38.4	50.8	4700S	5206.1	4700ERS	5165.6
4C+E	1.5	3.2	10.7	16.4	5015S	384.6	5015ERS	381.3
4C+E	2.5	3.9	12.6	18.7	5025S	518.6	5025ERS	513.9
4C+E	4	4.7	14.6	21.2	5040S	698.3	5040ERS	692.1
4C+E	6	5.3	16.3	23.3	5060S	881.8	5060ERS	874.5
4C+E	10	6.6	19.9	27.8	5100S	1324.6	5100ERS	1313.5
4C+E	16	7.8	23.0	31.6	5160S	1824.6	5160ERS	1811.2
4C+E	25	9.5	28.1	38.0	5250S	2702.8	5250ERS	2683.4
4C+E	35	10.7	31.4	42.2	5350S	3478.1	5350ERS	3455.8
4C+E	50	12.7	37.1	49.3	5500S	4829.3	5500ERS	4799.0

