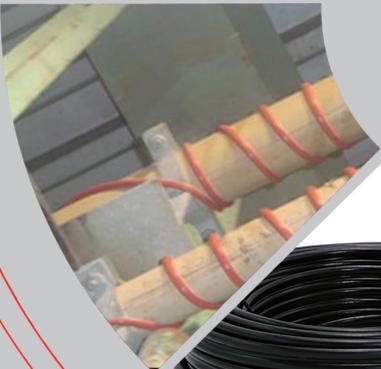


MINCO HEAT

**MINCO HEHT
ELECTRICAL HEAT TRACING SYSTEM**



Electrical Heat Trace Cable, Controls and Accessories

Heat Tracing Products

Overview

Industrial Cable Applications

- Self Regulating Heating Cable
- Constant Wattage Heating Cable
- Mineral Insulated Heating Cable

Commercial Cable Applications

- Self Regulating Freeze Protection
- Self Regulating Roof & Gutter De-Icing

Heat tracing is used to counteract the heat lost from process equipment and piping through its insulation. A heat tracing system is a group of process equipment and piping which is heat traced and controlled in a logical and economical manner.

There are many reasons for making up the heat loss of a system. With any heat loss, there is a corresponding drop in temperature.

In many cases, a drop in temperature brings about unacceptable consequences. These consequences could be freezing of water in cooling water lines, steam or condensate return lines, compressed air lines, fire protection lines, storage tanks, valves, etc. A drop in temperature of process fluids could result in solution precipitation, unacceptable viscosity increase or solidification of the product in the lines.

Heat Tracing Products

Applications

Electric Heat Tracing Products

Minco Heat heating cable line includes cables suitable for most process maintenance, pipe and vessel freeze protection and roof and gutter de-icing applications.

Industrial Heating Cables are ideal for process maintenance applications. Maintenance temperatures up to 480 °C can be achieved in a variety of hazardous and corrosive environments. Industrial Cables include:

- DWK** — Self-Regulating Low Temperature
- ZWK** — Self-Regulating Medium Temperature
- GWK** — Self-Regulating High Temperature

- HBL** — Constant Wattage
- MI** — Mineral Insulation, High Temperature
- Tube Bundles** — Pre-Installed/Traced Tube Bundles

Commercial Application Cables are designed to meet specific needs of winterizing applications such as water line freeze protection and preventing ice damage to building structures. Commercial Cables include:

- DWK** — Self-Regulating Freeze Protection
- DWK-CR730 - (on pipe) Freeze Protection
- DWK-CT730 - (in pipe) Freeze Protection

- DWK 40** — Self-Regulating Roof and Gutter Deicing, Freeze Protection

Industrial Process

Maintenance Applications

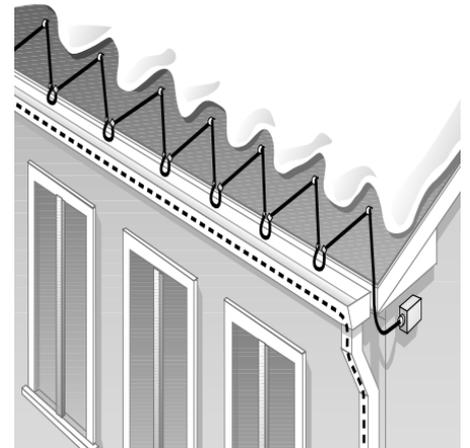
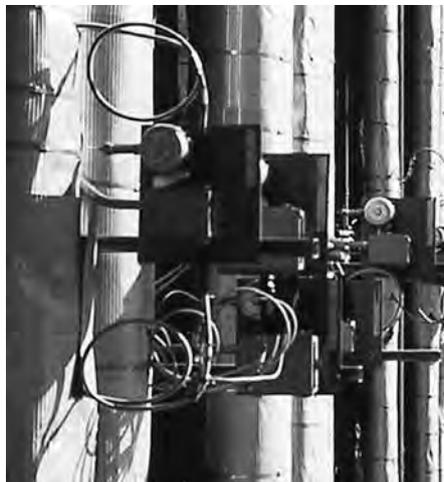
When industrial process piping and vessels must be maintained above the ambient air temperature, Minco Heat has the heating cable to fit the application. Cables range in the maximum maintenance temperature from 65 °C for SRL and to 480 °C for MI cables.

- Petroleum Refineries — Maintain petroleum and by-products at process temperature
- Waste Water Treatment Facilities — Prevent the precipitation of NaOH from solutions
- Food Processing Plants — Maintain viscosity of products in processes such as chocolate, oils and tallow
- Instrument Lines
- Storage Tanks
- Div. 1 and Div. 2 Hazardous Location Applications (Contact your Local Minco Heat Sales office for Div. 1 applications)
- Freeze Protection of Steam Cleaned Lines
- Power Generating Plants — Trace steam condensate lines and other chemical additive lines
- Asphalt Lines

Commercial Applications

In a large number of regions in the world, buildings are susceptible to damage caused by water freezing. Primarily, this damage involves either the bursting of pipes or structural damage due to the weight of ice and snow building up on the roof. Minco Heat Commercial Application Cables are intended to prevent this damage.

- Cooling Tower Pipes
- Parking Garage Drain Lines
- Chiller Water Lines
- Exposed Pipe Traps
- Exposed Storm Water Pipes
- Sump Discharge Pipes and Equipment
- Wet Sprinkler Fire Systems, where approved by Local Codes
- Outdoor Sports Facilities and Stadiums
- Roof and Gutter De-icing



Heat Tracing Products

Industrial & Commercial Grade Cables

Industrial Cable Applications

Self-Regulating

Minco Heat DWK, ZWK and GWK Self-Regulating Heating Cables provide the most versatility in heat trace designs and applications. Constructed of a semi-conductive heater matrix extruded between parallel buss wires, a self-regulating cable adjusts its output to independently respond to temperatures all along its length. As temperatures increase which lowers the output wattage. Conversely, as the temperature decreases, the resistance decreases and the cable produces more heat. The result is an energy efficient heating cable.

Self-Regulating cables are flexible, can be cut-to-length in the field and can be single overlapped without fear of burnout in areas where complex piping and equipment require additional heat trace cable.

Minco Heat manufactures low (DWK), medium (ZWK) and high (GWK) temperature self-regulating heating cable for use on 120 and 208 to 277V. Equipped with a ground braid and optional PE or FEP jacket, Minco Heat self-regulating cable are third party tested and approved for use in harsh corrosive and hazardous applications.

Constant Wattage

Minco Heat HBL Constant Wattage Heating Cables are ideally suited for applications where a particular watt density is required at all times. The heater element consists of a nichrome wire wrapped around parallel, insulated buss wires. At specific intervals, a short section of insulation is removed from alternating buss wires to create connection nodes for the nichrome wire. The result is a network of parallel resistors

along the entire length of constant wattage cable.

Constant wattage cables are flexible, can be cut-to-length in the field, and are manufactured for use on voltages 220V or 380V. Although not suited for overlapping, its constant output makes it an ideal choice for higher temperature applications where higher watt densities are required. Equipped with a ground braid and optional FEP jacket, Minco Heat constant wattage cables are third party tested and approved for use in harsh, corrosive and hazardous areas. Contact your Local Minco Heat Sales office for hazardous area designs.

Mineral Insulated

Minco Heat Mineral Insulated Heating Cables are the most rugged heating cable in Minco Heat's product line. Constructed of a solid series resistor element embedded in highly compacted mineral insulation, MI cables are built to handle high temperature, high wattage applications. The series resistor and mineral insulation are encased in a metallic jacket of SUS316L, Copper, Incoloy 825 or other Stainless steel for high temperature or corrosive applications.

Mineral insulated cables are factory assembled and tested, ensuring the highest quality product. Since the units consist of a series resistor, virtually any wattage/voltage/length cable configuration can be produced within the cable's physical operating limits. Minco Heat mineral insulated cables are available for use up to 600V and are tested and approved for use in corrosive and hazardous areas.

The new Flat mineral insulation heating cable is widely used for Railway fork freeze protection application.

Commercial Cable Applications

Self-Regulating Freeze Protection

Minco Heat DWK Self-Regulating freeze Protection Heating Cable is a self-regulating cable designed for the freeze protection of water line. The self-regulating matrix allows for overlapping and easy field installation. DWK also lowers its output and energy consumption as the temperature increases thus lowering energy costs. The 16 AWG buss wires provide for long circuits which reduce the number of accessories required.

A braided and braided with over-jacket construction is available. Braided cable should be used on dry pipes and dry locations. The over-jacket construction is suitable for wet locations where occasional exposure to moisture is expected.

DWK-CR730 heating cable is narrow, equipped with braid and PE outer jacket, suitable for Household water pipe freeze protection (install on pipe).

DWK-CT730 heating cable is narrow, equipped with braid and FEP outer jacket, suitable for Household water pipe freeze protection (install in pipe).

Self-Regulating Roof & Gutter De-Icing

DWK 40W Heating Cable is specifically designed for roof and gutter de-icing applications. DWK 30/40W features a self-regulating matrix that reduces output as snow melt requirements decrease or when warm weather is present.

The braided and over-jacketed construction provides reliable moisture protection. The 16 AWG buss wires allow ample circuit lengths and rugged design. Accessories are available for mounting to roofs and gutters.

Heat Tracing Products

Application & Selection

Guidelines

General Product Summary

This section is designed to assist you in determining the appropriate cable for use in your application.

Step 1 — Collect Required Application Data and Determine Heat Loss

Step 2 — Choose the cable that best meets your specific application parameters based on the summary. Consideration of application temperature, exposure temperature, application requirements and environmental ratings should be made.

Step 3 — Select Heating Cable Wattage Rating

Step 4 — Determine Total Cable Required

Step 5 — Determine Circuits and Circuit Protection

Step 6 — Select Appropriate Accessories

Step 1 - Collect Required Application Data & Determine Heat Loss

Application data required can be split into two categories. The first is the heat loss data. This includes:

- Maintenance Temperature
- Minimum Ambient Temperature
- Pipe Size
- Insulation Type (or K factor)
- Insulation Thickness
- Indoor/Outdoor Installation
- Maximum Expected Wind Speed
- Required Safety Factor.

Refer to the Technical section of this catalog, "Determining Heat Energy Requirements —

Pipe & Tank Tracing" for details on performing heat loss calculations. For Commercial Freeze Protection, please see Cable Selection Tables in this section. The second category of data required is the application and environmental conditions. This includes:

- Maximum Exposure Temperature (Power Off Condition)
- Circuit Length Considerations
- Available Voltage
- Hazardous Area Requirements
- Type of Pipe (Plastic or Metal)
- Chemical Exposure
- Fire Resistance.

Step 2 - Select the Cable

Choose the cable that best fits your specific application parameters and wattage requirements.

General Product Summary

Features	Industrial				Commercial	
	DWK	ZWK	GWK	HBL	DWK-CR/CT730	DWK 40W
Max. Maintenance Temp.(°C)	65	105	122	130	60	65
Max. Exposure Temp.(°C) Power Off	85	135	215	200	85	85
Rated Power at 10°C W/m	10~35	35~60	35~75	10~60	10, 17	40
Max. Circuit Length in meter	100	100	100	240	80	100
Voltages	120,208-277	120,208-277	120,208-277	220, 380	120,208-277	120,208-277
Hazardous Ratings	Yes	Yes	Yes	Yes	No	No
Usable on Plastic Pipe	Yes	Yes	No	No	Yes	Yes
Cut-to Length in Field	Yes	Yes	Yes	Yes	Yes	Yes
Field Splicable	Yes	Yes	Yes	Yes	Yes	Yes
Can be Overlapped	Yes	Yes	Yes	No	Yes	Yes
Output Varies with Temp.	Yes	Yes	Yes	No	Yes	Yes
Varies Output Along Length	Yes	Yes	Yes	No	Yes	Yes
Design of System	Simple	Simple	Simple	Simple	Simple	Simple
Installation of System	Easiest	Easiest	Easiest	Simple	Easiest	Easiest
Fire Resistance	Fair	Fair	Fair	Fair	Fair	Fair
Size (Width and Thickness) mm	13.8x5.8	13.8x5.8	13.1x5.3	10.0x6.5	8.3x6.5	13.8x5.8

Heat Tracing Products

Application & Selection

Guidelines

Corrosion Guide to Select Proper Cable Construction

Exposure To	Industrial, Commercial			
	DWK	ZWK	GMK	HBL
Moisture	J, PF, PF4	J, PF, PF4	PF4	Q-J3
Aqueous Solutions of Inorganic Compounds	PF, PF4	PF4	PF4	Q-J3
Liquids Organic Chemicals	PF4	PF4	PF4	Q-J3
Acids or Bases	PF4	PF4	PF4	Q-J3
Note — This is a recommendation guide. Minco cannot warrant any electric heat trace against failure by sheath degradation if such failure is the result of operating conditions beyond the control of the heater manufacturer. It is the responsibility of the purchaser to make the ultimate choice of sheath material based on knowledge of the chemical composition of the corrosive solution, character of materials entering the solution, and controls which maintains the process.				

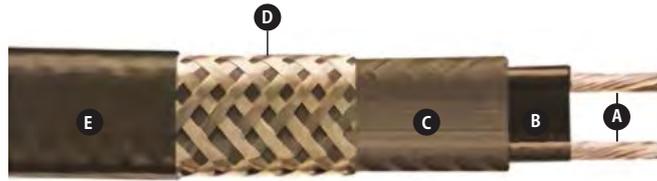
Required Jacket Material

Select the appropriate jacket configuration for the desired level of mechanical and corrosive chemical protection. The PF/CR over-jacket option can be used when additional mechanical protection is desired. The PF/CR over-jacket option is required when the cable can be exposed to aqueous inorganic chemicals. The PF4/CT over-jacket option is required when the cable can be exposed to organic chemicals or strong corrosives. Use Corrosion Guide above to determine the correct jacket material option for the cable type selected.

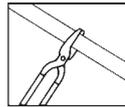
Heating Cable

DWK

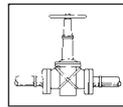
Self-Regulating Low Temperature



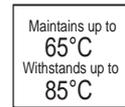
- Self-Regulating, Energy Efficient
- 16 AWG Buss Wire
- Circuit Lengths to 100M
- Process Temperature Maintenance to 65°C
- Maximum Continuous Exposure Temperature, Power Off, 85°C
- Industrial Freeze Protection Applications
- Freeze Protection of Fire Protection System Piping
- Field Splicing Without Disrupting Heat Output
- 10, 16, 26 and 33 W/M.
- 110 - 120 and 208 - 277 Volt
- Approximate Size 13.5mm Width x 5.8mm Thickness
- Min. Bend Radius at 20°C: 25mm at -40°C : 45mm
- For Metal and Plastic Pipes



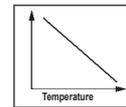
Cut to Length
in Field



Can be Single
Overlapped



Low Temperature



Self Regulating
Output

Features

- Energy efficient, self-regulating DWK uses less energy when less heat is required.
- Easy to install, DWK can be cut to any length (up to max. circuit length) in the field.
- Field splices can be performed easily in minutes with no scrap or wasted cold sections.
- DWK features lower installed cost than steam tracing, less maintenance expense and less downtime.
- DWK can be overlapped without burnout, which simplifies heat tracing of in-line process equipment such as valves, elbows and pumps.
- Because DWK is self-regulating, over-temperature conditions are minimized.
- Minco Heat termination, splice, tee and end seal kits reduce installation time.

- C Polyolefin Jacket** — Electrically insulates the matrix and buss wires and provides resistance to water and some inorganic chemical solutions.
- D Metal Braid** — Provides additional mechanical protection in any environment and a positive ground path.
- E High Temperature Fluoropolymer or PE Over-jacket (optional)** — Corrosion resistant, flame retardant overjacket is highly effective in many environments. PE (-PF/-CR) coatings protect against certain inorganic chemical solutions. Fluoropolymer (-PF4/-CT) coatings are used for exposure to organic or corrosive solutions. These coatings also protect against abrasion and impact damage.

WARNING

— A ground fault protection device is required by NEC to minimize the danger of fire if the heating cable is damaged of improperly installed. A minimum trip level of 30mA is recommended to minimize nuisance tripping.

Description

Minco Heat DWK Self-Regulating Heating Cable provides safe, reliable heat tracing for freeze protection of pipes, valves, tanks and similar applications. Constructed of industrial grade 16 AWG buss wire with a metal braid and optional over-jacket, DWK ensures operating integrity in Div. 2- hazardous environments as well as certain corrosive industrial environments. DWK heating cable has a maximum maintenance temperature rating of 65°C.

Construction

- A Twin 16 AWG Copper Buss Wires** — Provide reliable electrical current capability.
- B Semiconductive Polymer Core Matrix** — “Self-Regulating” component of the cable, its electrical resistance varies with temperature. As process temperature drops, the core’s heat output increases; as process temperature rises, the heat output decreases.

Heating Cable

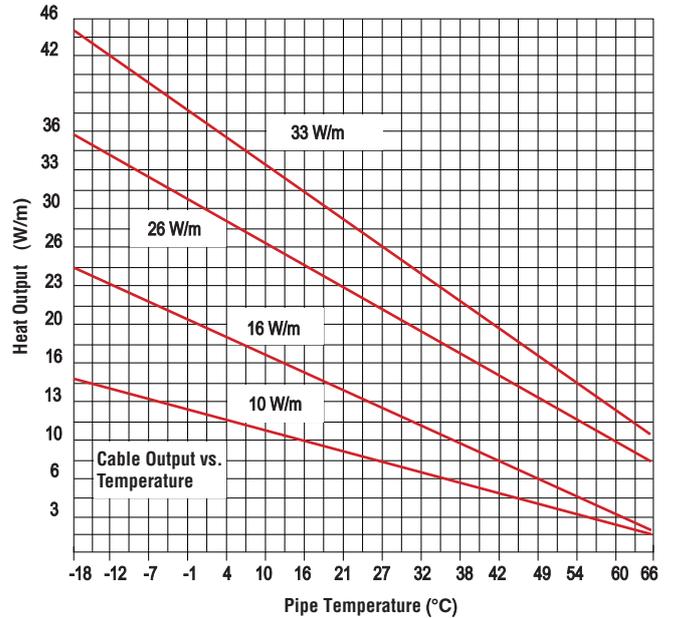
DWK

Self-Regulating Low Temperature (Continued)

Model Information

Model Self-Regulating Low Temperature	
Code	Output (W/m)
10	10
16	16
26	26
33	33
DWK Self-Regulating, Low Temperature Heating Cable	
Code	Voltage
1	110 - 120
2	208 - 277
Code	Braid and Over-jacket Options
J	Polyolefin coated, basic model without metallic braid and outer-jacket
P	Metallic braid for additional protection and ground path
PF4	Fluoropolymer corrosion resistant over-jacket over braid for hostile/corrosive environments
PF	PE over-jacket over braid for protection against certain inorganic chemical solutions
10 DWK 2 PF	Typical Model Number

Thermal Output Ratings on Insulated Metal Pipe¹



Output Wattage at Alternate Voltages (W/m)

Model	208V	%Change In Output	220V	%Change In Output	240V	277V	%Change In Output
10DWK	8	-20	9	-13	10	11	+15
16DWK	14	-18	15	-10	16	18	+13
26DWK	23	-14	24	-9	26	30	+12
33DWK	29	-13	30	-8	33	37	+10

Circuit Breaker Selection (Max. Circuit Lengths in Meter)

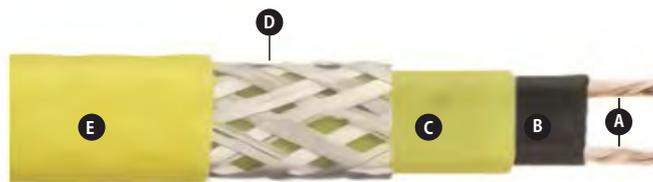
Cable Rating	10°C Start-Up (Mtr.)						-18°C Start-Up (Mtr.)						-29°C Start-Up (Mtr.)					
	10A	15A	20A	25A	30A	40A	10A	15A	20A	25A	30A	40A	10A	15A	20A	25A	30A	40A
10DWK1	62	93	109	NR	NR	NR	41	60	82	100	109	NR	36	56	74	91	109	NR
10DWK2	122	182	201	NR	NR	NR	83	126	169	201	NR	NR	74	112	150	182	201	NR
16DWK1	38	56	76	82	NR	NR	27	41	54	68	82	NR	24	36	48	62	74	82
16DWK2	76	114	154	164	NR	NR	54	82	109	137	164	NR	48	74	99	123	149	164
26DWK1	30	45	61	65	NR	NR	21	33	44	54	65	NR	20	30	39	50	61	64
26DWK2	56	86	114	128	NR	NR	41	61	80	102	120	128	36	53	71	91	106	128
33DWK1	18	29	39	48	54	NR	15	24	32	39	47	54	14	21	29	36	42	54
33DWK2	30	48	64	79	96	109	24	38	51	64	77	103	23	36	48	59	73	97

NR = Not Required. Maximum circuit length has been reached in a smaller breaker size.

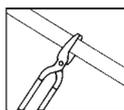
Note — Thermal magnetic circuit breakers are recommended since magnetic circuit breakers could "unintentionally trip" at low temperature.

ZWK

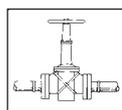
Self-Regulating Medium Temperature



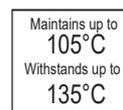
- Self-Regulating, Energy Efficient
- 16 AWG Buss Wire
- Circuit Lengths to 100M
- Process Temperature Maintenance to 105°C
- Maximum Continuous Exposure Temperature, Power Off, 135°C
- Available in 35, 45, 50, 60 W/m
- 110 - 120 and 208 - 277 Volt
- Industrial Process Maintenance Applications
- Approximate Size 13.5mm Width x 5.8mm Thickness
- Min. Bend Radius at 20°C: 25mm, at -40°C: 45mm
- For use on Metallic Pipes Only



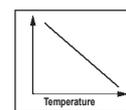
Cut to Length
in Field



Can be Single
Overlapped



Medium Tem-
perature



Self Regulating
Output

Features

- Energy efficient, self-regulating ZWK uses less energy when less heat is required.
- Easy to install, ZWK can be cut to any length (up to max circuit length) in the field.
- ZWK features lower installed cost than steam tracing, less maintenance expense and less down time.
- ZWK can be single overlapped without burnout, which simplifies heat tracing of in-line process equipment such as valves, elbows and pumps.
- Because ZWK is self-regulating, overtemperature conditions are minimized.
- Minco Heat termination, splice, tee and end seal kits reduce installation time.

- C Polyolefin Jacket** — Electrically insulates the matrix and buss wires and provides resistance to water and some inorganic chemical solutions.
- D Metal Braid** — Provides additional mechanical protection in any environment and a positive ground path.
- E High Temperature Fluoropolymer or PE Over-jacket (optional)** — Corrosion resistant, flame retardant overjacket is highly effective in many environments. PE (-PF/-CR) coatings protect against certain inorganic chemical solutions. Fluoropolymer (-PF4/-CT) coatings are used for exposure to organic or corrosive solutions. These coatings also protect against abrasion and impact damage.

WARNING

— A ground fault protection device is required by NEC to minimize the danger of fire if the heating cable is damaged or improperly installed. A minimum trip level of 30mA is recommended to minimize nuisance tripping.

Description

Minco Heat ZWK self-regulating heating cable provides safe, reliable heat tracing for process maintenance applications to 105°C or freeze protection of pipes / tank with high heat losses. Constructed of industrial grade 16 AWG buss wire with a metal braid and optional over-jacket, ZWK ensures operating integrity most hostile industrial environments.

Construction

- A Twin 16 AWG Copper Buss Wires** — Provide reliable electrical current capability.
- B Semiconductive Polymer Core Matrix** — “Self-Regulating” component of the cable, its electrical resistance varies with temperature. As process temperature drops, the core's heat output increases; as process temperature rises, the heat output decreases.

Heating Cable

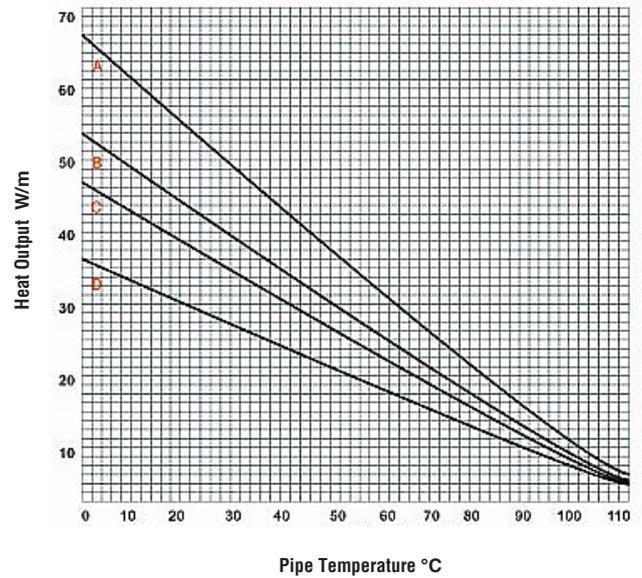
ZWK

Self-Regulating Medium Temperature (continued)

Model Information

Model	Self-Regulating Medium Temperature		
Code	Output (W/m)		
35	35		
45	45		
50	50		
60	60		
	ZWK	Self-Regulating, Medium Temperature	
		Code	Voltage
		1	110 - 120
		2	208 - 277
		Code	Braid and Over-jacket Options
		J	Polyolefin coated, basic model without metallic braid and outer-jacket
		P	Metallic braid for additional protection and ground path
		PF4	Fluoropolymer corrosion resistant over-jacket over braid for hostile/corrosive environments
		PF	PE over-jacket over braid for protection against certain inorganic chemical solutions
45	ZWK	2	PF
Typical Model Number			

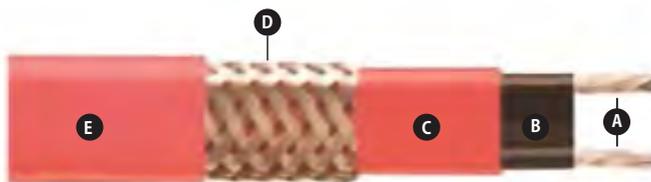
Thermal Output Ratings on Insulated Metal Pipe¹



Heating Cable

GWK

Self-Regulating High Temperature



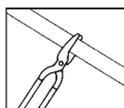
- Self-Regulating, Energy Efficient
- 16 AWG Buss Wire
- Circuit Lengths to 100M
- Process Temperature Maintenance to 130°C
- Maximum Continuous Exposure Temperature, Power Off, 215°C
- Industrial Freeze Protection Applications
- Freeze Protection of Fire Protection System Piping
- Steam Cleanable on Process Equipment Up to 300 PSIG
- 45, 55, 65 and 75 W/m
- 110 - 120 and 208 - 277 Volt
- Approximate Size 13.1mm Width x 5.5 Thickness
- Min. Bend Radius at 20°C 25mm at -40°C 45mm
- For Use on Metallic Pipes Only

Description

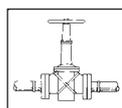
Minco Heat GWK Self-Regulating Heating Cable provides safe, reliable heat tracing for process temperature maintenance and freeze protection of pipes, valves, tanks and similar applications. Constructed of industrial grade 16 AWG buss wire with metal braid and optional over-jacket, GWK ensures operating integrity in most hostile industrial environments. The 215°C maximum exposure temperature rating allows steam cleaning of process equipment with up to 300 psig steam.

Enhanced Features

- Industrial Grade, 16 gauge buss wire has higher current capacity.
- Superior matrix to buss wire bonding ensures overall operating integrity and performance.



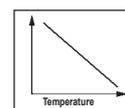
Cut to Length in Field



Can be Single Overlapped



High Temperature



- High output, 75W/m. heating cable.
- All ratings are available from stock.

Features

- Energy efficient, self-regulating GWK uses less energy when less heat is required.
- Easy to install, GWK can be cut to any length (up to max. circuit length) in the field.
- Field splices can be performed easily in minutes with no scrap or wasted cold sections.
- With lower installed cost than steam tracing GWK features less maintenance expense and downtime.
- GWK can be overlapped without burnout, which simplifies heat tracing of in-line process equipment such as valves, elbows and pumps.
- Because GWK is self-regulating, over-temperature conditions are minimized.
- Minco Heat termination, splice, tee and end seal kits reduce installation time.

Construction

- A** **Twin 16 AWG Copper Buss Wires** — Provide reliable electrical current capability.
- B** **Semiconductive Polymer Core Matrix** — “Self-Regulating” component of the cable, its electrical resistance varies with temperature. As process temperature drops, the core’s heat output increases; as process temperature rises, the heat output decreases.

- C** **High Temperature Fluoropolymer Jacket** — Flame retardant, electrically insulates the matrix and provides corrosion resistance.

- D** **Metallic Braid** — Provides additional mechanical protection in any environment and a positive ground path.

- E** **High Temperature Fluoropolymer** — Corrosion resistant, flame retardant over-jacket is highly effective in hostile, aqueous and chemically active environments. It also protects against abrasion and impact damage.

WARNING

— A ground fault protection device is required by NEC to minimize the danger of fire if the heating cable is damaged or improperly installed. A minimum trip level of 30mA is recommended to minimize nuisance tripping.

GWK

Self-Regulating High Temperature (Continued)

Model Information

Model	Self-Regulating High Temperature			
Code	Output (W/m)			
45	45			
55	55			
65	65			
75	75			
	GWK	Self-Regulating, High Temperature Heating Cable		
		Code	Voltage	
		1	110 - 120	
		2	208 - 277	
		Code	Braid and Overcoat Options	
		(PF)4	Fluoropolymer corrosion resistant inner insulation and over-jacket over braid for hostile/ corrosive environments	
75	GWK	2	(PF)4	Typical Model Number

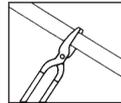
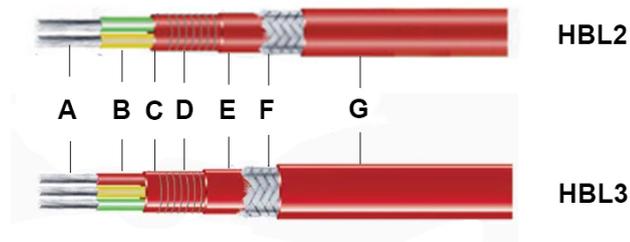
HBL

Constant Wattage Medium Temperature

- Uniform Thermal Output
- Accurate, Easy to Control and Monitor
- Low Energy Cost
- No Inrush at Any Ambient
- Industrial / Process and Commercial / Construction Applications
- Flexible to Most Any Configuration
- Fluoropolymer Jacket
- Maximum Exposure Temperature, Power Off, 205°C
- Steam Cleanable on Process Equipment Up to 190 PSIG (Power Off)
- 220V: 10, 20, 30 and 40W/m
380V: 30, 40, 50 and 60W/m
- 220 and 380 Volt
- Approximate Size 8mm Width x 6mm Thickness
- Minimum Bend Radius at 20°C 25mm, at -40°C 45mm
- For Use on Metallic Pipes Only
- Consult Factory for Use on Plastic Pipes

Description

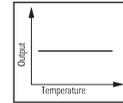
Minco Heat HBL Constant Wattage Heating Cable is a proven, reliable solution for industrial process temperature maintenance and freeze protection. HBL features a parallel heating core that produces uniform thermal output over its entire length. Using a single power point, you can easily configure and install a heat tracing system as short as several meter or as long as 240 meters in the field. System design only requires that you match the HBL cable thermal output to the heat loss of your piping system.



Cut to Length
in Field



High
Temperature



Constant
Wattage Output

HBL is flexible at most ambient temperatures and can be wrapped around piping and complex fittings. It is rugged, easy to monitor and maintain temperature, and has zero inrush at start-up. With 200°C fluoropolymer electrical insulation over-jacketing, HBL has outstanding electrical and thermal properties, and is well suited for most chemically hostile environments. An extensive range of wattages and voltages are available immediately from Minco Heat stock.

Features

- Durable, non-aging fluoropolymer jacket ensure long service life and can be used in some hostile environments.
- Flexible, easy to install on most equipment and delivers long-term reliable performance
- Eliminates the need for oversized wiring or switchgear.
- Accurate temperature, reliable electric heat that can be consistently controlled and easily monitored.
- Safe and rugged.
- Parallel circuitry allows cut-to-length.
- High performance, rated to withstand up to 200°C saturated steam (190 psig) temperature (power off).
- Low profile, uses standard size thermal insulation on piping and process equipment.
- Low profile, uses standard size thermal insulation on piping and process equipment.

Construction

- **A Twin 12 AWG Copper Buss Wires** — Provide reliable, consistent electrical current.

- **B FEP Insulation Jacket** — Electrically insulates buss wires.
- **C Pairing Jacket** — Secures two buss wires together and provides wrapping surface for Nichrome wire.
- **D Nickel Chromium Wire** — Heating component of the cable.
- **E FEP Insulation** — Rugged outer sheath protects heating cable, assures longer service life, and provides protection against environmental application hazards.
- **F Metal Braid** — Plated copper braid increases robust construction, provides ground path and provides additional protection in any location. Suffix "C" in model number.
- **G FEP Overjacket (optional)** — Fluoropolymer overjacket, over the braid, provides protection from most aqueous and chemically corrosive solutions. Additional "(Q)" in model number.

Heating Cable

HBL

Constant Wattage Medium Temperature (continued)

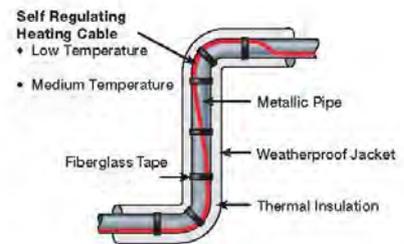
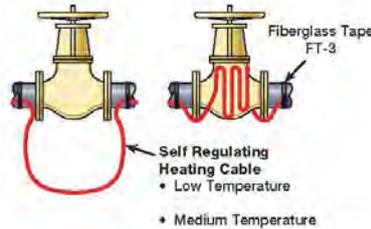
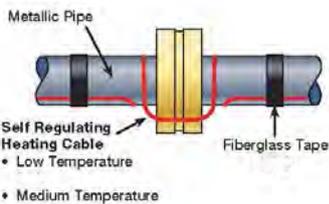
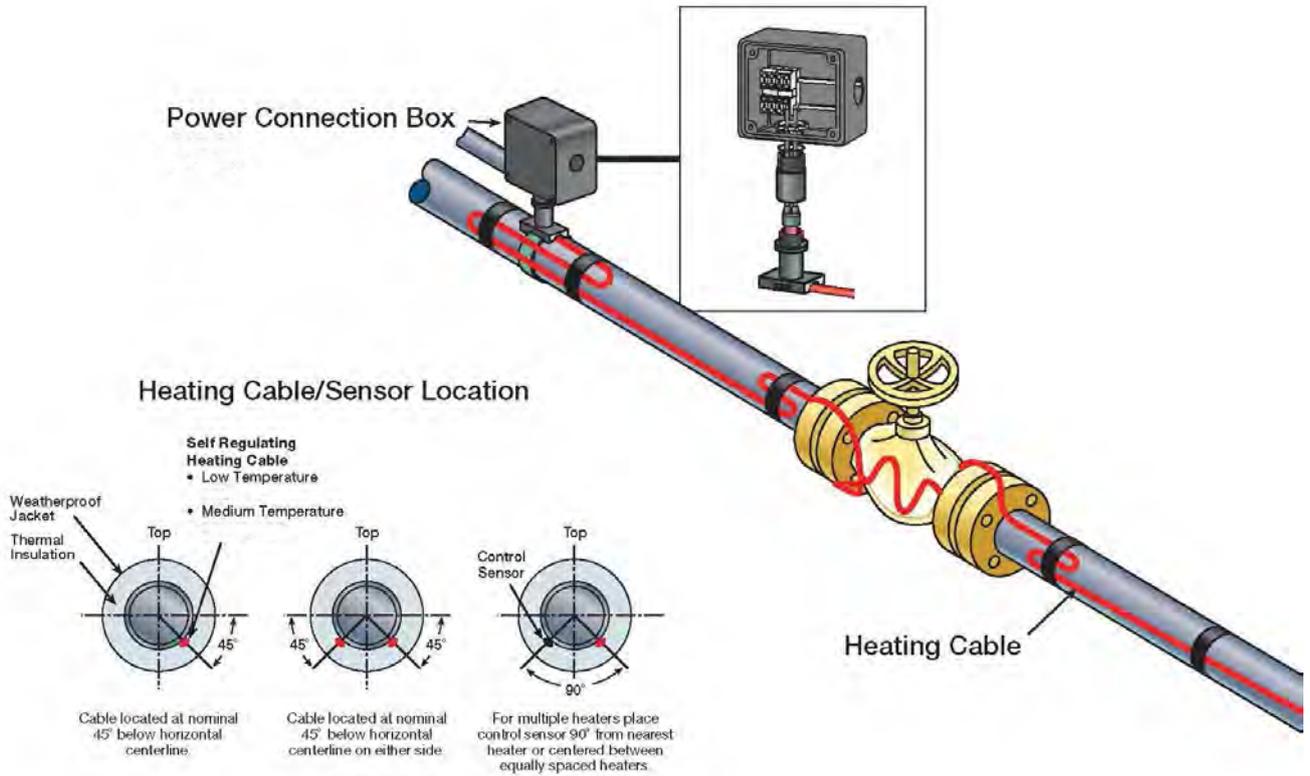
Model Information

Model	Constant Wattage Medium Temperature			
HBL	Constant Wattage, Medium Temperature Heating Cable			
	Code	Voltage		
	2	208 - 277		
	3	380		
	Code	Braid and Overcoat Options		
		Standard tinned-copper metallic braid for additional protection and ground path		
	(Q)	Fluoropolymer corrosion resistant overjacket over braid for hostile/corrosive environments		
	Code	Output (W/m)		
	10	10		
	20	20		
30	30			
40	40			
50	50			
60	60			
HBL	2	(Q)	10	Typical Model Number

Specifications

Model	Output (W/M)	Nominal Voltage (Vac)	Circuit Load (Amps/M)	Max. Circuit Length, Two Way (M)	Liquid Maintain Temperature (°C)
HBL2-(Q)-10	10	220	0.045	450	130
HBL2-(Q)-20	20	220	0.091	350	120
HBL2-(Q)-30	30	220	0.137	300	95
HBL2-(Q)-40	40	220	0.182	260	75
HBL3-(Q)-30	30	380	0.079	600	120
HBL3-(Q)-40	40	380	0.106	530	100
HBL3-(Q)-50	50	380	0.228	460	80
HBL3-(Q)-60	60	380	0.273	400	60

Quick Install Guide

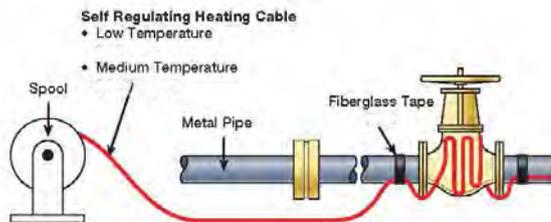


Installation Tips

- Temporarily position cable on pipe and equipment to ensure proper distribution.
- Leave a loop of cable at heat sinks such as valves, pipe supports and flange sets. Use fiberglass tape to secure cable to pipe at 18 in. / 455 mm (nom) intervals using recommended method.
- Always observe minimum bend radius.

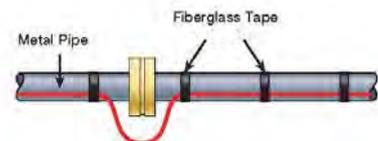
Step 1

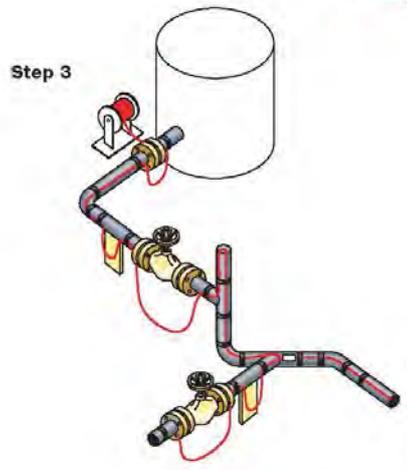
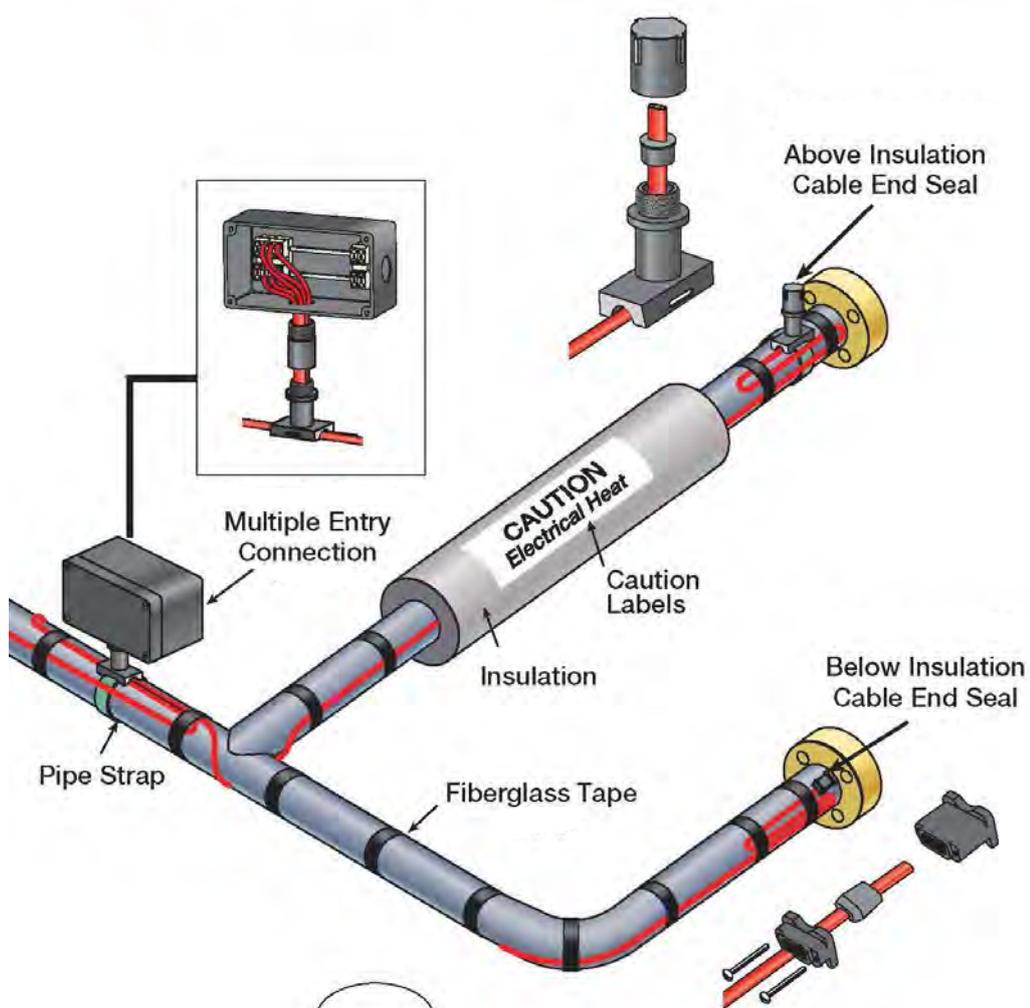
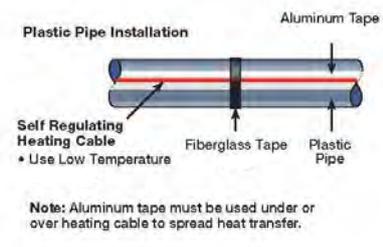
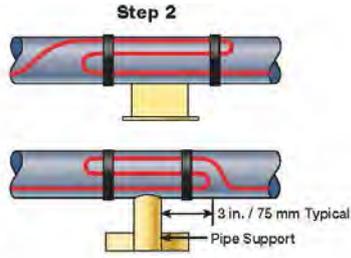
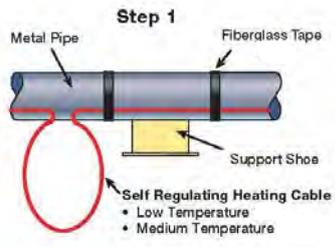
Start tracing at the end of the pipe and work your way back to spool.



Step 2

Leave a loop of cable at heat sinks such as valves, pipe supports and flange sets. Use fiberglass tape to secure cable to pipe at 18 in. / 455 mm intervals.







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