

ARCHITECT AND MEP ENGINEERING NOTICE REPORT

FRPS Fire-Resistance Requirements for Exhaust Fan Penetrations

1-Hour Wood Joist / Wood Truss Floor-Ceiling and Roof-Ceiling Assemblies

CSI Master Format 3-Part Specification and Project Coordination Notice

CSI Section	Title	Primary Use
07 84 00	Firestopping	Fire-resistance continuity at exhaust fan penetrations in rated horizontal assemblies.
23 34 23	HVAC Power Ventilators	Mechanical coordination for bath exhaust fans and listed fire-rated enclosure requirements.

Specification Intent

This document converts the attached Architect and MEP Engineering Notice into CSI-style specification language. It is intended for use by architects, MEP engineers, general contractors, mechanical subcontractors, AHJs, inspectors, and firestopping coordinators when exhaust fans penetrate 1-hour fire-resistance-rated combustible wood joist or wood truss horizontal assemblies.

Specifier Note

Coordinate final use with current FRPS Intertek listings, the approved UL/Intertek assembly, project-specific code requirements, and AHJ direction. The source notice identifies FRPS Model FN-Z-12-20-9 EXH and Intertek listings FRPS/FME 60-02, FRPS/FME 60-03, and FRPS/FME 60-04, with one later reference to FRPS/FME 60-06. Confirm applicable listing numbers for the project submittal package before issuance.

1.1 Purpose

- A. Fire protection requirements governing exhaust fan penetrations in 1-hour fire-resistance-rated combustible floor-ceiling and roof-ceiling assemblies require tested and listed construction. This notice is intended to prevent field conflicts, noncompliant penetrations, and failed inspections caused by outdated reliance on radiation dampers not approved for modern wood-framed construction.
- B. Exhaust fans installed in rated combustible horizontal assemblies shall be protected by a tested fire-resistive enclosure system that maintains the required hourly rating of the assembly.

1.2 Code and Listing Background

- A. **Beginning in 2013**, UL and Intertek revised evaluation criteria for UL 555C radiation dampers used at floor/ceiling penetrations. A UL 555C damper by itself does not automatically qualify a fan installation for use in combustible wood joist or wood truss assemblies.
- B. Fan and damper combinations used in combustible assemblies require separate combustible fire-chamber testing, such as ASTM E119 / UL 263 testing, to demonstrate that the assembly maintains the required fire-resistance rating.
- C. Radiation dampers shall not be used for bath or exhaust fan penetrations in wood-framed rated floor-ceiling or roof-ceiling assemblies unless the specific fan/damper assembly is documented as listed for the applicable combustible assembly.

1.3 Required FRPS Assembly

- A. Provide FRPS Model FN-Z-12-20-9 EXH fire-rated exhaust fan enclosure listed system for exhaust fan penetrations in 1-hour wood joist or wood/ steel truss assemblies.
- B. The enclosure shall create a tested fire-resistive envelope around the exhaust fan housing, eliminate the need for radiation dampers where permitted by the listing, and provide ASTM E119 / UL 263 fire-resistance rating continuity.

C. Use Intertek listed design requirements applicable to the project, including FRPS/FME 60-02 for 1-hour floor/ceiling fire-rated assemblies, FRPS/FME 60-03 for recessed exhaust fan enclosure, and FRPS/FME 60-04 for 1-hour roof/ceiling fire-rated assemblies, or the current listed design approved for the project.

1.4 Design Team and Contractor Action Items

Discipline	Required Action	Timing
Architect of Record	Update life-safety plans, reflected ceiling plans, UL/Intertek assembly notes, and architectural details to designate FRPS fire-rated exhaust fan enclosures at all affected penetrations.	Immediately
MEP Engineer	Revise mechanical schedules, specifications, fan details, and coordination notes to remove radiation damper references unless a combustible-assembly listing is provided.	Immediately
General Contractor / Mechanical Contractor	Coordinate fan location, joist/truss layout, ceiling profile, and FRPS enclosure installation before rough-in.	Pre-rough-in
All Disciplines	Reject unlisted fan/damper assemblies for combustible rated construction unless supported by project-specific listing documentation accepted by the AHJ.	Before permit revisions and procurement

1.5 Contractor Responsibilities

- Install enclosure strictly in accordance with the applicable Intertek listing and FRPS manufacturer instructions.
- Do not damage, cut, remove, or modify the intumescent liner or enclosure components except as permitted by the listed system.
- Ensure no unsealed penetrations, gaps, or field modifications compromise the listed assembly.
- Provide FRPS installer checklist, product data, installation photos, and listing documentation at closeout.
- Include this notice in subcontractor coordination packages and pre-installation meetings.

SCROLL DOWN TO VIEW CSI DIVISION 07 AND 23 DOCUMENTATION

SECTION 07 84 00 - FIRESTOPPING**FRPS FIRE-RATED EXHAUST FAN ENCLOSURES FOR RATED HORIZONTAL ASSEMBLIES****PART 1 - GENERAL****1.1 Summary**

- A. Section Includes: Factory-fabricated fire-rated enclosure systems used to maintain the fire-resistance rating of 1-hour wood joist and wood truss floor-ceiling and roof-ceiling assemblies penetrated by recessed exhaust fan housings.
- B. Applications include bathroom exhaust fans, ventilation fan housings, and similar recessed mechanical equipment installed in rated horizontal assemblies where radiation dampers alone are not listed for the combustible assembly.
- C. Related Requirements:
1. Section 07 84 13 - Penetration Firestopping.
 2. Section 09 29 00 - Gypsum Board.
 3. Section 23 05 00 - Common Work Results for HVAC.
 4. Section 23 34 23 - HVAC Power Ventilators.
 5. Division 26 - Electrical coordination for fan power connections.

1.2 References

- A. Comply with the latest adopted editions of the following, as applicable to the approved project documents:
1. IBC Chapter 7 - Fire and Smoke Protection Features; fire-resistance-rated construction and penetrations.
 2. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
 3. UL 263 - Fire Tests of Building Construction and Materials.
 4. CAN/ULC-S101 - Standard Methods of Fire Endurance Tests of Building Construction and Materials, where applicable.
 5. UL 555C - Ceiling Radiation Dampers, only where a specific fan/damper assembly is listed for the combustible assembly.
 6. Intertek listed designs for FRPS fire-rated exhaust fan enclosure systems.

1.3 Administrative Requirements

- A. Preinstallation Coordination: Conduct coordination with Architect, MEP Engineer, General Contractor, Mechanical Contractor, framing contractor, gypsum board contractor, and firestopping inspector before rough-in of exhaust fans in rated horizontal assemblies.
- B. Coordinate fan rough-in locations, joist or truss spacing, ceiling framing, gypsum board installation, insulation, duct routing, electrical connections, and access requirements with the listed enclosure system.
- C. Do not proceed with installation of exhaust fan penetrations in rated combustible assemblies until approved fire-rated enclosure submittals are accepted by the design team and AHJ, if required.

1.4 Submittals

- A. Product Data: Submit manufacturer product data for FRPS fire-rated exhaust fan enclosures, including model number, dimensions, materials, and installation instructions.
- B. Listing Documentation: Submit current Intertek listing documentation and assembly details demonstrating compliance for the project condition, including applicable FRPS/FME design numbers.
- C. Shop Drawings: Indicate exhaust fan locations, ceiling assembly type, joist/truss layout, fan model, duct routing, enclosure size, and clearances.

- D. Coordination Submittals: Identify any conflicts with framing depth, fan housing, duct transition, access, insulation, or ceiling finish.
- E. Closeout Submittals: Provide installation photographs, completed installer checklist, listing documents, product data, and AHJ/firestop inspection sign-off where required.

1.5 Quality Assurance

- A. Manufacturer Qualifications: Manufacturer shall produce tested and listed fire-rated enclosure systems for penetrations in fire-resistance-rated assemblies.
- B. Installer Qualifications: Installer shall be experienced with installation of listed firestopping systems or fire-rated enclosure systems in rated horizontal assemblies.
- C. Regulatory Requirements: Installation shall comply with IBC Chapter 7 and the approved tested assembly. Field-built, untested, or substituted enclosure methods are not acceptable.
- D. Mockup: Provide a representative installation for inspection when required by the Architect, MEP Engineer, third-party inspector, or AHJ.

1.6 Delivery, Storage, and Handling

- A. Deliver products in original manufacturer packaging with labels intact.
- B. Store materials in a dry, protected location and prevent physical damage, crushing, contamination, or exposure to conditions inconsistent with manufacturer instructions.

1.7 Warranty

- A. Provide manufacturer standard warranty for defects in materials and fabrication.

PART 2 - PRODUCTS

2.1 Manufacturer

- A. Basis of Design Manufacturer: Fire Rated Product Specialties Corp. (FRPS), Lakeville, Minnesota. Website: www.frpsonline.com. Email: info@frpsonline.com. Phone: 612-436-0606.
- B. Basis of Design Product: FRPS Model FN-Z-12-20-9 EXH fire-rated exhaust fan enclosure, or other FRPS listed system approved for the specific exhaust fan and rated combustible floor-ceiling or roof-ceiling assembly.
- C. Substitutions: Not permitted unless proposed system is a tested and listed assembly for the same fire-resistance rating, same combustible construction type, same fan condition, and same project application, and is accepted by the Architect, MEP Engineer, and AHJ before installation.

2.2 System Description

- A. Fire-rated enclosure system shall form a tested fire-resistive envelope around the recessed exhaust fan housing and maintain the hourly fire-resistance rating of the horizontal assembly.
- B. System shall be specifically tested for use in wood joist or wood truss combustible floor-ceiling or roof-ceiling assemblies. Radiation dampers alone shall not be used unless the exact fan/damper combination is listed for the applicable combustible assembly.
- C. System shall be compatible with the selected exhaust fan housing, duct connection, electrical connection, ceiling membrane, and adjacent construction, without unlisted field modification.

2.3 Performance Requirements

- A. Fire Resistance: Maintain 1-hour fire-resistance rating of the approved assembly when installed in accordance with the tested and listed system.
- B. Testing: System shall be supported by ASTM E119 / UL 263 fire-resistance testing and applicable Intertek design listing for the assembly.

- C. Construction Compatibility: System shall be approved for use in combustible wood joist and wood truss assemblies where indicated in manufacturer listing documentation.
- D. Integrity: Enclosure components, liners, intumescent elements, joints, and fasteners shall not be modified, omitted, or damaged.

2.4 Accessories

- A. Provide listed fasteners, sealants, liners, intumescent components, supports, and accessories required by the FRPS tested assembly.
- B. Do not use non-listed sealants, field-built gypsum boxes, mineral wool-only patches, or untested firestop details as substitutes for the listed enclosure system.

PART 3 - EXECUTION

3.1 Examination

- A. Verify that fire-rated floor-ceiling or roof-ceiling assembly construction matches the approved project documents and applicable listing.
- B. Verify exhaust fan model, housing dimensions, duct routing, electrical connections, joist/truss spacing, and ceiling membrane condition before installation.
- C. Do not install where conditions would require deviation from the listed assembly. Report conflicts immediately to Architect and MEP Engineer.

3.2 Installation

- A. Install FRPS fire-rated exhaust fan enclosure strictly in accordance with manufacturer instructions and the applicable Intertek listed design.
- B. Install enclosure around exhaust fan housing to create a continuous fire-resistive envelope without gaps, damage, or unlisted field modification.
- C. Maintain required clearances and protect intumescent liner or other fire-resistive components from damage.
- D. Coordinate ductwork, electrical connection, fan support, ceiling gypsum board, and finish work so the enclosure remains complete and inspection-ready.
- E. Remove and replace any exhaust fan installation in a rated combustible assembly that lacks the required listed fire-rated enclosure or that deviates from the listing.

3.3 Field Quality Control

- A. Provide access for Architect, MEP Engineer, firestop inspector, and AHJ to verify installation before concealment.
- B. Correct damaged, incomplete, unsealed, modified, or unlisted installations before close-in.
- C. Submit installation photographs and completed FRPS installer checklist as part of closeout documentation.

3.4 Cleaning and Protection

- A. Remove debris from enclosure and ceiling cavity. Protect completed installations from damage until final acceptance.

3.5 Specifier Note

- A. Suggested drawing note: "All exhaust fan penetrations in 1-hour rated combustible floor-ceiling and roof-ceiling assemblies shall use FRPS FN-Z-12-20-9 EXH fire-rated enclosure or current FRPS listed system approved for the assembly. Radiation dampers alone shall not be used unless the specific fan/damper assembly is listed for combustible wood joist or wood truss construction and accepted by the AHJ."

SECTION 23 34 23 - HVAC POWER VENTILATORS
EXHAUST FAN COORDINATION FOR FIRE-RATED HORIZONTAL ASSEMBLIES

PART 1 - GENERAL

1.1 Summary

- A. Section Includes: Mechanical coordination requirements for exhaust fans installed in 1-hour fire-resistance-rated combustible floor-ceiling and roof-ceiling assemblies.
- B. Provide exhaust fan installations that maintain the fire-resistance rating of the assembly through use of listed FRPS fire-rated exhaust fan enclosures coordinated with Section 07 84 00.
- C. Do not provide radiation dampers as the sole method of protection unless the exact fan/damper assembly is listed for the applicable combustible assembly and approved by the AHJ.

1.2 Related Requirements

- 1. Section 07 84 00 - Firestopping: Listed fire-rated exhaust fan enclosure requirements.
- 2. Section 09 29 00 - Gypsum Board: Rated ceiling membrane installation and repair.
- 3. Section 23 05 00 - Common Work Results for HVAC: Coordination, supports, and general HVAC requirements.
- 4. Division 26 - Electrical: Power connections and controls for exhaust fans.

1.3 References

- 1. IBC Chapter 7 - Fire and Smoke Protection Features.
- 2. ASTM E119 - Fire tests of building construction and materials.
- 3. UL 263 - Fire tests of building construction and materials.
- 4. UL 555C - Ceiling radiation dampers, only where the specific application is listed and approved.
- 5. Intertek listed designs for FRPS exhaust fan enclosure assemblies.

1.4 Submittals

- A. Product Data: Submit exhaust fan product data and FRPS fire-rated enclosure product data together for coordinated review.
- B. Coordination Drawings: Identify each exhaust fan installed in a rated horizontal assembly and show fan model, enclosure model, duct connection, ceiling assembly, joist/truss spacing, and access requirements.
- C. Listing Documentation: Submit documentation demonstrating the FRPS enclosure is tested/listed for the intended rated combustible assembly.
- D. Closeout Documentation: Provide completed FRPS installer checklist, installation photographs, listing documentation, and inspector/AHJ sign-off where required.

1.5 Quality Assurance

- A. Mechanical Contractor shall coordinate all exhaust fan penetrations in rated assemblies with Division 07 firestopping requirements before rough-in.
- B. Installer shall verify enclosure fit before ordering or installing fans, ductwork, ceiling framing, and gypsum board closure.
- C. Fan substitutions shall not be accepted where the substituted fan prevents installation of the listed fire-rated enclosure or requires unlisted field modification.

PART 2 - PRODUCTS

2.1 Exhaust Fans

- A. Provide exhaust fans scheduled on Drawings and coordinated with fire-rated enclosure requirements where fans penetrate rated horizontal assemblies.
- B. Fan housings, duct collars, electrical components, supports, and accessories shall fit within or coordinate with the FRPS listed enclosure without modifying the enclosure beyond listing limitations.

2.2 Fire-Rated Enclosure System

- A. Basis of Design: FRPS Model FN-Z-12-20-9 EXH fire-rated exhaust fan enclosure, or current FRPS listed enclosure system approved for the project condition.
- B. System shall maintain the required 1-hour fire-resistance rating of combustible wood joist or wood truss floor-ceiling or roof-ceiling assemblies.
- C. System shall eliminate reliance on radiation dampers where permitted by the listing and approved documents.
- D. Provide all listed accessories required for complete installation.

PART 3 - EXECUTION

3.1 Examination

- A. Before installation, verify the rated assembly, joist/truss spacing, ceiling profile, fan housing dimensions, duct routing, electrical requirements, and FRPS enclosure fit.
- B. Notify Architect and MEP Engineer of conflicts that prevent compliance with the listed FRPS assembly.

3.2 Installation

- A. Install exhaust fan and FRPS fire-rated enclosure in coordinated sequence so the final installation matches the approved Intertek listed assembly.
- B. Do not cut, notch, alter, or damage the FRPS enclosure, intumescent liner, or listed fire-resistive components except where expressly permitted by the manufacturer listing.
- C. Support fan and ductwork independently as required so loads are not transferred to enclosure components unless permitted by the listing.
- D. Seal or protect all interfaces only as required by the FRPS listed assembly. Do not add non-listed field materials as a substitute for the enclosure.
- E. Remove radiation damper references from mechanical drawings and installation procedures unless a combustible-assembly listing is submitted and accepted.

3.3 Field Quality Control

- A. Make installations available for inspection before concealment.
- B. Replace installations that are damaged, incomplete, unlisted, or inconsistent with manufacturer instructions and listed assembly requirements.
- C. Provide photographic documentation of each installed enclosure prior to close-in.

3.4 Closeout

- A. Submit complete documentation package including product data, listing documentation, installation checklist, photos, and AHJ/third-party inspection sign-off where applicable.

APPENDIX A - COORDINATION AND CLOSEOUT CHECKLIST

Item	Requirement	Responsible Party	Status
Rated Assembly Identified	Confirm each exhaust fan penetrating a 1-hour combustible floor-ceiling or roof-ceiling assembly.	Architect / MEP	Open
Radiation Damper References Removed	Remove references unless exact fan/damper combination is listed for combustible assembly and accepted by AHJ.	MEP Engineer	Open
FRPS Enclosure Scheduled	Identify FRPS FN-Z-12-20-9 EXH or current approved listed enclosure for each affected fan.	Architect / MEP	Open
Space Verified	Confirm joist/truss layout, fan housing, duct connection, and ceiling profile accommodate enclosure.	GC / Mechanical	Open
Submittals Approved	Product data, listing details, shop drawings, and installation instructions reviewed.	Design Team / AHJ	Open
Pre-Close-In Inspection	Verify enclosure is complete, undamaged, and installed per listing before concealment.	GC / Inspector	Open
Closeout Package Complete	Submit photos, installer checklist, listing documentation, and sign-off where required.	Mechanical / GC	Open

APPENDIX B - SHORT-FORM SPECIFICATION NOTE

Use the following note on drawings, schedules, and specifications where a short-form requirement is needed:

All exhaust fan penetrations in 1-hour fire-resistance-rated combustible wood joist or wood truss floor-ceiling and roof-ceiling assemblies shall use FRPS Model FN-Z-12-20-9 EXH fire-rated exhaust fan enclosure or current FRPS listed system approved for the applicable assembly. Install per Intertek listed design and manufacturer instructions. Radiation dampers alone shall not be used unless the exact fan/damper assembly is listed for combustible construction and accepted by the AHJ.

APPENDIX C - CONTACT AND TECHNICAL SUPPORT

Contact	Information
Company	Fire Rated Product Specialties Corp.
Address	20711 Holt Ave, PO Box 120, Lakeville, MN 55044
Primary Contact	John Feges, Owner
Email	john@frpsonline.com
Office	612-294-1450
General Phone	612-436-0606
Website	www.frpsonline.com