



Application

Silicone rubber is resistant to extreme temperature conditions, as for high (up to 180 °C, briefly even to 250 °C), so also for low (-60 °C) temperature. It has a high point (temperature) of inflammability, it is halogen-free, releases no corrosive gases at combustion, and around the conductor is formed additional insulation of silicone-oxide ashes. Due to a higher electrical resistance, tinned copper is also more suitable for higher temperatures (up to 220 °C) than bare copper. Such composition of these cables makes them applicable in extreme temperature environment, for inst. in steel production, aircraft industry, shipbuilding, cement plants and glass and ceramics factories, in electric power plants etc. They are also suitable for wiring of lighting, heating elements, burners, furnaces, saunas, solariums etc. To retain its mechanical properties at temperatures higher than 90 °C, silicone rubber needs to be properly ventilated or laid outdoor or in tubes. Due to low mechanical resistance and inclination to tearing, silicone rubber is not suitable for mobile application and significant bending and shifting during installation.

Standards

DIN VDE 0250 part 1

HRN HD 22.15 S1

Construction

Conductor: tinned copper conductor, fine wired stranded, class 5 acc. to IEC 60228 / HD 383 / DIN VDE 0295

Insulation: silicone rubber, concentrically stranded cores, colour marked acc. to DIN VDE 0293-308 / HD 308 S2, for 3 and more cores: with yellow-green protective core

Sheath: silicone rubber

sheath colour: red-brown

Core colour marking: acc. to HD 308 S2 / VDE 0293-308

Technical data

Temperature range:

operating temp.:

-60 °C up to +180 °C

short-term peak temp.:

220 °C

Nominal voltage: $U_0/U = 300/500$ V

Test voltage: 2000 V

Breakdown voltage: 5000 V

Behaviour in fire: IEC 60332-1

Halogen-free: IEC 60754-1

Corrosiveness of combustion gases: not corrosive acc. to IEC 60754-2

Specific el. resistance of insulation: > 200 M Ω x km

Maximal tensile strength:

under normal conditions: 5 N/mm²

after ageing (240h / 200°C): 4 N/mm²

Minimal inner bending radius: 15D

Permitted current load: at ambient temp. up to +145 °C acc. to DIN VDE 0100

DIMENSIONS

Dimensions – number of cores x conductor cross-section	Construction of individual conductor	External diameter	Insulation thickness	Sheath thickness	Conductor resistance at 20 °C	Cu weight	Cable weight	Packing*
	nominal	nominal	nominal	nominal	max.		approx.	
N x mm ²	n x mm	mm	mm	mm	Ω/km	kg/km	kg/km	
2 x 0,5	16 x 0,20	5,5	0,60	0,70	40,1	9,6	42	c.100
3 x 0,5	16 x 0,20	5,8	0,60	0,70	40,1	14,4	44	c.100
4 x 0,5	16 x 0,20	6,2	0,60	0,70	40,1	19,2	58	c.100
5 x 0,5	16 x 0,20	6,8	0,60	0,80	40,1	24	62	c.100
2 x 0,75	24 x 0,20	6,4	0,60	0,80	26,7	14,4	57	c.100
3 x 0,75	24 x 0,20	6,8	0,60	0,80	26,7	21,6	66	c.100
4 x 0,75	24 x 0,20	7,8	0,60	1,00	26,7	28,8	84	c.100
5 x 0,75	24 x 0,20	8,5	0,60	1,00	26,7	36	101	c.100
6 x 0,75	24 x 0,20	9,4	0,60	1,00	26,7	43,2	126	CUT
7 x 0,75	24 x 0,20	9,6	0,60	1,00	26,7	50,4	158	CUT
2 x 1	32 x 0,20	6,6	0,60	0,80	20,0	19,2	64	c.100
3 x 1	32 x 0,20	7,4	0,60	1,00	20,0	28,8	78	c.100
4 x 1	32 x 0,20	8,0	0,60	1,00	20,0	38,4	95	c.100
5 x 1	32 x 0,20	8,8	0,60	1,00	20,0	48	116	c.100
6 x 1	32 x 0,20	9,8	0,60	1,00	20,0	57,6	145	CUT
7 x 1	32 x 0,20	10,0	0,60	1,00	20,0	67,2	177	CUT
2 x 1,5	30 x 0,25	7,6	0,60	1,00	13,7	28,8	87	c.100
3 x 1,5	30 x 0,25	8,0	0,60	1,00	13,7	43,2	98	c.100
4 x 1,5	30 x 0,25	8,8	0,60	1,00	13,7	57,6	122	c.100
5 x 1,5	30 x 0,25	9,6	0,60	1,00	13,7	72	148	c.100
6 x 1,5	30 x 0,25	10,4	0,60	1,00	13,7	86,4	190	CUT
7 x 1,5	30 x 0,25	10,9	0,60	1,00	13,7	100,8	232	CUT
12 x 1,5	30 x 0,25	14,8			13,7	172,8	332	CUT
18 x 1,5	30 x 0,25	17,0			13,7	259,2	510	CUT
20 x 1,5	30 x 0,25	18,5			13,7	288	592	CUT
24 x 1,5	30 x 0,25	20,2			13,7	345,6	635	CUT
2 x 2,5	50 x 0,25	9,2	0,70	1,20	8,21	48	137	c.100
3 x 2,5	50 x 0,25	9,7	0,70	1,20	8,21	72	152	c.100
4 x 2,5	50 x 0,25	10,6	0,70	1,20	8,21	96	189	c.100
5 x 2,5	50 x 0,25	11,6	0,70	1,20	8,21	120	229	c.100

6 x 2,5	50 x 0,25	13,0	0,70	1,20	8,21	144	285	CUT
7 x 2,5	50 x 0,25	13,2	0,70	1,20	8,21	168	348	CUT
2 x 4	56 x 0,30	10,8	0,80	1,20	5,09	76,8	192	CUT
3 x 4	56 x 0,30	11,5	0,80	1,20	5,09	115,2	249	CUT
4 x 4	56 x 0,30	13,0	0,80	1,50	5,09	153,6	330	CUT
5 x 4	56 x 0,30	15,0	0,80	1,50	5,09	192	359	CUT
7 x 4	56 x 0,30	16,2	0,80		5,09	268,8	487	CUT
2 x 6	84 x 0,30	13,4	0,80	1,50	3,39	115,2	289	CUT
3 x 6	84 x 0,30	14,2	0,80	1,50	3,39	172,8	352	CUT
4 x 6	84 x 0,30	16,2	0,80	1,60	3,39	230,4	429	CUT
5 x 6	84 x 0,30	17,7	0,80	1,60	3,39	288	564	CUT
7 x 6	84 x 0,30	19,3	0,80		3,39	403,2	685	CUT
2 x 10	80 x 0,40	17,6	1,00	1,60	1,95	192	400	CUT
3 x 10	80 x 0,40	18,7	1,00	1,60	1,95	288	620	CUT
4 x 10	80 x 0,40	21,4	1,00	1,80	1,95	384	710	CUT
5 x 10	80 x 0,40	22,5	1,00	1,80	1,95	480	900	CUT
4 x 16	128 x 0,40	24,0			1,24	614,4	1014	CUT
5 x 16	128 x 0,40	26,5			1,24	768	1206	CUT
4 x 25	200 x 0,40	29,3			0,795	960	1460	CUT
4 x 35	280 x 0,40	31,0			0,565	1344	2146	CUT
5 x 35	280 x 0,40	34,2			0,565	1680	2650	CUT
4 x 50	400 x 0,40	34,7			0,393	1920	2990	CUT

*) Packing: c.100 = coil 100 m CUT = cable in different lengths on drum or reel, possible cutting at required length