SECTION 149100

LINEN CHUTES

PART 1- GENERAL

1.1 SUMMARY

A. This Section includes metal, vertical, gravity-type chutes including:
   1. Linen chutes.

B. Related Sections include the following:
   1. Division 21 Section “Wet-Pipe Sprinkler Systems” for buildings fire sprinklers and piping.
   2. Division 22 Section for “Domestic Water Piping” for water service connections.
   3. Division 26 Section for electrical service connections.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, materials, descriptions, dimensions of individual components and profiles, and finishes for chutes.

B. Shop Drawings: Detail chute assemblies include plans, elevations, sections, details, clearances, and attachments to other work.

1.3 QUALITY ASSURANCE

A. NFPA Compliance: Provide chutes complying with NFPA Standard No.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 and Access Doors: Class B labeled; 1-1/2-hour fire rated with 250 deg F maximum temperature rise over 30 minutes.
   3. Discharge Door: Linen Chute: 1-1/2-hour U.L. ‘B’ labeled approved door panel construction in accordance with NFPA 82

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

PART 2- PRODUCTS

2.1 MANUFACTURERS

A. Basis of Design: American Chute **Easy-Wave® or Easy-Push® UL listed system** www.americanchute.com. Subject to compliance with requirements, provide products by one of the following:

   1. American Chute LLC - Minooka, IL, T: 815-723-7632
   2. Century Chute LLC - Minooka, IL, T: 815-467-7921

2.2 MATERIALS

A. Chute Metal: Aluminum-coated, cold-rolled, commercial steel sheet, ASTM A463, Type 1 with no less than T1-40 coating or 304 stainless steel ASTM A 240/A 240M

1. Specified (Nominal) Thickness: 0.060 inch. (16 gauge).
2. 24” diameter or as indicated on drawings.

B. Reinforcing: Steel Plates, Shapes, Bars: ASTM A36.

2.3 DOORS

A. Intake Door Assemblies: ASTM A240/A240M, Type 304, 20ga stainless steel fronts with No. 4 directional polish finish and 16ga aluminized steel backs, self-closing units with positive latch and latch handle; Class B labeled; 1-1/2-hour fire rated with 250 deg F maximum temperature rise over 30 minutes and with powder coated frame suitable for enclosing chase construction.

1. Door Type: Side Hinged.
2. **Easy-Wave® or Easy-Push® UL Listed interlocking system.** Electrically interlocked system.
3. Size: 21” x 21” side hinged, or for chute type and diameter indicated.
4. Door frame is powder coated.
5. Finish: Manufacturer’s standard satin or No.4 Stainless Steel directional polish finish. Trim embossed "SOILED LINEN".
6. LED indicator to show chute door status
7. No mechanical switches
8. Low volt system, simple plug and play
9. No configuration required at each door
10. Master Controller UL Listed that identifies what level is in use

B. Discharge Door Assemblies: Powder Coated or Aluminized Steel Door; equipped with a 165 degree fusible link that causes door to close in the event of a fire.

1. Direct Vertical Discharge: Provide inclined, horizontally rolling discharge door.
2. Horizontal Discharge: Provide top hinged, self-closing, hopper door; 1-1/2-hour U.L. ‘B’ labeled, Type 304, 20ga stainless steel front with No. 4 directional polish finish and 16ga aluminized steel back and self-latching hardware; floor mounted leg braces designed to absorb impact of material dropping against chute; and minimum 2” NPT drain connection.

C. Access Door Assemblies: Manufacturer’s 15”x 15”side hinge door ASTM A240/A240M, Type 304, 20ga stainless steel fronts with No. 4 directional polish finish and 16ga aluminized steel backs, self-closing units with positive latch and latch handle; Class B labeled; 1-1/2-hour fire rated with 250 deg F maximum temperature rise over 30 minutes; and with powder coated frame suitable for enclosing chase construction.

1. Lock cylinder: cylinder standard manufacturer
2. Keying: key access-door cylinders alike
3. Keys: two for each cylinder

2.4 ACCESSORIES

A. Fire Sprinklers: 1/2" NPT fire sprinklers ready for piping connections by others.
B. Flushing Spray Unit: 1/2" NPT spray head unit located in chute above highest intake door, ready for hot-water piping connection by others.
C. Sanitizing Unit: 1/2" NPT disinfecting and sanitizing spray head unit located in chute above highest intake door, including 1-gallon tank and adjustable proportioning valve with bypass for manual control of sanitizing and flushing operation, ready for hot-water piping connection by others.
D. Sound Dampening: Provide one coat of manufacturer's standard sound dampening coating on perimeter of chute.
E. Sound and vibration isolation pads at floor supporting frames.
F. Individual Key Locks: Provide individual key locking devices at each intake door for building maintenance.
G. Intake-Door Baffles: Rubber Baffles
H. Heat Detector and Smoke Detector: Interlock system with temperature rise elements that locks chute doors when temperature in chute reaches a predetermined temperature or upon smoke detection.

2.5 FABRICATION

A. General: Factory-assemble chute 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 chute-support frames at each floor, and chute expansion joints between each support point.
B. Roof Vent: Fabricate full diameter vent unit to extend 36" above roof with flashing collar and screened metal rain cap.
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 heads, sanitizing units, fire sprinklers, plumbing connections, 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 slip joints. Anchor securely as required to supporting structure to withstand impact and stress 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 chute.
C. Chute Offsets: Offsets (bends) in the chute, if required, shall be made the same diameter of the chute with a minimum 16 gauge steel thickness and have an additional layer of 10 gauge steel reinforcing the impact area or other reinforcing as recommended for project conditions by the manufacturer. Offsets are not to deviate more than 15° off the vertical axis of the chute below the highest intake door per NFPA 82. Offsets greater than 15° below the highest intake door are subject to approval by the authority having jurisdiction. Offsets are not to deviate more than 90° off the vertical axis above the highest intake door and is subject to the authority having jurisdiction.
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.

3.2 TESTING

A. 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.
B. Operate sanitizing unit through one complete cycle of chute use and cleanup and replenish cleaning fluids in unit containers.

3.3 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. Video online to demonstrate use of chute and equipment to Owner's personnel.
B. Onsite Training – only provided at owner's expense.

END OF SECTION