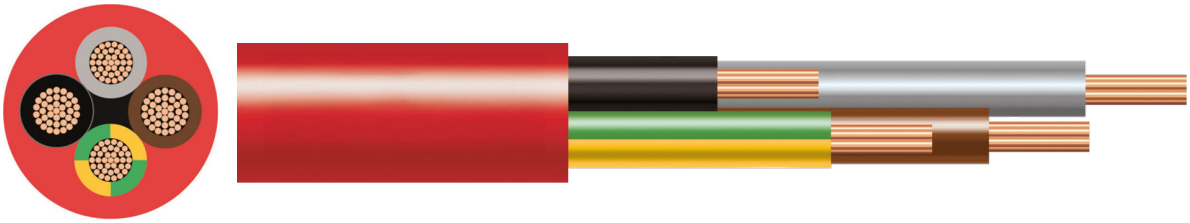
SIHF MULTICORE SILICONE CABLE



Silicone insulated and sheathed multicore cables provide excellent flexibility for electrical engineers and specifiers, making them ideal for high or low temperature applications ranging from -50°C to +180°C. These cables are especially suitable for industries where extreme temperature variations can cause traditional insulation to become brittle. Additionally, they produce minimal smoke or fumes when exposed to fire, making them a safe choice across various industrial sectors such as foundries, ship and aircraft construction, bakery machinery, and solariums.

CONDUCTOR	Tinned Copper
STRANDING	Class 5
INSULATION	Silicone
OUTERSHEATH	Silicone
OUTERSHEATH COLOUR	Black, White, Red
CORE IDENTIFICATION	2 core: brown & blue 3 core: brown, blue & green/yellow 4 core: brown, black, grey & green/yellow 5 core: brown, blue, black, grey & green/yellow Six core and above: Black core with white numerals
MINIMUM BENDING RADIUS	Fixed: 5 x overall diameter / Flexed: 15 x overall diameter
OPERATING TEMPERATURE	Fixed: -60°C to +180°C
STANDARDS	HD22.1 Ã· EN 50363 Ã· EN 60228

SPECIFICATION DATA

BATT Part No. White	BATT Part No. Red	BATT Part No. Black	No of cores	Nominal cross sectional area of conductor (mm2)	Approx overall diameter	Weight (kg/km)
43353	43398	-	2	0.75	6.4	54
43120	43400	-	2	1	6.7	60
43408	43295	-	2	1.5	7.6	82
-	43303	-	2	2.5	9.3	136
43418	43604	43323	3	0.75	6.8	66
-	43321	-	3	1	7.4	78
43129	43341	43240	3	1.5	8	98
43559	43463	-	3	2.5	9.7	152
-	43668	-	3	4	11.5	249
-	43412	-	3	6	14.2	352
-	43565	-	4	0.75	7.8	84
-	43545	43776	4	1.5	8.8	122
-	43549	-	4	2.5	10.6	189
-	43578	-	4	4	13	330
-	43601	-	4	6	16.2	429
-	43448	-	5	1	8.8	116
-	43551	-	5	1.5	9.6	148
-	43806	-	5	2.5	11.6	229
-	43140	-	7	1	10	177
-	43458	-	7	1.5	10.9	232
-	43459	-	7	2.5	13.2	348
-	43486	-	12	1	12.8	242
-	43487	-	12	1.5	14.8	332

RATING TABLES

TABLE 4F2A – 90 °C and 180 °C thermosetting insulated flexible cables with sheath, non-armoured (COPPER CONDUCTORS)

COPPER CONDUCTORS

CURRENT-CARRYING CAPACITY (amperes): Ambient temperature: 30 °C
Conductor operating temperature: 90 °C

Conductor cross-sectional area	Single-phase AC or DC	Three-phase AC	Single-phase AC or DC
	1 two-core cable, with or without protective conductor	1 three-core, four-core or five-core cable	2 single-core cables, touching
1	2	3	4
(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

RATING FACTOR FOR AMBIENT TEMPERATURE

90 °C thermosetting insulated cables:

Ambient temperature	35 °C	40 °C	45 °C	50 °C	55 °C	60 °C	65 °C	70 °C	75 °C	80 °C	85 °C
Rating factor	0.95	0.91	0.86	0.82	0.76	0.70	0.64	0.57	0.50	0.40	0.28

180 °C thermosetting insulated cables:

Ambient temperature	35 to 90 °C	95 °C	100 °C	105 °C	110 °C	115 °C	120 °C	125 °C	130 °C	135 °C	140 °C	145 °C
Rating factor	1.0	0.96	0.91	0.86	0.81	0.76	0.70	0.64	0.57	0.50	0.40	0.28

NOTES:

1. 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 %

   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 over 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.
4. For 180 °C cables, the rating factors for ambient temperature allow a conductor operating temperature up to 150 °C. Consult the cable manufacturer for further information.
5. Where it is intended to connect the cables in this table to equipment or accessories designed to operate at a temperature lower than the maximum operating temperature of the cable, the cables should be rated at the maximum operating temperature of the equipment or accessory (see Regulation 512.1.5).
6. Where it is intended to group a cable in this table with other cables, the cable should be rated at the lowest of the maximum operating temperatures of any of the cables in the group (see Regulation 512.1.5).

TABLE 4F2B

VOLTAGE DROP (per ampere per metre): Conductor operating temperature: 90 °C

Conductor cross-sectional area	1 two-core or 2 single-core cables, DC	Two-core cable, single-phase AC			1 three-core, four-core or five-core cable, three-phase AC			2 single-core cables touching		
								Single-phase AC*		
1	2	3			4			5		
(mm^2)	(mV/A/m)	(mV/A/m)			(mV/A/m)			(mV/A/m)		
4	13.2	13.2			11.1			-		
6	8.5	8.5			7.4			-		
10	5.1	5.1			4.4			-		
16	3.2	3.2			2.7			-		
		r	x	z	r	x	z	r	x	z
25	2.03	2.03	0.175	2.04	1.73	0.15	1.73	-	-	-
35	1.42	-	-	-	1.22	0.15	1.23	1.44	0.21	1.46
50	1.00	-	-	-	0.91	0.145	0.93	1.00	0.21	1.02
70	0.71	-	-	-	0.62	0.14	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

NOTES:

1. The voltage drop figures given above are based on a conductor operating temperature of 90 °C and are therefore not accurate when the operating temperature is in excess of 90 °C. In the case of the 180 °C cables with a conductor temperature of 150 °C the above resistive values should be increased by a factor of 1.2.
2. *A larger voltage drop will result if the cables are spaced.

COPPER CONDUCTORS

TABLE 4F3A - Flexible cables, non-armoured (COPPER CONDUCTORS)

CURRENT-CARRYING CAPACITY (amperes): and MASS SUPPORTABLE (kg):

Conductor cross-sectional area	Current-carrying capacity		Maximum mass supportable by twin flexible cable (see Regulations 522.7.2 and 559.5.2)
	Single-phase AC	Three-phase AC	
1	2	3	4
(mm^2)	(A)	(A)	(kg)
0.5	3	3	2
0.75	6	6	3
1	10	10	5
1.25	13	-	5
1.5	16	16	5
2.5	25	20	5
4	32	25	5

Where cable is on a reel see the notes to Table 4F1A.

RATING FACTOR FOR AMBIENT TEMPERATURE

60 °C thermoplastic or thermosetting insulated cable:

Ambient temperature	35 °C	40 °C	45 °C	50 °C	55 °C
Rating factor	0.91	0.82	0.71	0.58	0.41

90 °C thermoplastic or thermosetting insulated cable:

Ambient temperature	35 to 50 °C	55 °C	60 °C	65 °C	70 °C
Rating factor	1.0	0.96	0.83	0.67	0.47

110 °C flexible cable:

Ambient temperature	35 to 80 °C	85 °C	90 °C	95 °C	100 °C	105 °C
Rating factor	1.0	0.96	0.85	0.74	0.60	0.42

150 °C flexible cable:

Ambient temperature	35 to 120 °C	125 °C	130 °C	135 °C	140 °C	145 °C
Rating factor	1.0	0.96	0.85	0.74	0.60	0.42

Glass fibre flexible cable:

Ambient temperature	35 to 50 °C	155 °C	160 °C	165 °C	170 °C	175 °C
Rating factor	1.0	0.92	0.82	0.71	0.57	0.40

TABLE 4F3B

VOLTAGE DROP (per ampere per metre): Conductor operating temperature: 60 °C

Conductor cross-sectional area	DC or single-phase AC	Three-phase AC
1	2	3
(mm^2)	(mV/A/m)	(mV/A/m)
0.5	93	80
0.75	62	54
1	46	40
1.25	37	-
1.5	32	27
2.5	19	16
4	12	10

NOTE: * The tabulated values above are for 60 °C thermoplastic or thermosetting insulated flexible cables and for other types of flexible cable they are to be multiplied by the following factors:

For	90 °C thermoplastic or thermosetting insulated	1.09
	110 °C	1.17
	150 °C	1.31
	185 °C glass fibre	1.43