

SECTION 07850 — MEMBRANE FIRE BARRIERS

PART 1 — GENERAL REQUIREMENTS

1.1 SUMMARY

- A. This section includes membrane fire barrier systems for membrane penetrations through 1-hour fire-resistance-rated constructions for items such as recessed lights.

1.2 REQUIREMENTS OF PERFORMANCE

- A. For membrane penetrations through the following fire-resistance-rated constructions, provide e.z. barrier membrane-penetration fire barrier systems that are produced and installed to resist spread of smoke, gases and fire according to requirements indicated, and maintain original fire-resistance rating of construction penetrated.
 - 1. One hour fire-resistance-rated horizontal assemblies including floors, floor-ceiling assemblies and ceiling membranes of roof-ceiling assemblies to be constructed as described by UL Fire Resistance Directory Design Number L528. As tested and listed by Omega Point Laboratories, Inc. 2003 Product Directory, Floor/Ceilings Design Number FC114 will maintain an F-Rating of 1 hour.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated on plans.
- B. Shop Drawings: For each membrane fire barrier system, show each type of construction condition penetrated, relationships to adjoining construction, and type of penetrating item. Include e.z. barrier membrane-penetration fire barrier system submittal.
- C. Product Test Reports: From Omega Point Laboratories, Inc., a qualified testing agency. Indicate membrane-penetration fire barrier system complies with requirements, based on comprehensive testing of current products.
- D. Product Certificates: For membrane-penetration firestop system products, signed by e.z. barrier of Minneapolis, Minnesota.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: A firm experienced in installing membrane-penetration fire barrier systems. Qualifications include having the necessary experience, staff, and training to install manufacturer's products per specified requirements.
- B. Installation Responsibility: Assign installation of membrane-penetration fire barrier system in project to a single qualified installer.
- C. Source Limitations: Obtain membrane fire barrier devices from e.z. barrier of Minneapolis, Minnesota.



- D. Fire-Test-Response Characteristics: Provide membrane fire barrier systems that comply with the following requirements and those specified in Part 1 “Requirements of Performance” article:
1. Membrane fire barrier tests to maintain fire resistance rating of fire-rated assemblies shall comply with the following tests.
 - a. ASTM E119-00a “Standard Methods of Fire Tests of Building Construction and Materials.”
 - b. UL 263 “Fire Tests of Building Construction and Materials.”
 - c. NFPA 251 “Standard Methods of Tests of Fire Endurance of Building Construction and Materials.”
 - d. UBC 7-1. Specifically, Section 710 for Floor Ceilings or Roof Ceilings states: “Fire-resistive floors, floor-ceiling or roof-ceiling assemblies shall be assumed to have the fire resistance ratings set forth in Table 7-C. When materials are incorporated into an otherwise fire-resistive assembly that may change the capacity for heat dissipation, fire test results or other substantiating data shall be made available to the building official to show that the required fire-resistive time period is not reduced.
 - e. ANSI A2.1

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver e.z. barrier membrane-penetration fire barrier system products to project site in original, unopened containers or packages with intact and legible manufacturers’ labels identifying product and manufacturer, date of manufacture, lot number, qualified testing and inspecting agency’s classification marking applicable to project.
- B. Store and handle materials for e.z. barrier membrane-penetration fire barrier systems to prevent their deterioration or damage due to moisture, temperature changes, contaminants, or other causes.

1.6 PROJECT CONDITIONS

- A. Install e.z. barrier membrane-penetration fire barrier system only when ambient air conditions are within the published tolerances of all component specifications regarding moisture and temperature.
- B. Maintain adequate ventilation for the e.z. barrier membrane-penetration fire barrier system per manufacturer’s written instructions by natural means or, where this is inadequate, forced-air circulation shall be provided.

1.7 WORK OF TRADES REQUIRING COORDINATION

- A. Coordinate construction of openings and penetrating items to ensure that membrane-penetration firestop systems are installed according to specified requirements.
- B. Installer must coordinate location of e.z.barrier membrane-penetration fire barrier system with the work of all other trades to ensure compliance with the written instructions of the e.z. barrier manufacturer.
- C. Do not cover up the e.z. barrier membrane-penetration fire barrier system until each installation has been examined by the building inspector- if required by authorities having jurisdiction.



PART 2 — PRODUCTS

2.1 MANUFACTURERS

- A. Available Products: Subject to compliance with requirements stated within this document, membrane-penetration fire barrier systems shall be as manufactured by e.z. barrier of Minneapolis, Minnesota.

2.2 LIGHT FIXTURE MEMBRANE FIRE BARRIER SYSTEMS

- A. Compatibility: Provide membrane-penetration fire barrier systems that are compatible with the structure and in compliance with structural systems and clearances required by the manufacturer.
 - 1. Overall features: membrane fire penetration systems as manufactured by e.z. barrier shall be engineered to fit within either 24" or 16" on center structural elements as described in the written installation material.
- B. Membrane fire barrier enclosure material shall be formed, corrosion-resistant metal, nominally 24- gauge, and shall not be field modified.
- C. Designed penetrations of the e.z. barrier membrane-penetration fire barrier system shall be only as supplied by the manufacturer. Penetrations of the membrane fire barrier shall be allowed for power wiring as described on the written manufacturer's installation sheet.
 - 1. All power wiring must meet the requirements of the National Electric Code and the authority having jurisdiction.
 - 2. Penetrations of the membrane fire barrier system shall be made only at factory designated knock-out locations and in conformance with the manufacturer's written installation instructions.
 - 3. A maximum of two standard 3C-12AWC "Romex" wires shall penetrate the enclosure as per the e.z. barrier written installation instructions.

PART 3 — EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, to be in compliance with manufacturer's recommendations and with requirements for opening configurations.
 - 1. Proceed with installation only after unsatisfactory conditions have been corrected and the UL assembly is ensured to be constructed within the tolerances of the UL published diagrams and specifications for the assembly and the membrane to be penetrated.
 - 2. Confirm that the e.z. barrier membrane-penetration fire barrier system has been tested for the UL assembly being penetrated.

3.2 PREPARATION

- A. Surface Cleaning: Clean out openings immediately before installing e.z. barrier membrane-penetration fire barrier system in compliance with fire barrier manufacturer's written instructions and with the following requirements:
 - 1. Remove from surfaces of opening substrates and from penetrating items, foreign materials that could interfere with installation of the membrane fire barrier systems.
 - 2. Clean opening substrates and penetrating items to produce clean, sound surfaces capable of allowing installation in compliance with the manufacturer's written installation instructions.

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3.3 INSTALLATION

- B. Mounting of membrane fire barrier enclosure shall be in full compliance with manufacturer's published mounting recommendations and include four drywall screws a minimum of 1-1/4" in length fully bored into the structural elements at predrilled locations in the flanges of the membrane fire barrier. Required drywall mounting channels shall be mounted after the membrane fire barrier is installed as per UL Fire Resistance Directory Design Number L528.
- C. There shall be a maximum of two membrane fire barrier enclosures located within any 36 square foot area of the ceiling.
- D. Minimum of 24" on center spacing within any single truss cavity.
- E. Minimum of 34" center-to-center fixture spacing for adjacent truss cavities.
- F. Firestop seal (as listed with Omega Point Laboratories) shall be applied to fill voids or cavities around the power supply wire where it exits the recessed e.z. barrier membrane-penetration fire barrier system as specified in the manufacturer's written instructions.

3.4 FIELD QUALITY CONTROL

- A. Installer shall inspect each membrane fire barrier installation for conformance with manufacturer's written installation instructions. Proceed with enclosing e.z. barrier membrane-penetration fire barrier systems with other construction only after complete inspection for compliance with manufacturer's written installation procedures has been confirmed.

3.5 CLEANING AND PROTECTING

- A. Clean off excess fill materials adjacent to openings as work progresses by methods and with cleaning materials that are approved in writing by e.z. barrier membrane-penetration fire barrier system and that do not damage materials in which openings occur.
- B. Provide final protection and maintain conditions during and after installation that ensure that e.z. barrier membrane-penetration fire barrier system are without damage or deterioration at time of substantial completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated e.z. barrier membrane-penetration fire barrier system immediately and install new materials to produce systems complying with specified requirements.

