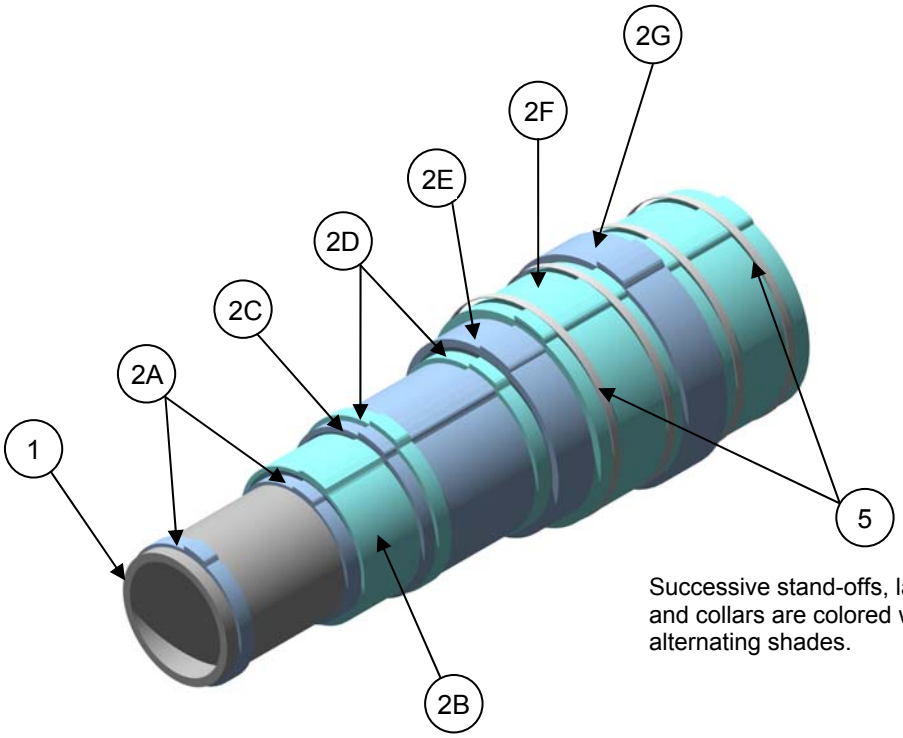
Design Number 3MU/BI 120-02
ELECTRICAL CIRCUIT PROTECTION
3M Systems Corporation
Fire Barrier Interam™ E-5 Series Mats,
Interam™ FireDam™ 150 Caulk, Fire Barrier™ CP 25WB+ Caulk
ASTM E 1725
Rating: 2 Hours



Successive stand-offs, layers and collars are colored with alternating shades.

1. CONDUIT: Rigid galvanized steel conduit, standard schedule, 3 inches in diameter or larger.

2. CERTIFIED MANUFACTURER: 3M Company

   CERTIFIED PRODUCT: Fire Barrier Interam™ E-5 Series Mats

   MODEL: Interam™ E-54-A Mat
   Interam™ E-5A-4 Mat

   MAT MATERIALS: The electrical conduit protection assembly consists of foil-faced flexible endothermic mat, aluminum foil tape and caulk. Prior to installation, verify that the conduit is clean and free of debris and all flammable residues. A total of four layers of mat material are required. After cutting the mat material to the appropriate size, hold it in place with tape, which is used as an installation aid and has no minimum installation requirements. Install the tape as a spiral wrap, for the length of the material, or as individual pieces. Use enough tape so that the mat material conforms to the

required circumference. The assembly details are as follows:

A. First Stand-offs: This layer consists of 1-1/2-inch-wide (nominal) strips of mat material (Item 2) as 'stand-offs' from the conduit. Cut 1-1/2-inch widths of mat material (Item 2) to the circumference of the conduit (Item 1). Install the stand-off strips at a maximum of 15 inches on center along the conduit using individual pieces of tape.

B. Layer 1: Install mat material (Item 2) using its width or length. Cut mat material (Item 2) to the circumference of the first stand-offs (Item 2A) plus a minimum 2 inches for overlap. Install the mat material (Item 2) with the foil face away from the electrical conduit (Item 1) and first stand-offs (Item 2A) being protected. Overlap the end of the mat material (Item 2) over its starting edge a minimum of 2 inches. Install tape as a spiral wrap, for the length of the mat material (Item 2), or as individual pieces. Taping Layer 1 of the mat material (Item 2) to the conduit (Item 1) as a means of restricting slippage is helpful but not required.

Repeat this process throughout the installation of this mat material (Item 2) layer. Butt together all adjoining pieces of mat material (Item 2) at the circumferential joint. Fill all gaps at butt joints larger than 1/8-inch wide with caulk (Item 3).

C. Layer 2: Install mat material (Item 2) using its width or length. Cut mat material (Item 2) to the circumference of Layer 1 (Item 2B) plus a minimum 2 inches for overlap. Install the mat material (Item 2) with the foil face away from the electrical conduit (Item 1), first stand-offs (Item 2A) and Layer 1 (Item 2B) being protected. Overlap the end of the mat material (Item 2) over its starting edge a minimum of 2 inches. Rotate the longitudinal overlap around the conduit so that it is spaced a minimum of 2 inches from the longitudinal overlap of the underlying layer. Taping Layer 2 of the mat material (Item 2) to Layer 1 (Item 2B) as a means of restricting slippage is helpful but not required.

Repeat this process throughout the installation of this mat material (Item 2) layer. Butt together all adjoining pieces of mat material (Item 2) at the circumferential joint. Fill all gaps at butt joints larger than 1/8-inch wide with caulk (Item 3).

D. Second Stand-offs: This layer consists of 1-1/2-inch-wide (nominal) strips of mat material (Item 2) as 'stand-offs'. Cut 1-1/2-inch widths of mat material (Item 2) to the circumference of Layer 2 (Item 2C) of mat material (Item 2). Install the stand-off strips at a maximum of 15 inches on center along the conduit.

E. Layer 3: Install mat material (Item 2) using its width or length. Cut mat material (Item 2) to the circumference of the second stand-offs (Item 2D) plus a minimum 2 inches for overlap. Install the mat material (Item 2) with the foil face away from the electrical conduit (Item 1), the first stand-offs (Item 2A), Layer 1 (Item 2B), Layer 2 (Item 2C) and the second stand-offs (Item 2D) being protected. Overlap the end of the mat material (Item 2) over its starting edge a minimum of 2 inches. Rotate the longitudinal overlap around the conduit (Item 1) so that it is spaced a minimum of 2 inches from the longitudinal overlap of the underlying layer. Taping Layer 3 of the mat material (Item 2) to Layer 2 (Item 2C) as a means of restricting slippage is helpful but not required.

Repeat this process throughout the installation of this mat material (Item 2) layer. Butt together all adjoining pieces of mat material (Item 2) at the circumferential joint. Fill all gaps at butt joints larger than 1/8-inch wide with caulk (Item 3).

F. Layer 4: Install mat material (Item 2) using its width or length. Cut mat material (Item 2) to the circumference of

Layer 3 (Item 2E) plus a minimum 2 inches for overlap. Install the mat material (Item 2) with the foil face away from the electrical conduit (Item 1), the first stand-offs (Item 2A), Layer 1 (Item 2B), Layer 2 (Item 2C), the second stand-offs (Item 2D), and Layer 3 (Item 2E) being protected. Overlap the end of the mat material (Item 2) over its starting edge a minimum of 2 inches. Rotate the longitudinal overlap around the conduit (Item 1) so that it is spaced a minimum of 2 inches from the longitudinal overlap of the underlying layer. Taping Layer 4 of the mat material (Item 2) to Layer 3 (Item 2E) as a means of restricting slippage is helpful but not required.

Repeat this process throughout the installation of this mat material (Item 2) layer. Butt together all adjoining pieces of mat material (Item 2) at the circumferential joint. Fill all gaps at butt joints larger than 1/8-inch wide with caulk (Item 3).

G. Collars: This layer consists of 4-inch-wide (nominal) strips of mat material (Item 2) as 'collars'. Cut 4-inch widths of mat material (Item 2) to the circumference of Layer 4 (Item 2F) of mat material (Item 2). Install collars at each butt joint in Layer 4 (Item 2F).

3. CERTIFIED MANUFACTURER: 3M Company

CERTIFIED PRODUCTS:

A. Interam™ FireDam™ 150 Caulk

B. Fire Barrier™ CP 25WB+ Caulk

CAULK (not shown): Apply to fill circumferential butt joints between adjacent sections of mat material (Item 2) in all layers. Fill all gaps or voids present along mat seams that are greater than 1/8-inch wide.

4. ALUMINUM FOIL TAPE (not shown): Apply aluminum foil tape to Layer 4 (Item 2F) as follows: install tape over all exposed caulk and joints; and, tape any tears or defects to the outer foil of the mat material (Item 2) on Layer 4 (Item 2F).

5. STEEL BANDING: Apply minimum 1/2-inch x 0.020-inch stainless steel bands over the taped (Item 4) Layer 4 (Item 2F) of the mat material (Item 2). Space steel banding at a maximum of 12 inches on center and within 1 inch of the edges of all collars.