



System No. TB-8 XCLF.TB-8 Thermal Barrier Systems

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- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

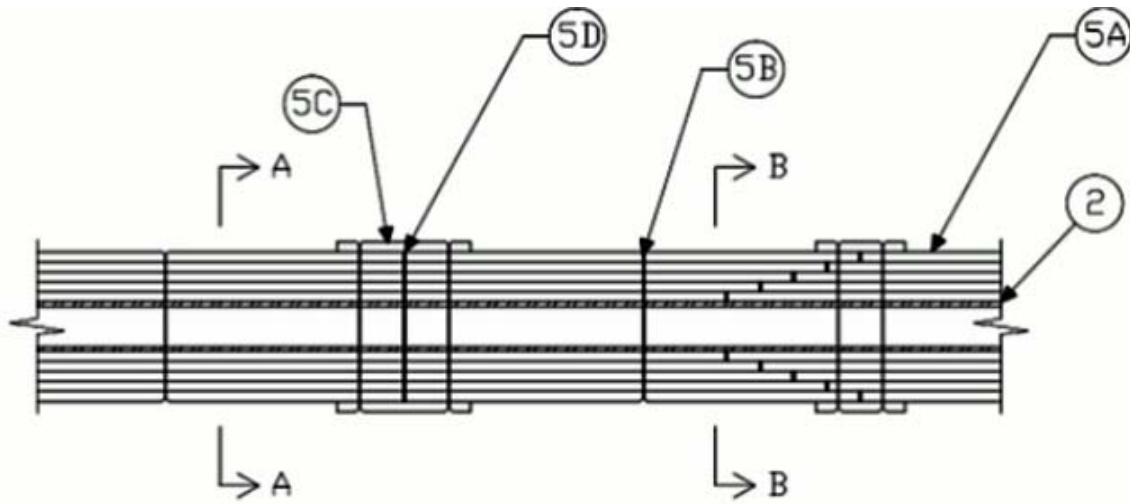
Thermal Barrier Systems

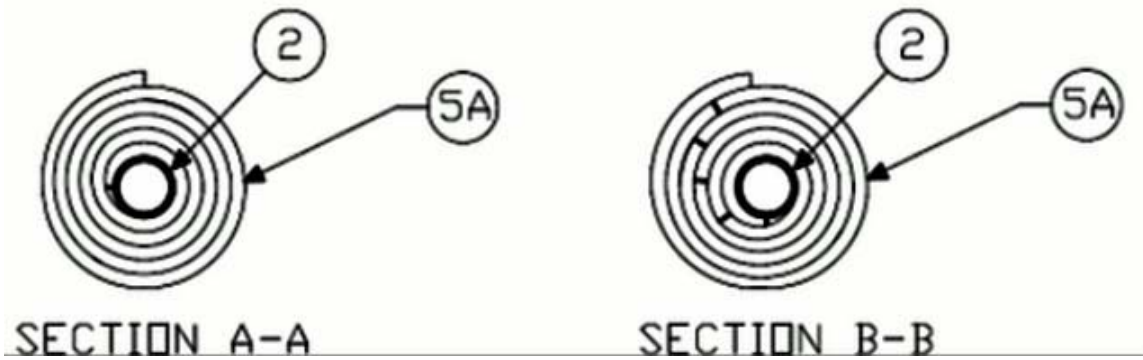
[See General Information for Thermal Barrier Systems](#)

System No. TB-8

January 17, 2014

Rating - 1 or 2 Hr.





1. **Wall or Floor Assembly** — (Not Shown) - Concrete or masonry wall or concrete floor having a fire rating equal to or greater than the fire rating of the electrical circuit protective system. Opening in wall or floor through which conduit passes is to be max 1.5 in. (38 mm) larger than the outside diam of the conduit or length and width of the cable tray. Conduit installed eccentrically or concentrically in the opening with a min 0 in. (point contact) to max 3/4 in. (19 mm) annular space. Through opening in wall or floor to be firestopped prior to installation of the electrical circuit protective system using min 4 pcf (64 kg/m³) mineral wool batt packing material throughout the thickness of the floor or wall except for a recess at each surface to accommodate the caulk fill material (Item 5D). A min 1/2 in. (13 mm) depth of caulk fill material (Item 5D) is required to be installed in the annular space flush with each surface of the floor or wall assembly. The perimeter of the firestopped through opening shall be within the outer bounds of the electrical circuit protective system.

2. **Raceway** — Nominal 1 in. (25.4 mm) to 4 in. (102 mm) steel or iron pipe, conduit, EMT, or min. 10 x 4 in. (254 x 102 mm) steel ladder back cable tray (not shown). Conduit, EMT, or cable tray shall be installed as a complete system in accordance with all provisions of the current National Electrical Code.

3. **Raceway Supports** — (Not Shown) - Conduit system shall be supported by steel pipe hangers in conjunction with min 3/8 in. (10 mm) diameter threaded steel rod. Cable trays shall be supported by U-shaped welded hangers formed of min 0.093 in. (2.4 mm) thick painted or galvanized steel channels, 1-5/8 in. (41 mm) wide by min 1-5/8 in. (41 mm) deep with the flange edges hemmed for stiffness.

4. **Cables** — Cables to be installed in conduit in accordance with all provisions of the current National Electrical Code.

5. **Electrical Circuit Protective System** — The electrical circuit protective system consists of a flexible mat, foil tape, min No. 16 gage steel tie wire and putty. The system shall be installed in accordance with the detailed installation instruction manual supplied by the manufacturer of the Electrical Circuit Protective Materials*. The details of the electrical circuit protective system are summarized below:

A. **Electrical Circuit Protective Materials*** — Nom 0.4 in. (10 mm) thickness flexible sheet material. A min of four or five layers of mat wrap are required (See table below for raceway type, hourly rating, and required layers). Mat wrap is installed by concentrically wrapping raceway until required number of layers is achieved and with minimum 6 inch (152 mm) overlap over starting end of mat. Adjacent sections of mat are tightly butted with putty (Item 5D) applied in joint and with collar strip (Item 5C) centered over joint. Alternatively, individual layers of mat wrap can be installed with each layer of mat wrap installed by cutting to size and wrapping around the raceway and itself such that a min 1.5 in. (38 mm) overlap is present along the longitudinal seam and with adjacent lengths of mat wrap in each layer to be installed with tightly-butted end seams. Successive layers of mat wrap installed in same manner with butted end seams offset min 1.5 in. (38 mm) from butted end seams of preceding layer, and a collar strip (Item 5C) installed over the final layer butt-seam. Cut edges of mat wrap seal with foil tape. Mat wrap layers secured in place with steel tie wire (Item 5B) on outermost layer.

Raceway Type	1-Hr Rating	2-Hr Rating
Min. 1 in. (25.4mm) and Max 4 in. (102 mm) steel conduit or EMT	4 layers	5 layers
Min. 10 x 4 in. (254 x 102 mm) open ladder back steel cable tray	4 layers	—

THERMAL CERAMICS INC — FireMaster UI-T-Wrap

B. **Steel Tie Wire** — Min No. 16 Gage. (1.5 mm) galvanized steel tie wire. Tie wire used to secure outside layers of mat wrap and spaced max 8 in. (203 mm) OC and max 1 in. (25.4 mm) from both edges of collar strip (Item 5C).

C. **Electrical Circuit Protective Materials* — Collar Strip** — Mat wrap nom. 6 in. (152 mm) wide over butt seams that run through to raceway or nom. 4 in. (100 mm) wide over butt seams where joints between layers are staggered. Collar strip is installed by cutting to size and wrapping around the raceway and itself such that a min 1.5 in. (38 mm) overlap is present along the longitudinal seam.

THERMAL CERAMICS INC — FireMaster UL-T-Wrap

D. **Electrical Circuit Protective Materials* — Putty** — Thick layer of putty applied around entire face of joint between butted mat wrap sections and at its interface with the firestop system and the floor or wall surface.

THERMAL CERAMICS INC — FireMaster Putty

E. **Steel Pins** — (Not shown) — Min No. 12 Gage (2.5 mm) steel pins. Pins welded on both sides of the top and bottom rail of cable tray and spaced max 8 in. (200 mm) OC. Mat wrap is impaled on pins and the outside layer secured using min. 1.25 in. (32 mm) steel friction washers. Sharp ends of steel pins are either clipped flush with friction washer or turned down.

*Bearing the UL Classification Mark

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