



PRODUCT SPECIFICATIONS

TEK™ SERIES CONSTANT WATT HEATING CABLE

APPLICATION

TEK 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. Circuit lengths up to 12,000 feet (3,658 m) can be energized from a single power supply point.

The series circuitry of TEK provides consistent power output along the entire length of the cable without the voltage drop concerns associated with parallel tracer constructions.

TEK cables are approved for use in ordinary (nonclassified) and hazardous (classified) areas.

RATINGS

- Rated voltage ¹ for operation up to 600 Vac
- Max. maintenance temperature ²..... 215°F (101°C) ³
- Max. continuous exposure temperature
 - Power-off 450°F (232°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.
3. Higher maintenance temperatures may be possible; contact TC-E for design assistance.



CONSTRUCTION

- 1 Heating conductors (2 or 3)
- 2 Fluoropolymer dielectric Insulation
- 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 TEK cables require a Terminator or 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 TEK cables. This termination, detailed on the back of this specification sheet, is available as a field fabricated kit.



AVAILABLE CABLES

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

Note

1. Base cable includes nickel-plated copper braid (BN). Overjacket option is designated as a suffix to cable model number (example: TEK 2C40 BNOJ for overjacket option).
2. Consult factory for higher resistance conductor options

TERMINATIONS AND SPLICES

Prior to connection to power, TEK heating cables should be terminated using the 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 TEK 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.



CETK: Field fabricated cold-end termination kit.



HETK: Field fabricated hot-end termination kit.



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.

CIRCUIT BREAKER SIZING AND TYPE

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.