General

Silicone is a rubber-based material with good electrical characteristics and heat resistance. In addition to our standard Silicone product range, we also produce specialised products that meet requirements such as:

- notch resistance for better mechanical strength
- higher temperature resistance + 250 °C
- Silicone mixture for use in the food industry
- conductive Silicone for antistatic conductance

Mechanical characteristics

Vulcanised Silicone, produced with a 50-60 A shore hardness is particularly elastic with excellent mechanical strength. Also Silicone is non-adhesive and hydrophobic.

Chemical characteristics

The chemical composition of Silicone, which deviates from standard rubber types, gives our product several outstanding characteristics including:

- outstanding hot air resistance
- flexibility to cold temperatures (to -40 °C)
- resistant to disintegration from substances such as alcohol and high molecular oils, plant and animal fats, diluted acids, softeners, chlophen, alkalis and salt solutions
- oxygen resistant
- ozone-proof
- halogen free
- weather resistant

Electrical characteristics

The electrical characteristics of Silicone are among the best possible. Because of its heat resistance, Silicone insulated cable and wire can withstand approx. 50% more electric pressure under continuous use than regular rubber insulation. This allows weight and room-saving cable construction. An outstanding safety feature of Silicone insulation is the insulating layer of silicic acid (SiO_2) during fire.

Dielectric constant: approx. 3.2 (at 800 Hz)
Specific volume resistance: min. 10^{12} Ω x cm
Breakdown voltage: 20 kV/mm

Power rating (Iz) of cables with increased heat resistance in ambient temperatures above 50 °C

Ambient temperature up to °C	150 °	155 °	160 °	165 °	170 °	175 °
Power rating (Iz)	100 %	91 %	82 %	71 %	58 %	41 %

In ambient temperatures up to 150 °C
Silicone insulated cables can be charged
acc. to DIN VDE 0298 part 4 as shown in the table:

AWG	nominal section mm²	multi conductor cables on or up surfaces permitted load in amps	single conductor, open-air laid cables, distance between than conductors equal to or greater cable diameter permitted load in amps
19	0.75	12	15
18	1.00	15	19
16	1.50	18	24
14	2.50	26	32
12	4.00	34	42
10	6.00	44	54
8	10.00	61	73
6	16.00	82	98
4	25.00	108	129
2	35.00	135	158
1	50.00	168	198
2/0	70.00	207	245
3/0	95.00	250	292
4/0	120.00	292	344
250	150.00	335	391
350	185.00	382	448
450	240.00	453	528
550	300.00	523	608