



TO: Northwestern University Contractors

RE: Fire-Rated Wall and Floor/Ceiling Assembly Penetration Sealing Requirements

Northwestern's [Design Guidelines](#) and [Contractor Safety Program](#), the International Building Code (IBC), and the National Fire Protection Association (NFPA) require that all penetrations in fire-rated walls and floor/ceiling assemblies be appropriately sealed with an approved material (e.g., fire barrier sealant caulk). Recent fire and life safety facility inspections have discovered significant non-compliance with these requirements in Northwestern facilities, including the use of unapproved sealants, on the Evanston and Chicago campuses. See Appendix A for example photographs.

This letter serves to remind and inform contractors, including any and all subcontractors, that all penetrations in fire-rated walls and floor/ceiling assemblies must be appropriately sealed with an approved sealant or device, in accordance with the manufacturer's requirements. Refer to Appendix B for guidelines to determine whether a wall or floor/ceiling assembly is fire-rated. Personnel installing fire sealants must be adequately trained and qualified, and products must comply with ASTM E814/UL1479 and be used consistent with the testing. NOTE: Fire and smoke damper penetrations should not be sealed with intumescent materials as this may inhibit damper operation.

To further address this campus-wide issue, contractors are requested to notify Northwestern project managers upon discovery of any existing fire-rated wall or floor/ceiling assembly penetrations where the sealant is absent or otherwise non-compliant so the University can take corrective action. Contractors are encouraged to address 'found' penetrations with the project scope, when feasible.

Northwestern takes matters of safety and health seriously to ensure the well-being of the campus community, property, and environment. As such, and in light of these recent findings, Northwestern will continue its efforts to identify and address issues by increasing project oversight, particularly near completion, and conducting targeted fire and life safety inspections to ensure all penetrations in fire-rated walls and floor/ceiling assemblies are properly sealed.

Please feel free to contact the appropriate party below should you have any questions.

Respectfully,

Chris Yohe
Director, Environmental Health and Safety
chris.yohe@northwestern.edu

Keith Barr
Assistant Director, Facilities Chicago Operations
kab116@northwestern.edu

David Stone, AIA
Director, Facilities Capital Projects
david.stone@northwestern.edu

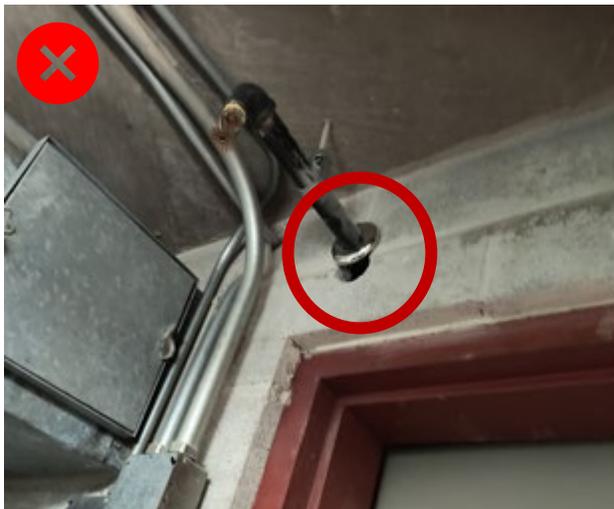
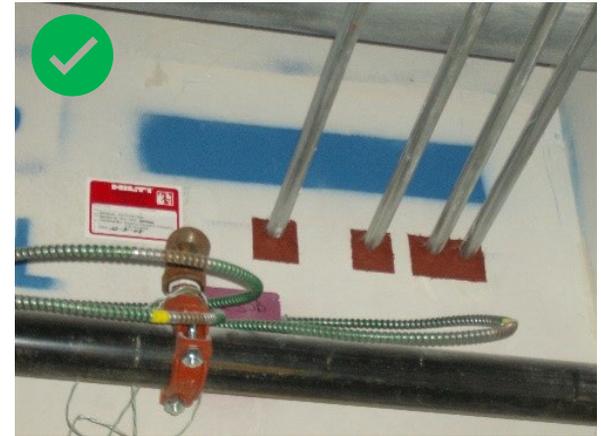
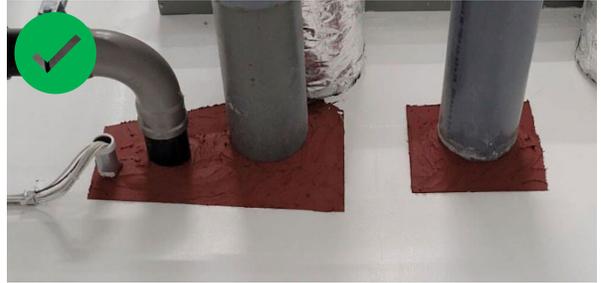
Ruth Ann Ostrowski
Director, Cyber Service Operations
r-ostrowski@northwestern.edu

Grainne Flaherty
Director, Facilities Evanston Operations
grainne.flaherty@northwestern.edu

Julian Koh
Director, Telecommunications & Network
Services
kohster@northwestern.edu

Appendix A

Example Photographs



Appendix B

Guidelines to determine whether a wall or floor/ceiling assembly is fire-rated

The only way to definitively determine if an assembly is fire-rated is to review original drawings or do a code review of the entire structure.

Construction drawings prepared by design professionals should indicate existing and new fire-rated construction. When an architect/engineer is engaged they should be consulted to assist in determinations.

The following are common clues to determine if an assembly is fire-rated.

1. Floor/ceiling assemblies: Assume the following are fire-rated and require fire sealant
 - a. Concrete slab (formed)
 - b. Concrete on metal deck
 - c. Single or multiple layers of drywall below bar joists, wood/metal joists, etc.

2. Wall assemblies: Assume the following are fire-rated and require fire sealant
 - a. Walls enclosing stairs, mechanical rooms, and electrical rooms
 - b. Walls enclosing storage rooms if the room has a rated door/frame
 - c. Walls where the openings have rated doors/frames
 - d. Cast-in-place concrete walls
 - e. Full-height (to structure above) masonry walls in non-sprinklered buildings (includes CMU, gypsum block, clay block, etc.)
 - f. For drywall assemblies:
 - i. Walls utilizing 1-inch thick gypsum shaftwall panels
 - ii. Full-height walls in a non-sprinklered building
 - iii. Full-height walls with multiple layers of drywall in a sprinklered building

When in doubt, contact the Northwestern project manager or Environmental Health and Safety at ehs@northwestern.edu.