



PRODUCT SPECIFICATIONS

HTEK™ SERIES CONSTANT WATT HEATING CABLE

APPLICATION

High performance HTEK series resistance constant watt heating cables are used for long line temperature maintenance or freeze protection where circuit lengths exceed the limitations of parallel resistance heating cables and high maintain temperatures or high temperature exposure is required. Circuit lengths up to 12,000 feet (3,658 m) can be energized from a single power supply point.

The series circuitry of HTEK provides consistent power output along the entire length of the cable with no voltage drop concerns associated with parallel tracer constructions.

HTEK cables are approved for use in ordinary (non-classified) and hazardous (classified) areas.

RATINGS

- Rated voltage ¹ for operation up to 600 Vac
- Max. maintenance temperature ² 400°F (204°C)
- Max. continuous exposure temperature
 - Power-off 500°F (260°C)
- Minimum installation temperature -60°F (-51°C)
- Minimum bend radius
 - @ 5°F (-15°C) 0.875" (22mm)
 - @ -76°F (-60°C) 1.25" (32 mm)

Notes

- 1. Definition as stated in IEEE Standard 515. Specific voltage depends on circuit length and design conditions.
- 2. Watt density limitations are correlated to maintain temperatures.



CONSTRUCTION

- 1 Heating conductors (2 or 3)
- 2 Fluoropolymer dielectric Insulation over fiberglass composite
- 3 Fluoropolymer pairing jacket
- 4 Nickel-plated copper braid
- 5 Fluoropolymer overjacket provides additional protection for cable and braid where exposure to chemicals or corrosives is expected.

BASIC ACCESSORIES

Power Connection: All HTEK cables require a cold lead transition for connection to power (available as a field fabricated kit). Refer to the back of this specification sheet for details.

End-of-Circuit Termination: An end-of-circuit termination must also be used with HTEK cables. This termination, detailed on the back of this specification sheet, is available as a field fabricated kit.





AVAILABLE CABLES

Catalog Number		Resistance per Conductor at 68°F (20°C)		Conductor Size ¹
2 Conductor	3 Conductor	Ohms/ft	Ohms/m	
HTEK 2C40	HTEK 3C40	0.004548	0.01492	16 AWG
HTEK 2C50	HTEK 3C50	0.002880	0.009449	14 AWG
HTEK 2C60	HTEK 3C60	0.001812	0.005945	12 AWG
HTEK 2C70	HTEK 3C70	0.001060	0.003478	10 AWG

Note

1. Consult factory for higher resistance conductor options.

CIRCUIT BREAKER SIZING

The maximum circuit length is a function of cable resistance, circuit length and operating voltage. Circuit length and/or breaker sizing should be based on the National Electrical Code, Canadian Electrical Code or any other applicable code. For information on design and performance on other voltages, contact TC-E.

The National Electrical Code and Canadian Electrical Code require ground-fault protection of equipment for each branch circuit supplying electric heating equipment. Check local codes for ground-fault protection requirements.

TERMINATIONS AND SPLICES

Prior to connection to power, HTEK heating cables should be terminated using Terminator DP-M, ZP-M or with an appropriate nonheating “cold lead” and a “hot-end” termination. To facilitate ease of installation and accommodate standard shipping lengths, in-line splices may also be required. These connections/terminations are available as factory fabricated assemblies or as field fabricated kits.

Power Connection: Provides fluoropolymer insulated nickel-plated stranded copper cold leads and ground wire extension plus required butt lug splices, insulating tape and sealant. A flexible stainless steel conduit that ends in a 3/4” fitting protects the leads. The number and size of the cold leads is based on the HTEK heater type.

End Termination: The hot end (opposite end from power) utilizes an under insulation stainless steel fitting that houses the connector lug, insulating tape, sealant and grounding lug. The size and style of the termination is based on the number and size of conductors.

In-Line Splices: When the circuit length exceeds the practical length of a cable reel or to facilitate the installation of the cable, an under insulation splice may be required. The splice utilizes a stainless steel housing (sized for the conductor type and number), butt lug splices, grounding lugs, insulating tape and sealant.



CET: Factory fabricated cold-end termination.
CETK: Field fabricated cold-end termination kit.



HET: Factory fabricated hot-end termination.
HETK: Field fabricated hot-end termination kit.



HST: Factory fabricated splice termination.
HSTK: Field fabricated splice termination kit.

CERTIFICATIONS/APPROVALS



FM Approvals
Ordinary Locations
Hazardous (Classified) Locations
Class I, Division 2, Groups A, B, C and D
Class II, Division 2, Groups F and G
Class III, Divisions 1 and 2
Class I, Zones 1 and 2, AEx e II



Underwriters Laboratories Inc.
Hazardous (Classified) Locations
Class I, Division 2, Groups A, B, C and D
Class II, Division 2, Groups F and G
Class III, Divisions 1 and 2



Canadian Standards Association
Ordinary Locations
Hazardous (Classified) Locations
Class I, Division 2, Groups A, B, C and D
Ex e II



Terminator DP-M and ZP-M: Designed to fabricate power connections, in-line splice connections or for making end terminations. Electrical connections are made in terminal blocks utilizing nickel-plated copper terminals to ensure corrosion-free electrical integrity. No cold leads are required.