

# ARCHITECT & MEP ENGINEERING NOTICE REPORT

## FRPS FIRE-RATED PENETRATION SYSTEMS

### Sheetmetal Fire-Rated Enclosures

#### *Architect & MEP Engineering Notice and CSI 3-Part Specification*

This notice provides required coordination information for architects, mechanical/electrical/plumbing engineers, contractors, inspectors, and authorities having jurisdiction regarding the use, listing, and compliance of FRPS Fire-Rated Penetration Systems sheet metal enclosures in fire-resistance-rated assemblies where recessed fixtures, devices, or membrane penetrations occur.

#### 1. Notice Purpose

FRPS enclosures are intended to maintain the required fire-resistance rating of listed fire-rated assemblies when one side of the rated membrane is interrupted by recessed devices or other membrane penetrations. Recessed devices shall not be installed in rated assemblies unless the penetration is protected by a tested and listed system acceptable to the project design professional and AHJ.

#### 2. Covered Applications

- Recessed downlighting canister-style fixtures, including IC and non-IC rated luminaires.
- One and Two-hour IC-rated and non-IC-rated slimline/wafer LED downlighting fixtures were installed in rated horizontal assemblies.
- In-wall or in-ceiling speakers and low-voltage devices.
- Tub/shower mixing valves and similar recessed plumbing devices.
- Bathroom exhaust fans and fan/light combinations.
- Wall sconce lighting, fire alarm devices, exit signs, AED cabinets, and other recessed MEP devices.
- Other recessed devices or membrane penetrations where a listed fire-rated enclosure is required to maintain the assembly rating.

#### 3. Compliance Requirements

- A.** IBC Chapter 7 requires fire-resistance-rated construction to remain continuous and protected where penetrations or membrane penetrations occur. Any penetration in a fire-rated assembly must be demonstrated not to reduce the required fire-resistance rating of the assembly.
- B.** Enclosures and penetration-protection systems shall be tested and listed as applicable to the project condition, including ASTM E119 / UL 263 and, where applicable, ASTM E814 / UL 1479.
- C.** Fire testing evaluates criteria including temperature rise on the unexposed side, fire endurance, structural stability, and integrity of the protected membrane penetration.

#### 4. FRPS Third-Party Evaluated and Listed Systems

- A.** FRPS sheet metal enclosures are fabricated from 24-gauge galvanized G90 sheet metal unless otherwise indicated by the approved listing or manufacturer literature.
- B.** Vertical wall assemblies: FRPS/FME-Z 14-14-3 and applicable FME 60-series listings are used to protect recessed shower mixing valves, in-wall speakers, wall sconces, AED cabinets, exit signs, and other recessed devices in rated wall assemblies.

- C.** Horizontal floor/ceiling and roof/ceiling assemblies: FRPS/FN-Z 12-20-9, FN-Z 15-16-9, FN-Z 12-20-6.625, FN-Z 14-14-3, FN-Z 10.5 26-50- and applicable FRPS/FME listings are used for recessed lights, slimline LED luminaires, speakers, exhaust fans, and related devices in rated horizontal assemblies.
- D.** Applicable assemblies may include dimensional lumber joists, steel frame trusses, parallel cord wood trusses, and TJI joist systems when permitted by the specific listing and project conditions.

## 5. Special Note - Slimline/Wafer LED Downlights

All one-hour and two-hour IC-rated and non-IC-rated recessed downlighting housing and slimline/wafer LED fixtures installed in horizontal fire-resistance-rated assemblies must be protected using a tested and listed enclosure system where required to maintain ASTM E119 / UL 263 fire-resistance requirements for the rated assembly.

## 6. Design and Dimensional Coordination

- Coordinate enclosure part numbers and interior cavity dimensions with the actual recessed fixture or device.
- Confirm adequate space within joists, trusses, studs, ceiling cavities, and wall cavities before specifying or installing the enclosure.
- Coordinate enclosure size, access, device clearances, wiring, piping, airflow, and finish conditions in the construction documents.
- Do not allow device wiring, plumbing, airflow paths, or other penetrations to bypass the protected enclosure unless permitted by the listing.

## 7. Required Discipline Actions

| Discipline                   | Required Action                                                                                                                                                                                                                                                                                                    |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Architect                    | Include FRPS enclosures in Division 07 and cross-reference in applicable Division 22, 23, 26, and 28 sections. Confirm recessed devices do not violate rated membrane requirements. Coordinate enclosure sizing and details in rated assembly plans and schedules.                                                 |
| MEP Engineers                | Specify FRPS enclosures wherever recessed mechanical, electrical, plumbing, or low-voltage devices penetrate fire-rated ceilings or wall assemblies. Reference appropriate FRPS listings in plans and specifications. Ensure airflow, wiring, plumbing, and line-set penetrations do not bypass listed protection. |
| Contractors / Installers     | Install FRPS products strictly in accordance with manufacturer instructions and issued listing details. Obtain architect/engineer approval for field conditions or modifications before proceeding.                                                                                                                |
| AHJ / Inspector Coordination | Provide product data, listing documentation, installation instructions, and photographic closeout documentation as required by the project firestop quality control program.                                                                                                                                       |

Conclusion: FRPS fire-rated sheet metal enclosures provide a tested and listed method of preserving fire-resistance ratings in assemblies requiring recessed fixtures, devices, and other membrane penetrations. The system is intended to satisfy IBC fire-resistance continuity requirements when installed within the limits of the applicable UL/Intertek listing and manufacturer instructions.

| Item             | Description                                                                                                                                                                                                                                                      |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Project Use      | Fire-resistance-rated wall, floor/ceiling, and roof/ceiling assemblies penetrated by recessed fixtures, devices, or other membrane penetrations.                                                                                                                 |
| Related Products | FRPS sheet metal fire-rated enclosures for recessed downlighting, slimline/wafer LED fixtures, speakers, shower mixing valves, bathroom exhaust fans, wall sconces, fire alarm devices, exit signs, AED cabinets, and other recessed MEP or low-voltage devices. |
| Typical Listings | FRPS/FME and FN-Z series listings, including FME 60-01 through 60-09 where applicable to the listed assembly and product configuration.                                                                                                                          |

| Item         | Description                                                                                                                                                          |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Related Work | Division 07 Firestopping; Division 09 Gypsum Assemblies; Division 22 Plumbing; Division 23 HVAC; Division 26 Electrical; Division 28 Electronic Safety and Security. |

**Specifier Note:** Edit this document to match the actual project assemblies, hourly ratings, approved listing details, product models, AHJ requirements, and device schedules. Do not use as a substitute for project-specific code review or manufacturer listing review.

DIVISION 07 84 43

## FIRE-RATED PENETRATION ENCLOSURES

CSI 3-Part Specification Format | Division 07 Firestopping

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A.** Section includes factory-built, third-party tested and listed fire-rated sheetmetal enclosures for protection of membrane penetrations in fire-resistance-rated walls, floor/ceiling assemblies, and roof/ceiling assemblies.
- B.** Applications include recessed luminaires, slimline/wafer LED fixtures, bathroom exhaust fans, in-wall and in-ceiling speakers, shower mixing valves, wall sconces, exit signs, AED cabinets, fire alarm devices, and other devices penetrating one side of a rated membrane.
- C.** Fire-rated penetration enclosures shall maintain the hourly fire-resistance rating of the listed assembly in accordance with the applicable tested listing and manufacturer installation instructions.

#### 1.2 RELATED REQUIREMENTS

- Section 07 84 00 - Firestopping: Firestop systems and penetration protection requirements.
- Section 09 21 16 or 09 29 00 - Gypsum Board Assemblies: Rated wall and ceiling construction.
- Section 22 05 00 - Common Work Results for Plumbing: Recessed plumbing devices and shower valve coordination.
- Section 23 05 00 - Common Work Results for HVAC: Exhaust fans and recessed HVAC device coordination.
- Section 26 05 33 - Raceway and Boxes for Electrical Systems: Recessed electrical devices and luminaires.
- Section 28 31 00 - Fire Detection and Alarm: Fire alarm devices installed in rated assemblies.

#### 1.3 REFERENCES

- International Building Code (IBC), Chapter 7 - Fire and Smoke Protection Features.
- ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
- UL 263 - Fire Tests of Building Construction and Materials.
- ASTM E814 - Standard Test Method for Fire Tests of Penetration Firestop Systems, where applicable.
- UL 1479 - Fire Tests of Penetration Firestops, where applicable.
- ASTM E283 - Air leakage performance where applicable to airtight fixture or energy-code conditions.
- Applicable Intertek or UL listed designs for the selected FRPS enclosure model and assembly.

#### 1.4 DEFINITIONS

- A.** Membrane Penetration: A penetration through one side of a fire-resistance-rated assembly that interrupts the rated membrane but does not pass completely through the assembly.
- B.** Listed Enclosure: A fire-rated enclosure tested by an accredited third-party laboratory and installed within the limitations of its published listing.
- C.** Field Modification: Cutting, drilling, notching, resizing, adding penetrations, or otherwise altering a listed enclosure or rated assembly outside the listing limits.

## **1.5 PERFORMANCE REQUIREMENTS**

- A.** Maintain the full hourly fire-resistance rating of the rated assembly when recessed fixtures or devices are installed.
- B.** Provide enclosures tested and listed for the applicable assembly type, device type, orientation, hourly rating, and installation configuration.
- C.** Enclosures shall be non-combustible and shall prevent flame and smoke migration into concealed cavity space in accordance with the tested listing.
- D.** Temperature rise, fire endurance, and membrane penetration protection shall meet ASTM E119 / UL 263 criteria or other applicable listed criteria.

## **1.6 SUBMITTALS**

- Product data showing construction, materials, dimensions, model number, approved uses, and installation limits.
- Current Intertek, UL, or other approved listing documentation verifying compliance with ASTM E119 / UL 263 or applicable fire test standard.
- Shop drawings or coordination drawings showing enclosure model, size, device location, framing condition, and relationship to adjacent trades.
- Manufacturer installation instructions for each enclosure model.
- Closeout documentation including installation photographs, inspection reports, and as-built locations where required.

## **1.7 QUALITY ASSURANCE**

- A.** Manufacturer shall provide evidence of third-party fire testing and listing for the selected enclosure models.
- B.** Installer shall be experienced with firestop systems, listed assemblies, recessed device installation, and rated construction coordination.
- C.** Do not conceal installations until inspections, photographs, and required documentation are complete.

## **1.8 DELIVERY, STORAGE, AND HANDLING**

- A.** Deliver products intact, undamaged, and labeled with manufacturer name, model, and listing information where applicable.
- B.** Store in a dry area and protect from deformation, corrosion, and physical damage.

## **1.9 COORDINATION**

- A.** Coordinate enclosure sizing with luminaires, speakers, fans, plumbing valves, signs, fire alarm devices, junction boxes, low-voltage devices, and related supports.
- B.** Confirm clearances within joists, trusses, studs, ceiling cavities, and wall cavities before installation.
- C.** Report conflicts to Architect and Engineer before proceeding with rough-in, enclosure installation, or wall/ceiling closure.

# **PART 2 - PRODUCTS**

## **2.1 MANUFACTURER**

- A.** Basis-of-Design Manufacturer: FRPS - Fire Rated Product Specialties Corp / Fire-Rated Penetration Systems.
- B.** Substitutions: Not permitted unless proposed system is third-party tested and listed for the same assembly type, device condition, rating, orientation, and installation configuration. Submit complete listing documentation for review before use.

## 2.2 FIRE-RATED SHEETMETAL ENCLOSURES

- A.** Acceptable FRPS models and listings include FN-Z and FME series enclosures as applicable to the project condition, including FRPS/FME 60-01, 60-02, 60-03, 60-04, 60-05, 60-06, 60-07, 60-08, and 60-09, subject to current manufacturer listings.
- B.** Typical enclosure models include FRPS/FN-Z 14-14-3, FN-Z 12-20-9, FN-Z 15-16-9, FN-Z 12-20-6.625 FN-Z 26-50-10.5, and FN-Z 12-20-9 EXH, subject to the specific application and assembly listing.

## 2.3 MATERIALS

- A.** Enclosures shall be fabricated from galvanized G90 sheet steel, minimum 24-gauge, non-combustible, unless otherwise required by the applicable listing.
- B.** Internal seams shall be mechanically formed, fastened, or welded as required by the listing and shall not compromise tested fire performance.
- C.** Enclosure dimensions shall match sizes indicated in the listing and manufacturer technical documentation.

## 2.4 PERFORMANCE REQUIREMENTS

- A.** Enclosures shall maintain the full hourly fire rating of the listed assembly when installed according to listing details and manufacturer instructions.
- B.** Temperature rise and structural integrity shall comply with ASTM E119 / UL 263 criteria for the tested assembly.
- C.** For horizontal assemblies containing recessed lighting, comply with applicable airtight or energy-code requirements where referenced by the project documents and applicable product listing.

## 2.5 UNACCEPTABLE PRODUCTS AND METHODS

- Unlisted field-fabricated boxes or scrap-material enclosures used in place of a tested and listed enclosure.
- Unlisted sealant-only, caulk-only, putty-pad-only, mineral-wool-only, or drywall-patch-only methods for recessed devices requiring listed protection.
- Field modifications to listed enclosures without manufacturer, Architect, Engineer, and AHJ approval as required.
- Recessed fixtures or devices installed in rated membranes without approved fire-rated penetration protection.

# PART 3 - EXECUTION

## 3.1 EXAMINATION

- A.** Verify supporting framing, cavity dimensions, rated assembly construction, device size, and required clearances before installation.
- B.** Identify conflicts with electrical, mechanical, plumbing, low-voltage, fire alarm, fire protection, and ceiling systems before installing enclosures.
- C.** Do not proceed if conditions require unlisted modifications to the enclosure or rated assembly.

## 3.2 INSTALLATION

- A.** Install enclosures in accordance with manufacturer instructions, applicable Intertek/UL listing details, approved submittals, and contract documents.
- B.** Secure enclosures to framing members or structure using approved fasteners and support methods required by the listing.
- C.** Seal edges, interfaces, or penetrations only where required or permitted by the listing. Do not apply unlisted materials.
- D.** Install recessed fixture, speaker, fan, mixing valve, sign, box, or device inside the enclosure cavity as intended by the listing.

- E.** Maintain internal clearances required for heat-producing luminaires, exhaust fans, wiring, transformers, drivers, valves, and other serviceable components.

### **3.3 FIELD QUALITY CONTROL**

- A.** Inspect each enclosure installation for conformance with approved listing, manufacturer instructions, and approved submittals before concealment.
- B.** Any field modification to enclosure, opening, or rated assembly requires resubmittal and approval before work proceeds.
- C.** Replace damaged, deformed, corroded, or nonconforming enclosures immediately.

### **3.4 PROTECTION AND CLEANING**

- A.** Protect installed enclosures from damage until project completion.
- B.** Remove debris from enclosure and surrounding cavity. Verify that enclosure is not obstructed or altered by later trade work.

### **3.5 CLOSEOUT DOCUMENTATION**

- Product data and manufacturer installation instructions for installed enclosure models.
- Current listing documentation applicable to each installed condition.
- Photographic documentation of representative or required installations before concealment.
- As-built locations of protected recessed devices in rated assemblies.
- Firestop inspection sign-off where required by AHJ or project quality control program.

**END OF DIVISION 07 84 43**

**SCROLL DOWN TO VIEW CSI DIVISION 26 DOCUMENTATION**

## **DIVISION 26 05 33**

# **RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS - FIRE-RATED FIXTURE ENCLOSURES**

## **PART 1 - GENERAL**

### **1.1 SUMMARY**

- A.** Section includes electrical coordination requirements for fire-rated enclosures that allow installation of recessed I/C and Non-I/C canister style downlighting fixtures, I/C rated 2-hour LED wafer lights, junction boxes, exit signs, emergency lighting, speakers, fire alarm devices, and low-voltage devices within fire-resistance-rated wall or ceiling assemblies without compromising the assembly rating.
- B.** Coordinate this section with Section 07 84 43 for fire-resistance continuity and listed enclosure requirements.

### **1.2 SUBMITTALS**

- Manufacturer product data and installation instructions for each enclosure used with electrical devices.
- Listing documentation showing approved use with the rated assembly and device type.
- Coordination drawings showing enclosure location, luminaire or device type, clearances, wiring pathways, and access requirements.

### **1.3 QUALITY ASSURANCE**

- A.** Electrical installer shall coordinate with firestopping installer and ceiling/wall trades to maintain listed assembly conditions.
- B.** Do not route wiring, conduits, low-voltage cabling, or other components in a manner that bypasses the protected enclosure or violates the listing.

## **PART 2 - PRODUCTS**

### **2.1 FIRE-RATED ENCLOSURES**

- A.** FRPS FN-Z and FME series sheetmetal fire-rated enclosures listed under applicable Intertek or UL listings for the rated assembly and device condition.
- B.** Enclosures shall be galvanized G90 sheet steel, minimum 24-gauge, non-combustible, unless otherwise required by the listing.

### **2.2 ELECTRICAL APPLICATIONS**

- IC and non-IC recessed downlighting fixtures.
- Slimline/wafer LED fixtures and canless recessed luminaires.
- Junction boxes and low-voltage boxes.
- In-ceiling and in-wall speakers.
- Exit signs, emergency lighting, wall sconces, and related signage.
- Fire alarm devices and other recessed electrical or low-voltage devices.

## **PART 3 - EXECUTION**

### **3.1 INSTALLATION**

- A.** Install electrical devices and associated FRPS enclosure in accordance with manufacturer listing and approved submittals.

- B.** Mount enclosures securely to framing or structure and coordinate support to avoid vibration or displacement.
- C.** Coordinate wiring routing and fixture mounting inside the enclosure cavity.
- D.** Maintain clearance around luminaires, drivers, transformers, and heat-producing components to prevent overheating and to remain within manufacturer and listing requirements.

### 3.2 FIELD QUALITY CONTROL

- A.** Verify each installation matches approved fire test listing and project submittals before concealment.
- B.** Remove and replace damaged, modified, or nonconforming enclosures.

## END OF SECTION 26 05 33

### APPENDIX A - SHORT-FORM DRAWING / SPECIFICATION NOTE

All recessed fixtures, devices, boxes, luminaires, exhaust fans, speakers, plumbing valves, signs, cabinets, fire alarm devices, and other membrane penetrations installed in fire-resistance-rated wall, floor/ceiling, or roof/ceiling assemblies shall be protected with FRPS listed fire-rated sheetmetal enclosures or other approved tested and listed systems acceptable to the Architect, Engineer, and AHJ. Field-fabricated enclosures, unlisted patching, and sealant-only methods are not permitted where a listed system is required to maintain the assembly rating.

## APPENDIX B - FIELD NOTICE CHECKLIST

| Observed Condition                                                               | Status                            | Required Action                                                                  |
|----------------------------------------------------------------------------------|-----------------------------------|----------------------------------------------------------------------------------|
| Recessed fixture or device installed in rated assembly without listed enclosure. | <input type="checkbox"/> Observed | Submit and install approved listed FRPS enclosure or other tested/listed system. |
| Enclosure model does not match device size or listed assembly condition.         | <input type="checkbox"/> Observed | Stop work and coordinate revised model/listing with Architect and Engineer.      |
| Field modification, cut, drilled hole, or bypass penetration through enclosure.  | <input type="checkbox"/> Observed | Obtain approval or remove and replace enclosure as directed.                     |
| Wiring, piping, duct, or line set bypasses listed enclosure protection.          | <input type="checkbox"/> Observed | Re-route or protect penetrations per listed system and approved detail.          |
| Damaged, deformed, or corroded enclosure observed before concealment.            | <input type="checkbox"/> Observed | Replace before wall or ceiling closure.                                          |

## APPENDIX C - CLOSEOUT REQUIREMENTS

- Product data for each installed FRPS enclosure model.
- Intertek/UL listing documentation applicable to installed assembly and device type.
- Manufacturer installation instructions and installer compliance documentation where required.
- Photographic documentation of installations before concealment when required by AHJ or project firestop program.
- Updated as-built drawings indicating locations of protected recessed devices in rated assemblies.
- Firestop or special inspection sign-off when required.

## APPENDIX D - DISTRIBUTION

- ☐ Architect of Record
- ☐ MEP Engineer of Record
- ☐ General Contractor
- ☐ Electrical Contractor
- ☐ Mechanical Contractor
- ☐ Plumbing Contractor

- ☐ Firestopping Contractor
- ☐ Fire Alarm / Low-Voltage Contractor
- ☐ Owner / Facilities Team
- ☐ Authority Having Jurisdiction / Inspector

## **APPENDIX E - TECHNICAL SUPPORT**

### **FRPS - Fire-Rated Product Specialties Corp**

Technical Support & Installation Assistance

Email: [john@frpsonline.com](mailto:john@frpsonline.com)

Phone: 612-294-1450

Website: [www.frpsonline.com](http://www.frpsonline.com)