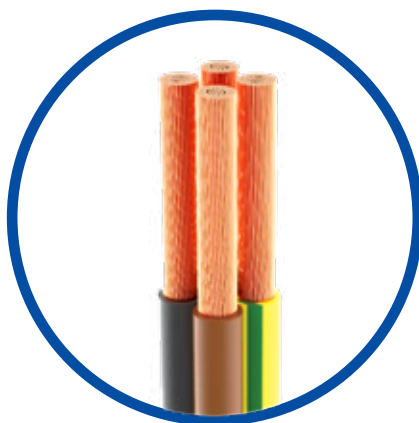


NUHAS OMAN

Flexible Rubber Cable



These cables are designed to provide high flexibility and have the capacity to withstand weather, oil/ grease, mechanical and thermal stresses. Rubber sheathed cables are widely used in the electric power and other electrical equipment of the mobile power supply cord and can be used for indoor or outdoor environments.



FLEXIBLE RUBBER CABLES (HEAVY DUTY)

H07RN-F 450/750 V

Voltage Grade	450/750 V
Operating Conductor Temperature	90°C
Applicable Standards	BS EN 50525-2-21 for Design IEC 60228 for Conductor BS EN 50363-1 for Insulation BS EN 50363-2-1 for Sheath
Product features	Flame-retardant to IEC 60332-1-2 Oil-resistant to EN 60811-404 Water resistant to BS EN 50525-2-21

Construction Details:

Classification	Details
Conductor	Annealed Plain Copper, Flexible, class 5
Insulation	Cross-linked Elastomeric compound, EI4
Lay up	Cores laid up in concentric layers
Outer sheath	Cross-linked Elastomeric compound, EM2
Outer sheath colour	Black

Core Identification:

No. of cores	Core Colors
1C	Black
2C	Blue, Brown
3C	Green & Yellow, Blue, Brown
4C	Green & Yellow, Blue, Brown, Black
5C	Green & Yellow, Blue, Brown, Black, Grey
6C & above	Black with white colour number marking

FLEXIBLE RUBBER CABLES (HEAVY DUTY)

H07RN-F 450/750 V

No. of cores	Conductor Size	Insulation thickness	Outer sheath thickness, nominal			Approx. Overall Diameter	Weight of cable, approx
			One Layer	Two Layer			
				Inner Layer	Outer Layer		
No.	mm ²	mm	mm	mm	mm	mm	kg/km
1	1.5	0.8	1.4	-	-	6.0	47
	2.5	0.9	1.4	-	-	6.7	61
	4	1.0	1.5	-	-	7.6	83
	6	1.0	1.6	-	-	8.4	111
	10	1.2	1.8	-	-	10.1	170
	16	1.2	1.9	-	-	11.4	241
	25	1.4	2.0	-	-	13.3	353
	35	1.4	2.2	-	-	14.9	467
	50	1.6	2.4	-	-	17.2	623
	70	1.6	2.6	1.0	1.6	19.3	849
	95	1.8	2.8	1.1	1.7	21.9	1145
	120	1.8	3.0	1.2	1.8	23.9	1385
	150	2.0	3.2	1.3	1.9	26.3	1630
	185	2.2	3.4	1.4	2.0	28.9	2070
	240	2.4	3.5	1.4	2.1	32.0	2660
	300	2.6	3.6	1.4	2.2	34.9	3280
400	2.8	3.8	1.5	2.3	39.2	4140	
500	3.0	4.0	1.6	2.4	43.1	5220	
630	3.0	4.1	1.6	2.5	46.8	6590	
2	1.0	0.8	1.3	-	-	8.4	88
	1.5	0.8	1.5	-	-	9.4	111
	2.5	0.9	1.7	-	-	11.2	162
	4	1.0	1.8	-	-	12.8	218
	6	1.0	2.0	-	-	14.4	296
	10	1.2	3.1	1.2	1.9	19.2	479
	16	1.2	3.3	1.3	2.0	21.8	664
	25	1.4	3.6	1.4	2.2	25.8	971
	35	1.4	3.8	1.5	2.3	28.6	1250
	50	1.6	4.2	1.7	2.5	33.2	1670
	70	1.6	4.6	1.8	2.8	37.4	2250
95	1.8	5.0	2.0	3.0	42.6	3010	
3	1.0	0.8	1.4	-	-	9.1	105
	1.5	0.8	1.6	-	-	10.1	134
	2.5	0.9	1.8	-	-	12.0	195
	4	1.0	1.9	-	-	13.7	265
	6	1.0	2.1	-	-	15.4	363
	10	1.2	3.3	1.3	2.0	20.6	600
	16	1.2	3.5	1.4	2.1	23.4	844
	25	1.4	3.8	1.5	2.3	27.7	1240
	35	1.4	4.1	1.6	2.5	30.9	1630
	50	1.6	4.5	1.8	2.7	35.8	2170
	70	1.6	4.8	1.9	2.9	40.1	2930
	95	1.8	5.3	2.1	3.2	45.8	3950
	120	1.8	5.6	2.2	3.4	49.9	4830
	150	2.0	6.0	2.4	3.6	55.0	5730
185	2.2	6.4	2.5	3.9	60.5	7240	
240	2.4	7.1	2.8	4.3	68.5	9370	
300	2.6	7.7	3.1	4.6	75.5	11610	

FLEXIBLE RUBBER CABLES (HEAVY DUTY) Contd..

H07RN-F 450/750 V

No. of cores	Conductor Size	Insulation thickness	Outer sheath thickness, nominal			Approx. Overall Diameter	Weight of cable, approx
			One Layer	Two Layer			
				Inner Layer	Outer Layer		
No.	mm ²	mm	mm	mm	mm	kg/km	
4	1.0	0.8	1.5	-	-	10.0	130
	1.5	0.8	1.7	-	-	11.1	165
	2.5	0.9	1.9	-	-	13.2	241
	4	1.0	2.0	-	-	15.1	328
	6	1.0	2.3	-	-	17.2	460
	10	1.2	3.4	1.4	2.0	22.5	742
	16	1.2	3.6	1.4	2.2	25.6	1060
	25	1.4	4.1	1.6	2.5	30.7	1580
	35	1.4	4.4	1.7	2.7	34.2	2070
	50	1.6	4.8	1.9	2.9	39.6	2770
	70	1.6	5.2	2.0	3.2	44.5	3760
	95	1.8	5.9	2.3	3.6	51.2	5110
	120	1.8	6.0	2.4	3.6	55.3	6210
	150	2.0	6.5	2.6	3.9	61.2	7380
	185	2.2	7.0	2.8	4.2	67.5	9350
240	2.4	7.7	3.1	4.6	76.0	12090	
300	2.6	8.4	3.3	5.1	84.0	15010	
5	1.0	0.8	1.6	-	-	11.0	158
	1.5	0.8	1.8	-	-	12.2	200
	2.5	0.9	2.0	-	-	14.5	292
	4	1.0	2.2	-	-	16.8	407
	6	1.0	2.5	1.0	1.5	19.0	567
	10	1.2	3.6	1.4	2.2	24.8	910
	16	1.2	3.9	1.5	2.4	28.3	1300
	25	1.4	4.4	1.7	2.7	33.9	1950
	35	1.4	4.6	1.8	2.8	37.6	2540
	50	1.6	5.2	2.1	3.1	43.9	3420
	70	1.6	5.7	2.3	3.4	49.5	4660
95	1.8	6.3	2.5	3.8	56.6	6310	
6	1.5	0.8	2.5	1.0	1.5	14.6	240
	2.5	0.9	2.7	1.1	1.6	17.1	340
	4	1.0	2.9	1.2	1.7	19.6	470
7	1.5	0.8	2.6	1.0	1.6	14.8	270
	2.5	0.9	2.8	1.1	1.7	17.3	380
	4	1.0	3.1	1.2	1.9	20.5	549
12	1.5	0.8	2.9	1.2	1.7	19.1	430
	2.5	0.9	3.1	1.2	1.9	22.4	610
	4	1.0	3.5	1.4	2.1	26.1	860
18	1.5	0.8	3.2	1.3	1.9	22.4	600
	2.5	0.9	3.5	1.4	2.1	26.5	870
	4	1.0	3.9	1.6	2.3	30.8	1220
24	1.5	0.8	3.5	1.4	2.1	26.2	790
	2.5	0.9	3.9	1.6	2.3	31.2	1160
36	1.5	0.8	3.8	1.5	2.3	30.0	1100
	2.5	0.9	4.3	1.7	2.6	35.9	1630

ELECTRICAL CHARACTERISTICS (1mm² to 2.5mm²)

Conductor Cross-sectional area	Current carrying capacity		Voltage Drop	
	Single-phase a.c.	Three-Phase a.c.	Single-phase a.c.	Three-Phase a.c.
(mm ²)	(A)	(A)	(mV/A/m)	(mV/A/m)
1	10	10	46	40
1.5	16	16	32	27
2.5	25	20	19	16

Note 1- Conductor operating temperature: 60°C

Note 2- Ambient Temperature: 30°C

RATING FACTOR FOR AMBIENT TEMPERATURE

Ambient Temperature	35°C	40°C	45°C	50°C
Rating factor	0.91	0.82	0.71	0.58

ELECTRICAL CHARACTERISTICS (4mm² and above)

CURRENT-CARRYING CAPACITY (amperes):		Ambient temperature: 30°C Conductor operating temperature: 90°C		
Conductor Cross-sectional area	Single-Phase a.c. or d.c.	Three-Phase a.c.	Single-Phase a.c. or d.c.	
	1 Two-core cable, with or without protective conductor	1 three-core, four-core or five core cable	2 Single-core cables, touching	
(mm ²)	(A)	(A)	(A)	
4	42	37	-	
6	55	49	-	
10	76	66	-	
16	103	89	-	
25	136	119	-	
35	-	146	200	
50	-	177	250	
70	-	225	310	
95	-	273	369	
120	-	316	432	
150	-	363	497	
185	-	414	564	
240	-	487	673	
300	-	560	773	
400	-	-	924	
500	-	-	1062	
630	-	-	1242	

The above table for 90°C conductor operating temperature is in accordance with the IEE Wiring Regulations BS7671

VOLTAGE DROP

VOLTAGE DROP (per ampere per metre):

Conductor Cross-sectional area (mm ²)	1 Two-core or 2 Single-Core cables, d.c. (mV/A/m)	Two-core cable, Single-phase a.c. (mV/A/m)			1 three-core, four-core or five core cable, three-phase a.c. (mV/A/m)			2 single-core cables touching single-phase a.c.* (mV/A/m)		
		r	x	z	r	x	z	r	x	z
4	13.2									
6	8.5									
10	5.1									
16	3.2									
25	2.03	2.03	0.175	2.04	1.73	0.15	1.73	-	-	-
35	1.42	-	-	-	1.22	0.15	1.22	1.44	0.21	1.46
50	1	-	-	-	0.91	0.145	0.93	1.00	0.21	1.02
70	0.71	-	-	-	0.62	0.140	0.64	0.71	0.20	0.73
95	0.54	-	-	-	0.47	0.135	0.49	0.54	0.195	0.57
120	0.42	-	-	-	0.37	0.135	0.39	0.42	0.190	0.46
150	0.34	-	-	-	0.29	0.130	0.32	0.34	0.190	0.39
185	0.27	-	-	-	0.24	0.130	0.27	0.27	0.190	0.33
240	0.21	-	-	-	0.188	0.130	0.23	0.21	0.185	0.28
300	0.167	-	-	-	0.147	0.125	0.195	0.173	0.180	0.25
400	0.127	-	-	-	-	-	-	0.132	0.175	0.22
500	0.100	-	-	-	-	-	-	0.107	0.170	0.20
630	0.074	-	-	-	-	-	-	0.085	0.170	0.190

r = Resistive Component

x = Reactive Component

z = Impedance Value

* A larger voltage drop will result if the cables are spaced.

RATING FACTORS

Ambient temp.	35°C	40°C	45°C	50°C	55°C
Rating factor	0.95	0.91	0.86	0.82	0.76



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