

## SECTION 149100 - REFUSE CHUTES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes waste chutes.
- B. Related Sections:
  1. Section 118226 – Facility Waste Compactors.
- C. Reference and Industry Standards
  1. The following reference standards shall be applicable to this Section:
    - a. New York City Fire Code, current edition, as amended.
  2. Industry Standards
    - ASTM (American Society for Testing and Materials)
    - ICC/ANSI (International Code Council/American National Standards Institute)
    - NECA (National Electrical Contractors Association)
    - NFPA (National Fire Protection Association)

#### 1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For chutes. Include plans, elevations, sections, details, weights, operational clearances, and attachments to other work. Indicate method of field assembly.
  1. Wiring Diagrams: Power, signal and control wiring.

#### 1.3 INFORMATIONAL SUBMITTALS

- A. Product certificates.

#### 1.4 CLOSEOUT SUBMITTALS

- A. Operation and maintenance data.

#### 1.5 QUALITY ASSURANCE

- A. 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.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. Standard: Provide chutes complying with NFPA 82.
- D. CODES: All work under this Section shall be installed in strict accordance to, and in conformance with, all Local and State Regulations and Codes having jurisdiction, the N.B.F.U. and MEA Regulations.

## PART 2 - PRODUCTS

### 2.1 CHUTES

- A. Chute Metal: Aluminum-coated, cold-rolled, commercial steel sheet; ASTM A463, Type 1 with not less than T1-40 coating.
1. Thickness: No.16 U.S. Gauge.
- B. Size: 24-inch diameter.

### 2.2 DOORS

- A. Intake Door Assemblies: ASTM A240, 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: Hopper.
  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. Baffles: Rubber-back draft baffles at each intake.
  5. Foot Operators: Hopper-type door operators that unlatch and open door when foot pedal is depressed.
  6. Accessible Automatic Door Operating System: Manufacturer's standard system complying with applicable provisions in ICC/ANSI A117.1.
  7. Mechanical Interlocks: Interlock system operated from discharge door to automatically lock intake doors.
  8. 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 A240, 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.

### 2.3 ACCESSORIES

- A. Fire Sprinklers: Manufacturer's standard NPS 1/2 fire sprinklers ready for piping connections.
- B. Flushing Spray Unit: NPS 3/4 spray head unit located in chute above highest intake door, ready for hot-water piping connection, and with access for head and piping maintenance.
- C. Sanitizing Unit: NPS 3/4 disinfecting and sanitizing spray head unit located in chute above highest intake door, including 1-gal. tank and adjustable proportioning valve with bypass for manual control of sanitizing and flushing operation, ready for hot-water piping connection, and with access for head and piping maintenance.
- D. Intake Door Baffles: Rubber baffles, 1/8 inch thick.
- E. Sound Dampening: Manufacturer's standard sound deadening coating on exterior of chute and sound and vibration isolator pads at floor supporting frames.

### 2.4 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 flushing and sanitizing units, 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, non-leaking 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.
  - 1. Coordinate installation of foot-pedal door operator with installation of door and enclosing chase.
  - 2. Interconnect sanitizer control with door interlock system.
- E. Electrical Interlock System: Comply with applicable NECA 1.
- 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 heat- and smoke-sensing devices for proper operation.
- H. Operate sanitizing unit through one complete cycle of chute use and cleanup, and replenish chemicals or cleaning fluids in unit containers.
- I. After completing chase enclosure, clean exposed surfaces of chute system's components. Do not remove labels of independent testing and inspecting agencies.
- J. Items under this Section shall be installed by the approved manufacturer or his authorized representative, in accordance with his requirements and the approved shop drawings.
- K. Equipment shall be factory assembled ready for erection. Vertical seams shall be grooved or clinched prior to delivery, with doors attached to chute throats.
- L. Connections to water and/or electric services will be by other trades.

3.2 DEMONSTRATION

- A. Demonstrate use of chute and equipment to maintenance staff.
- B. Demonstrate replenishment of sanitizing-unit chemicals or cleaning fluids.

**END OF SECTION 149100**