Refrigeration Grade Silicone Heat Cable

Argus Heating design and manufacture silicone heat cable to suit specific refrigeration applications.

The amount of heat (wattage) required will vary dependent on the application. For example, 25-40 W/m is commonly used for walk-in freezers with an operating temperature of -30°C. Reach-in and walk-in freezers that work at higher temperatures generally need 10-20 W/m. **Note:** these wattages are only general recommendations. Each application is unique and careful testing using thermocouples should be carried out by the customer, to ensure a proper and safe design.

Cable selection example

Voltage: 230V. Heater length required: 7.3m W/m required: 20W.

1 Calculation for approximation (see chart on this page)

Select 20W/m in top row, follow column down to 7.27m, and move left across the row to select 50 ohm/m cable.

2 Calculation for exact requirement (using Ohms Law)

Total Watts = length x W/m = 7.3m x 20W/m
= 146W total

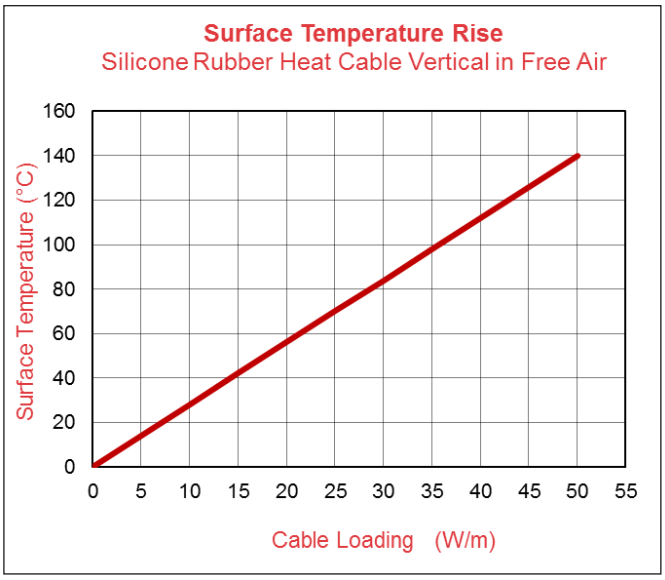
$$\text{Resistance total} = \frac{\text{Voltage}^2}{\text{watts total}} = \frac{230^2}{146} = 362 \text{ ohms}$$

$$\text{Resistance per metre} = \frac{R}{\text{length}} = \frac{362 \text{ ohms}}{7.3\text{m}} = 49.6 \text{ ohm/m (50 ohm/m cable)}$$

3 Surface Temperature

Surface temperature can be checked by using the chart below. The heat transfer medium will vary the surface temperature.

- Select 20W/m. Follow the grid up to the intersect line then select the corresponding approximate surface temperature on the Y-axis. Add ambient 20°C to provide an approximate surface temperature of 80°C.



Silicone Rubber Heating Cable / Refrigeration / 3mm OD / 150°C / 230V																	
Stock Code	Ω/	40 W/m		35 W/m		30 W/m		25 W/m		20 W/m		15 W/m		10 W/m		5 W/m	
	m	A	m	A	m	A	m	A	m	A	m	A	m	A	m	A	m
HS0002R100	2	4.47	25.715	4.18	27.490	3.87	29.693	3.54	32.527	3.16	36.366	2.74	41.992	2.24	51.430	1.58	72.731
HS0005R100	5	2.83	16.263	2.65	17.386	2.45	18.779	2.24	20.572	2.00	23.000	1.73	26.558	1.41	32.527	1.00	45.999
HS0010R100	10	2.00	11.500	1.87	12.294	1.73	13.279	1.58	14.546	1.41	16.263	1.22	18.779	1.00	23.000	0.71	32.526
HS0015R100	15	1.63	9.390	1.53	10.038	1.41	10.842	1.29	11.877	1.15	13.279	1.00	15.333	0.82	18.779	0.58	26.558
HS0025R100	25	1.26	7.273	1.18	7.775	1.10	8.398	1.00	9.200	0.89	10.286	0.77	11.877	0.63	14.546	0.45	20.571
HS0035R100	35	1.07	6.147	1.00	6.571	0.93	7.098	0.85	7.775	0.76	8.693	0.65	10.038	0.53	12.294	0.38	17.386
HS0045R100	45	0.94	5.421	0.88	5.795	0.82	6.260	0.75	6.857	0.67	7.667	0.58	8.853	0.47	10.842	0.33	15.333
HS0050R100	50	0.89	5.143	0.84	5.498	0.77	5.939	0.71	6.505	0.63	7.273	0.55	8.398	0.45	10.286	0.32	14.546
HS0060R100	60	0.82	4.695	0.76	5.019	0.71	5.421	0.65	5.939	0.58	6.640	0.50	7.667	0.41	9.390	0.29	13.279
HS0075R100	75	0.73	4.199	0.68	4.489	0.63	4.849	0.58	5.312	0.52	5.939	0.45	6.857	0.37	8.398	0.26	11.877
HS0100R100	100	0.63	3.637	0.59	3.888	0.55	4.199	0.50	4.600	0.45	5.143	0.39	5.939	0.32	7.273	0.22	10.286
HS0150R100	150	0.52	2.969	0.48	3.174	0.45	3.429	0.41	3.756	0.37	4.199	0.32	4.849	0.26	5.939	0.18	8.398
HS0200R100	200	0.45	2.571	0.42	2.749	0.39	2.969	0.35	3.253	0.32	3.637	0.27	4.199	0.22	5.143	0.16	7.273
HS0300R100	300	0.37	2.100	0.34	2.245	0.32	2.424	0.29	2.656	0.26	2.969	0.22	3.429	0.18	4.199	0.13	5.938

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