SECTION 260544 - SLEEVES AND SLEEVE SEALS FOR ELECTRICAL RACEWAYS AND CABLING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Round sleeves.

B. Related Requirements:

1. Section 078413 "Penetration Firestopping" for penetration firestopping installed in fire-resistance-rated walls, horizontal assemblies, and smoke barriers, with and without penetrating items.
2. Section 260526 "Grounding and Bonding for Electrical Systems" specifies grounding and bonding of raceways, electrical power cabling, and communications cabling referenced by this Section.
3. Section 260529 "Hangers and Supports for Electrical Systems" specifies hangers, supports, and concrete bases referenced by this Section.
4. Section 260553 "Identification for Electrical Systems" specifies electrical equipment labels and warning signs referenced by this Section.
5. Section 270528 "Pathways for Communications Systems" and Section 271100 "Communications Equipment Room Fittings" specifies additional requirements for raceway materials, routing, locations, and identification of communications equipment and cabling.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of specified product.

PART 2 - PRODUCTS

2.1 ROUND SLEEVES

A. Steel Wall Sleeves:

1. Standard Features:

a. Referenced Standard: ASTM A53/A53M, Type E, Grade B.
b. Dimensions: Schedule 40; sized so outer diameter of sleeve matches inner diameter of penetration hole.

Copyright © 2024 by the American Institute of Architects. Warning: This AIA MasterSpec based document is protected by U.S. Copyright Law and International Treaties. A valid, current MasterSpec license is required for editing or use of this document.

c. Corrosion Resistance: Coated with zinc.
d. Configuration: Plain ends and integral waterstop.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Comply with manufacturer's published instructions.

B. Reference Standards for Installation: Unless more stringent installation requirements are specified in the Contract Documents or manufacturer's published instructions, comply with the following:

1. Electrical Construction: ICC IBC, ICC IFC, NFPA 1, NFPA 70, and NECA NEIS 1.
2. Electrical Maintenance: NFPA 70B and NECA NEIS 91.
3. Electrical Safety: NFPA 70E.
4. Commissioning of Active and Passive Fire Protection Features: NFPA 3 and NFPA 4.
5. Hot Work: NFPA 51B.
6. Grounding and Bonding: NECA NEIS 331 and Article 250 of NFPA 70.
7. Communications Work: BICSI N1.
8. Work in ITE Rooms: NFPA 75.
9. Work in Confined Spaces: NFPA 350.
10. Work in Basements and Other Developed Subterranean Spaces: NFPA 520.
11. Consult Architect for resolution of conflicting requirements.

C. Special Installation Techniques:

1. Sleeves for Conduits Penetrating Non-Fire-Rated Wall Assemblies: Use circular metal sleeves unless penetration arrangement requires rectangular sleeved opening.

D. Interfaces with Other Work:

1. Identification: Provide labels for penetrations and associated electrical equipment.

a. Identify field-installed conductors, interconnecting wiring, and components.
b. Label each enclosure with engraved metal or laminated-plastic nameplate.
c. Provide warning signs and arc-flash hazard warning labels for electrical equipment.

2. Grounding and Bonding:

a. Bonding of Metal Sleeve for Metal Raceway Penetrations: Bond metal raceway to metal sleeve on both sides of penetration.

Copyright © 2024 by the American Institute of Architects. Warning: This AIA MasterSpec based document is protected by U.S. Copyright Law and International Treaties. A valid, current MasterSpec license is required for editing or use of this document.

b. Bonding of Metal Sleeve for Cable Penetrations: Bond equipment grounding conductor for electrical power cables, or cable shield for communications cables, to metal sleeve on both sides of penetration.
c. Bonding is not required for nonmetallic sleeves.
d. Grounding of communications cables entering buildings from outside must be provided at the penetration.

3. Hangers and Supports:

a. Support of Raceways and Cables in Sleeve: Comply with manufacturer's published instructions for supporting raceways or cables on both sides of penetration. Sleeve sealing products are typically not rated for supporting the weight of raceways and cables.

3.2 INSTALLATION OF ROUND SLEEVES

A. Sleeves for Conduits Penetrating Above-Grade, Non-Fire-Rated, Concrete and Masonry-Unit Floors and Walls:

1. Interior Penetrations of Non-Fire-Rated Walls and Floors:

a. Seal space outside of sleeves with mortar or grout. Pack sealing material solidly between sleeve and wall or floor so no voids remain. Tool exposed surfaces smooth; protect material while curing.
b. Seal annular space between sleeve and raceway or cable, using joint sealant appropriate for size, depth, and location of joint. Comply with requirements in Section 079200 "Joint Sealants."

2. Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.
3. Size pipe sleeves to provide 1/4 inch annular clear space between sleeve and raceway or cable, unless sleeve-seal system is to be installed or seismic criteria require different clearance.
4. Install sleeves for wall penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of walls. Cut sleeves to length for mounting flush with both surfaces of walls. Deburr after cutting.
5. Install sleeves for floor penetrations. Extend sleeves installed in floors 2 inch above finished floor level. Install sleeves during erection of floors.
6. Seal space outside of sleeves with approved joint compound for wall assemblies.

END OF SECTION 260544

Copyright © 2024 by the American Institute of Architects. Warning: This AIA MasterSpec based document is protected by U.S. Copyright Law and International Treaties. A valid, current MasterSpec license is required for editing or use of this document.