

## SECTION 14560 - CHUTES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes the following:

- 1. Laundry chutes.

- B. Related Sections include the following:

- 1. Division 5 Section "Metal Fabrications" for metal supporting framework at floor penetrations.
- 2. Division 7 Section "Sheet Metal Flashing and Trim" for roof vent flashing and counterflashing.
- 3. Division 7 Section "Roof Accessories" for roof curbs.
- 4. Division 7 Section "Through-Penetration Firestop Systems" for annular spaces at doors, floors, or roofs.
- 5. Division 13 Section "Fire-Suppression Piping" for fire sprinklers.
- 6. Division 15 Sections for water-service connections.
- 7. Division 16 Sections for electrical-service connections.

#### 1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Detail chute assemblies and indicate dimensions, weights, required clearances, method of field assembly, components, and location and size of each field connection.
  - 1. Wiring Diagrams: Power, signal and control wiring.
- C. Product Certificates: For each type of chute, signed by product manufacturer.
- D. Operation and Maintenance Data: For chutes to include in emergency, operation, and maintenance manuals.

## 1.4 QUALITY ASSURANCE

- A. NFPA Compliance: Provide chutes complying with NFPA 82.
- B. Fire-Rated Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated.
  - 1. Test Pressure: Test at atmospheric (neutral) pressure according to NFPA 252 or UL 10B.
  - 2. Intake Door: Class B labeled; 1-1/2-hour fire rated with 30-minute temperature rise of 250 deg F.
  - 3. Discharge Door: Class B labeled; 1-hour fire rated with 30-minute temperature rise of 250 deg F.
  - 4. Access Door: Class B labeled; 1-1/2-hour fire rated with 30-minute temperature rise of 250 deg F.
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 1. Midland Metalcraft Co.
  - 2. U.S. Chutes.
  - 3. Valiant Products, Inc.
  - 4. Wilkinson Hi-Rise, LLC.

### 2.2 CHUTES

- A. Chute Metal: Type 304 stainless steel, ASTM A 240/A 240M.
  - 1. Thickness: 0.060 inch (16 gauge).
- B. Size: 24-inch diameter.

## 2.3 DOORS

- A. Intake Door Assemblies: ASTM A 240/A 240M, Type 304 stainless-steel, self-closing units with positive latch and latch handle; as required to provide fire-protection and temperature-rise ratings indicated; and with frame suitable for enclosing chase construction.
  - 1. Door Type: Side hinged, 180-degree swing, square.
  - 2. Size: Manufacturer's standard size for door type, chute type, and diameter indicated.
  - 3. Finish: Manufacturer's standard satin or No. 3 directional polish.
  - 4. Locks: Cylinder locks with keys that are removable only when cylinder is locked. For each chute, key locks to master key system. For each door, furnish four keys.
  - 5. Mechanical Interlocks: Interlock system operated from discharge door to automatically lock intake doors.
  - 6. Electrical Interlocks: Interlock system that is energized by opening one intake door; remaining doors automatically lock when system is energized.
- B. Discharge-Door Assemblies: Aluminum-coated-steel doors as required to provide fire-protection and temperature-rise ratings indicated; equipped with fusible links that cause doors to close in the event of fire.
  - 1. Direct Vertical Discharge: Provide inclined, horizontally rolling, shutter-type unit.
- C. Heat and Smoke Detector System: Interlock system with temperature-rise elements that locks chute doors when temperature in chute reaches a predetermined, adjustable temperature.
  - 1. Locate smoke detector outside discharge door with solenoid to close discharge door.
- D. Access Door Assemblies: Manufacturer's standard ASTM A 240/A 240M, Type 302/304 stainless-steel doors; as required to provide fire-protection and temperature-rise ratings indicated; with frame suitable for enclosing chase construction; and in satin or No. 3 directional polish finish.
- E. Manual Control System: Control system with manual switches that lock doors of chute during shutdown hours and service operations.

## 2.4 ACCESSORIES

- A. Fire Sprinklers: NPS 1/2 (DN 13) fire sprinklers ready for piping connections.
- B. Intake Door Baffles: Rubber baffles, 1/8 inch thick.
- C. Sound Dampening: Manufacturer's standard exterior mastic coating on chute.
  - 1. Sound and vibration isolator pads at floor supporting frames.

## 2.5 FABRICATION

- A. General: Factory-assemble chutes to greatest extent practical with continuously welded or lock-seamed joints without bolts, rivets, or clips projecting on chute interior. Include intake-door assemblies and metal supporting framing at each floor, and chute expansion joints between each support point.
- B. Roof Vent: Fabricate vent unit to extend 48 inches above roof with full-diameter, screened vent and metal safety cap or glass explosion-release cap. Fabricate with roof-deck flange, counterflashing, and clamping ring of nonferrous metal compatible with chute metal.
- C. Fire Sprinklers: Comply with NFPA 13. Locate fire sprinklers at or above the top service opening of chutes, within the chute at alternate floor levels in buildings more than two stories tall, and at the lowest service level.
- D. Equipment Access: Fabricate chutes with access for maintaining equipment located within the chute, such as fire sprinklers, and plumbing and electrical connections.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. General: Comply with NFPA 82 requirements and with chute manufacturer's written instructions. Assemble components with tight, nonleaking joints. Anchor securely to supporting structure to withstand impact and stresses on vent units. Install chute and components to maintain fire-resistive construction of chute and enclosing chase.
- B. Install chutes plumb, without offsets or obstructions that might prevent materials from free falling within chutes.
- C. Anchor roof flanges of chute vents before installing roofing and flashing. Install chute-vent counterflashing after roofing and roof-penetration flashing are installed.
- D. Intake and Discharge Doors: Interface door units with throat sections of chutes for safe, snag-resistant, sanitary depositing of materials in chutes by users.
- E. Electrical Interlock System: Comply with applicable NECA 1 recommendations.
- F. Test chute components after installation. Operate doors, locks, and interlock systems to demonstrate that hardware is adjusted and electrical wiring is connected correctly. Complete test operations before installing chase enclosures.
- G. Test fire sprinklers and heat- and smoke-sensing devices for proper operation.

3.2 CLEANING

- A. After completing chase enclosure, clean exposed surfaces of chute system's components. Do not remove labels of independent testing and inspecting agencies.

3.3 DEMONSTRATION

- A. Demonstrate use of chute and equipment to Owner's personnel.

END OF SECTION 14560