

# Silicone Rubber Thermofoil™ Heaters

Rugged and flexible to 235°C



## Overview

Silicone rubber is a rugged, flexible elastomer material with excellent temperature properties. It is most suited to larger heaters and industrial applications.

- High temperature capability to 235°C (455°F)
- UL component recognition available
- Can be factory vulcanized to metal parts without adhesive
- Resistant to many chemicals
- Not suitable for radiation, vacuum, or prolonged exposure to oil
- Most economical in large sizes

## Typical applications

- Thermal developing in graphic imaging equipment
- Prevent condensation in motors or instrument cabinets
- Heat outdoor electronics
- Food service equipment
- Medical respirators
- Laminators
- Drums and other vessels
- Airplane engine heaters

## Custom options

- Custom shapes and sizes to 22 × 72" (560 × 1830 mm)
- Custom resistance to 200 Ω/in<sup>2</sup> (30 Ω/cm<sup>2</sup>)
- Minco can factory vulcanize rubber heaters to metal shapes for best economy and performance
- Heaters can have integral snaps, straps, or Velcro® for removable installation
- Heaters can include thermostats, temperature sensors and cutouts, wiring harnesses, and connectors
- TÜV or UL approval is optional

Configure Minco heaters and order online at:  
[www.minco.com/heater\\_config/](http://www.minco.com/heater_config/)

# Silicone Rubber Thermofoil™ Heaters

## Specifications for prototype heater models

**Temperature range:** -45 to 235°C (-50 to 455°F).  
 With UL component recognition: -45 to 220°C (-50 to 428°F).

**Material:** Fiberglass reinforced silicone rubber,  
 0.008" (0.20 mm).

**Resistance tolerance:** ±10% or ±0.5 Ω, whichever is greater.

**Dielectric strength:** 1000 VRMS.

**Minimum bend radius:** 0.125" (3.2 mm).

**Leadwire:** Red PTFE insulated, stranded.  
 Current capacity (based on 100°C max. ambient temp.):

AWG 30	AWG 26	AWG 24	AWG 20
3.0 A	5.0 A	7.5 A	13.5 A

**Maximum heater thickness:**

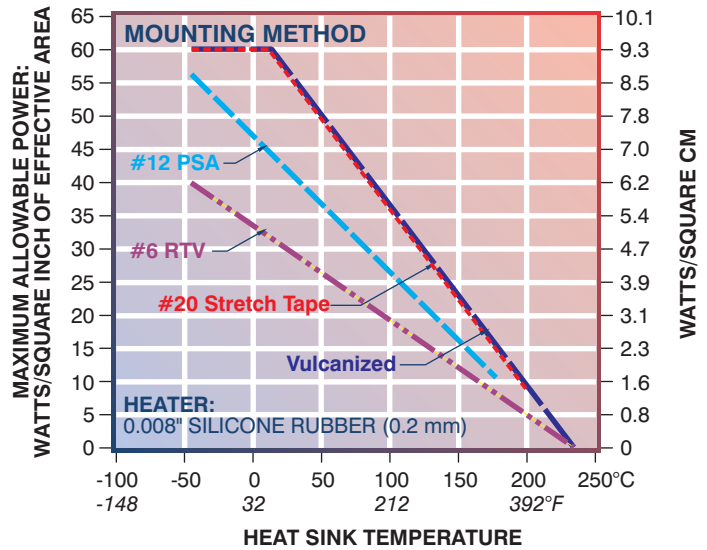
	No adhesive (A):	#12 PSA (B):
Over element	0.020" (0.5 mm)	0.025" (0.6 mm)
Over leads		
AWG 30 (0.057 mm <sup>2</sup> )	0.070" (1.8 mm)	0.085" (2.2 mm)
AWG 26 (0.141 mm <sup>2</sup> )	0.080" (2.0 mm)	0.095" (2.4 mm)
AWG 24 (0.227 mm <sup>2</sup> )	0.090" (2.3 mm)	0.105" (2.7 mm)
AWG 20 (0.563 mm <sup>2</sup> )	0.120" (3.0 mm)	0.135" (3.4 mm)

Add 0.005" (0.1 mm) to above dimensions for foil backing.

**Dimensional tolerance:**

6" (150 mm) or less	±0.03" (±0.8 mm)
6.01 to 12" (150 to 300 mm)	±0.06" (±1.5 mm)
Over 12" (300 mm)	±0.12" (±3.0 mm)

Design kit model numbers	Size (inches)	Size (mm)	Resistance in ohms	Effective area (in <sup>2</sup> )	Lead length in inches	Adhesive backing
HR5163R78.4L12A	1.0 x 1.0	25.4 x 25.4	78.4	1.0	12	A (none)
HR5166R529L12A	1.0 x 5.0	25.4 x 127.0	529	5.0	12	A
HR5175R176L12A	3.0 x 5.0	76.2 x 127.0	176	15.0	12	A



Example: At 100°C, the maximum power of a vulcanized heater is 36 W/in<sup>2</sup>.