Wire Heaters

Backer-Springfield is recognized worldwide for its expertise in the development of specially fabricated silicone and thermoplastic insulated resistance wire. It is exceptionally suited for applications which require a flexible heater that ensures perfect insulation and protection in an environment with high humidity or when immersed in liquid.

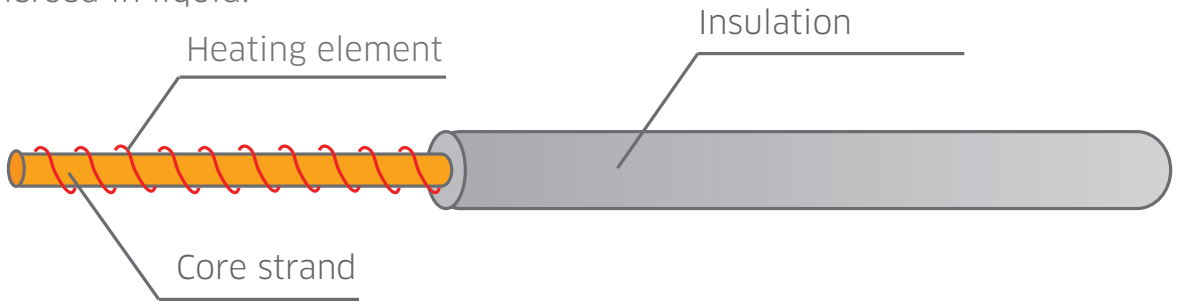
BENEFITS

Easy Installation
High Efficiency
Economical
Targeted Heat Placement

APPLICATIONS

Commercial Refrigeration
Consumer Refrigeration
Anti-condensate Applications
Commercial Food Preparation
Commercial Service Equipment
Fluid Transportation

All Backer-Springfield heater wire is made to order to a resistance, as measured in ohms per foot. This resistance value is based on the watts per foot and voltage available in your application. These heating elements are available in a broad range of resistances from 0.22 ohms/ft to 5000 ohms/ft. with a tolerance of +/- 5%.



Heater wire is made of a resistive wire that is wound around a core of fiberglass and coated with an insulator such as, PVC or silicone; in some cases the silicone can be paired with an overbraid of aluminum or fiberglass to provide extra mechanical protection.

The successful use of either type of wire depends on three critical factors:
1. Proper selection of the resistance (ohms per foot) to provide the desired wattage.
2. Selection of the appropriate style of wire.
3. Proper installation in the application.

Whatever your requirements for insulated resistance wire, you'll find Backer-Springfield to be an excellent source for quality material, competitive pricing, and dependable service.

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Wire Heaters

AVAILABLE CONSTRUCTIONS

Thermoplastic (PVC) Insulated Resistance (Heater) Wire

Backer-Springfield's thermoplastic (PVC) insulated heater wire is an excellent choice for use in low-wattage applications. This premium quality thermoplastic jacket material has passed the most critical odor tests of the domestic refrigerator manufacturers. In addition to being used in bulk form for harness, PVC insulated wire is widely used in the manufacture of foil bonded and sewn to foil heaters.

Specifications

Insulation: Polyvinyl Chloride, S-14 Compund
Temp. Rating: 105C Maximum (221°F)
Voltage Rating: 300 V Maximum
Wattage: 3 W/ft. Maximum
Insulation Thickness: Standard: 031" (1/32")
(up to .062" (1/16") Available)
Core Material: Polyester, .021" Diameter
Final Diameter: .095" Standard +/-.003"
Resistance: .22 ohms/ft. up to 5,000 ohms/ft, +/- 5%

Conductor and Insulation Temperatures

For 1/32" wall 105°C thermoplastic insulated heater wire suspended in still air at room ambient.

Power, Watts/ft.	Conductor Temperature
1.0	45°C
1.5	54°C
2.0	64°C
2.5	73°C
3.0	80°C
3.5	90°C

Silicone Insulated Resistance (Heater) Wire

Backer-Springfield's silicone insulated heater wire is an excellent choice for use in high wattage application of up to 15 watts per foot. This wire is constructed using electrical grade fiberglass core material and is insulated with silicone rubber, rated to 150°C (302°F) and can go as high as 200°C (392°F) depending on application. For additional abrasion resistance a fiberglass or aluminum braid can be added.

Specifications

Insulation: Silcone Rubber, SW-200 Compund
Temp. Rating: 150C Maximum (302°F) or 200°C
Voltage Rating: 300 V Maximum
Wattage: 15 W/ft. Maximum; 20 W/in² Maximum
Insulation Thickness: Standard: .031" (1/32")
(up to .062" (1/16" Available)
Core Material: Fiberglass, .025" Diameter
(Standard Larger Diameter Available)
Final Diameter: .095" Standard +/-.003"
(extruded only, no braid)
Resistance: .22 ohms/ft. up to 5,000 ohms/ft, +/- 5%
Glass Braided Silicone: O.D. .115" +/- .005"
Aluminum Braided Silicone: O.D. .135"+/- .01

Conductor and Insulation Temperatures

For 1/32" wall 200°C silicone insulated heater wire suspended in still air at room ambient.

Power, Watts/ft.	Conductor Temperature
1.0	46°C
5.0	107°C
7.5	121°C
10.0	156°C
12.5	196°C
15.0	218°C

Uninsulated Fiberglass Resistance (Heater) Wire

Backer-Springfield's rope heater is an excellent choice for high temperature and dry applications up to 50 Watt/ft. This wire is constructed with fiberglass insulation only which allows temperatures up to 350C.

Specifications

Temp. Rating: 350C Maximum
Voltage Rating: 125 V & 300 V
Wattage: 50 W/ft. Maximum
Core Material: .050"/ .080" Diameter
(Standard Larger Diameter Available)
Final Diameter: .130" +/- .01"

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Heater Wire Harnesses

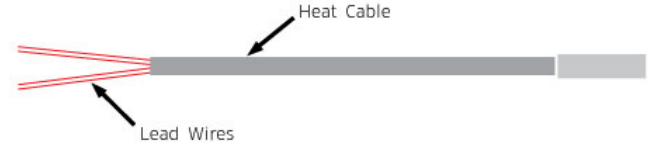
All of Backer-Springfield's heater wires are available on spools in bulk, or we have the capability to make heater wire harnesses. In order to meet your exact specifications, you simply specify your necessary watts, length, and terminations.

Backer's heater wire harnesses are available in 3 different constructions (per European standard).

AVAILABLE CONSTRUCTIONS

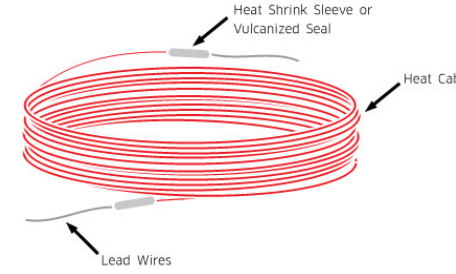
SINGLE-ENDED WIRE HARNESS

Single-ended harnesses have the leads exiting on the same side of the harness. The final insulation layer can be silicone or PVC.



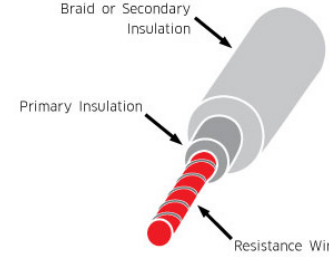
DOUBLE-ENDED WIRE HARNESS

Double-ended harnesses have one lead on each end of the assembly. These can be made with PVC or silicone insulation and can be finished with glass or aluminum braid for abrasion resistance.



DOUBLE INSULATION WIRE HARNESS

Double insulation harnesses are designed to meet Class II standards per IEC 60335-1. This European standard requires 2 layers of insulation each of which is at least 1mm in thickness. PVC or silicone insulation can be used in either layer of this construction.



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