3M Company
Design No 3MU/AF 120-05
Applied Fireproofing
Aluminum Cable Tray
3M™ Interam™ E-5A-4 Series Endothermic Mat
ISO 22899-1, Determination of the Resistance to
Jet Fires of Passive Fire Protection Materials
Ratings: See Table 1

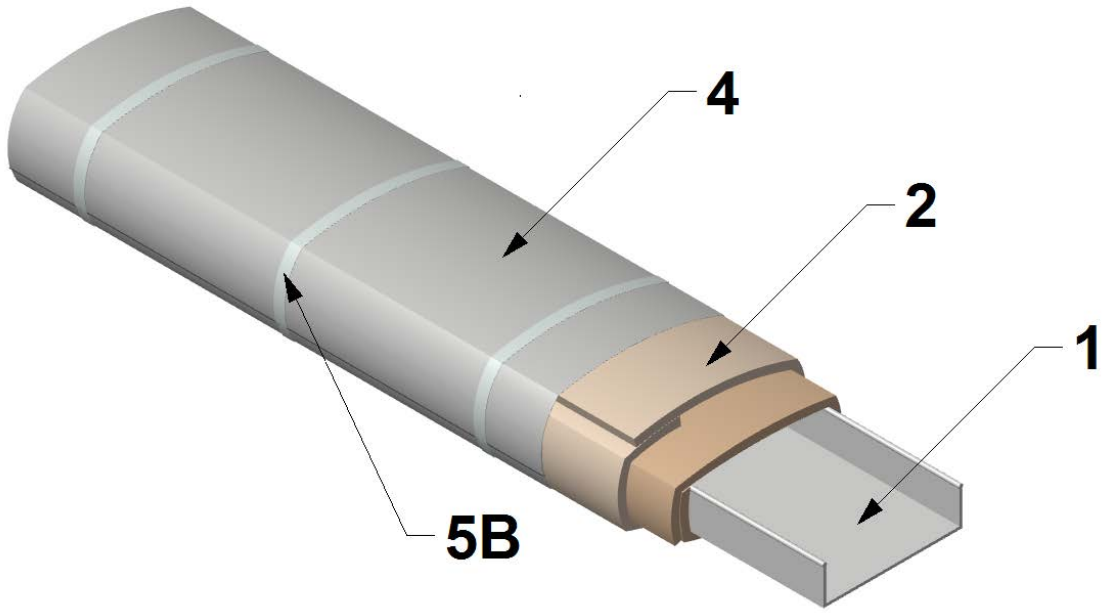

Figure 1 – Cable Tray Protection (2 Layer System Shown)

2 Layers	4 Layers	6 Layers	Max. Temperature Rise
73.6 °C	4.1 °C	1.7 °C	Temp Rise @ 10 min
91.0 °C	14.1 °C	5.2 °C	Temp Rise @ 15 min
116.4 °C	68.0 °C	9.1 °C	Temp Rise @ 20 min
200.6 °C	83.0 °C	18.1 °C	Temp Rise @ 30 min
N/A	84.8 °C	77.5 °C	Temp Rise @ 45 min
N/A	103.2 °C	83.8 °C	Temp Rise @ 60 min
N/A	205.7 °C	88.3 °C	Temp Rise @ 90 min
N/A	N/A	95.2 °C	Temp Rise @ 120 min
N/A	N/A	135.2 °C	Temp Rise @ 150 min
N/A	N/A	173.7 °C	Temp Rise @ 167 min

Table 1 - Ratings

1. **CABLE TRAY:** Use aluminum or other metallic cable tray with min. nominal dimensions of 44.5mm (1-3/4 in.) high × 152mm wide (6 in.), with ventilated or solid bottom.

2. **CERTIFIED MANUFACTURER:** 3M Company

   CERTIFIED PRODUCT: Applied Fireproofing

   CERTIFIED MODEL: 3M™ Interam™ E-5A-4 Series Endothermic Mat

   ENDOTHERMIC MAT: Refer to Table 1. Install the prescribed number of layers of foil-faced flexible Endothermic Mat for the desired rating period.

   Each layer of Endothermic Mat is wrapped tightly around the cable tray (Item 1) with the foil facing away from the cable tray. Ensure a min. 50mm (2 in.) overlap onto itself at end of wrap. Each section of Endothermic Mat is to be tightly butted to the adjacent section. Temporarily affix sections of Endothermic Mat with 3M™ Scotch 898 Filament Tape (1/2 in. wide), spaced nominally 3 in. on center (oc).

   Any gaps larger than 3mm (1/8 in.) in width between adjacent Endothermic Mat wraps are to be filled with 3M™ Fire Barrier Sealant CP25+ WB (not shown).

   Install each additional layer in the same manner, ensuring the seams between layers are offset a min. of 50mm (2 in.).

3. **ALUMINUM TAPE:** (Not Shown) Apply 102mm (4 in.) wide pressure sensitive tape with aluminum foil-facing to all joints of each layer of the Endothermic Mat (Item 2).

4. **STEEL SHEATHING:** Install a one layer of min. 0.48mm (26 GA, 0.0156 in.) S-304 stainless steel sheathing over the Endothermic Mat (Item 2) with min. 76mm (3 in.) overlap at joints to create a stepped surface installation. Circumferential wraps will be overlapped by a min. of 3 in. at the end of the wrap.

5. **STEEL BANDING:** Apply 13mm (1/2 in.) wide × 0.5mm (0.02 in.) thick stainless steel banding as follows:

   A. (Not Shown) Following the installation of the outer layer of the Endothermic Mat (Item 2), install bands a max. of 305mm (12 in.) oc and 0mm (1-1/2 in.) from the ends of the Endothermic Mat (Item 2). Bands shall be tightened such that they compress, but do not cut, into the foil-facing of the Endothermic Mat (Item 2).

   B. Following the installation of the stainless steel sheathing (Item 4), install bands a max. of 400mm (16 in.) oc and 40mm (1-1/2 in.) from the ends of the sheathing.