

SECTION 11175

WASTE / RECYCLING SYSTEM

This section is based on a system produced by:

Chute Source LLC
571 Kennedy Road
Akron, Ohio 44305
Telephone: 330.733.3996

The three-sort waste recycling system, manufactured by Chute Source LLC, is comprised of a waste recycling system chute with door control panels that interlocked chute doors all of UL Labeled construction, a Chute Source LLC Tri-Sorter recycling containers, a disinfecting and sanitation unit, and other related components.

Part 1 GENERAL

1.1 RELATED DOCUMENTS

- A. The general provisions of the contract, including General and Supplementary Conditions and Division 1, General Requirements, apply to the work specified in this section.

1.2 SYSTEM OPERATION

- A. The Three Component Sorter shall use a single waste recycling chute (hereinafter "chute") in a multi-story building to distribute materials pre-separated by tenants into two separate containers, as determined by the building management. For example, one container will be designated for garbage; a second for newspaper or commingled recyclables. Tenant-activated, Push button switch on a control panel incorporated above each chute intake door shall initiate appropriate container selection. As the correct container is accessed by the chute, the chute intake door is signaled available to the tenant who then disposes of the material. Remaining chute intake doors on other floors shall be disabled during the foregoing operation (Program Selectable). Optional Air operated doors are available.

1.3 DESCRIPTION OF WORK

- A. Work Included: Furnish and install a Waste Recycling System where shown on drawings.

1.4 SUBMITTALS

- A. Catalog Cuts: Before the waste recycling system is delivered to the job site, submit catalog cuts to the Architect in accordance with these specifications, showing all details of installation and assembly and all requirements for work by other trades.
- B. Product Data: Manufacturer's product specifications, standard details and recommendations for project conditions; indicate selected sizes and installation details specific to the project.
- C. Shop Drawings:

- 1: Plans: Scale 1/4 inch to 1 foot; indicate locations, dimensions, and required associated construction activities.
 - 2: Elevations/Sections: Scale 1/4 inch to 1 foot; indicate locations, dimensions, and required associated required construction activities.
 - 3: Details: Scale 1/4 inch to 1 foot; indicate:
 - a. Shop drawings specific to project conditions
 - b. Interface with adjacent construction
 - c. Dimensions and tolerances
 - d. Products required for installation of the waste recycling system, but not supplied by waste recycling system manufacturer.
- D. Quality Assurance/Control Submittals:
- 1: Contractor's Certification that:
 - a. Products of this section are manufactured by Chute Source LLC.
 - b. Manufacturer's certification that installer of manufacturer's product is approved.
- E. Close-out Submittals:
1. Operation and Maintenance Data:
 - a. Manufacturer's printed Operation and Safety Manual
 - b. Manufacturer's Building Recycling Education Package
 2. Warranty Documents: Issued and executed by the manufacturer and installer of the system.

1.5 QUALITY ASSURANCE

- A. Qualifications:
1. Manufacturer: Minimum five (5) years-documented experience producing products specified in this section.
 2. Installer: Approved by the waste recycling system manufacturer, and having a minimum of five- (5) year's experience.
- B. Pre-Installation Meetings:
1. Convene at jobsite a minimum of seven (7) calendar days prior to scheduled beginning of construction activities of this section to review requirements of this section.
 2. Require attendance by representatives of the following:
 - a. Waste recycling system manufacturer or designated representative
 - b. Installer of this section
 - c. Other entities directly affecting, or affected by, construction activities of this section.
 - d. Notify Architect four (4) calendar days in advance of scheduled meeting date.

1.6 RELATED WORK BY OTHERS SPECIFIED ELSEWHERE

- A. The following work is excluded from the scope of work in this section 11175 and is included in other divisions of the specifications for inclusion in the scope of work of others.
1. Electrical Standards: The following electrical circuits with disconnects are required and are to be installed by others as shown on the plans:

1 Each: Local Load center Nema 13.

Consisting of:

24 VAC 1AMP for recycling floor control panel

208 VAC 3 phase 20AMP 5PH for main system control panel

Optional: 1 each: Telephone jack

2. Low-voltage wiring conduit: 1" EMT or flexible conduit for vertical installation located in accordance with shop drawings for connecting master control panel, chute intake door control panel and devices, and other elements indicated on the shop drawings.
3. Flashing at the roof
4. Water supply and valves to flushing and fire sprinkler heads
5. Manual ball valve for the disinfecting and sanitation unit located behind a plumbing access door directly above the highest intake door.
6. Installation of the plumbing access door provided under this section is to be by the forces erecting the shaft enclosure walls.

1.7 WARRANTY

- A. Manufacturer's warranty: Furnish waste recycling system manufacturer's standard one (1) year warranty from date of temporary certificate of occupancy or similar, locally mandated permission to use the project common areas for their intended use. Warranty shall apply to defects in product workmanship and materials.

1.8 MAINTENANCE

- A. Maintenance service: Waste-recycling system includes maintenance during the one- (1) year warranty period.

Part 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable manufacturers: Chute Source LLC, 571 Kennedy Road Akron, Ohio 44305
- B. Substitutions: Not permitted
- C. Components:
 1. The chute shall be 24" diameter, of U.S. #16 gauge aluminized steel as manufactured by Chute Source LLC,.
 2. Intakes Door: Chute Source LLC, 2 button control panel: Stainless steel door and trim, 15 inches wide x 18 inches, bottom hinged, hand-operated, self-closing, positive latching doors bearing 1½ hour, Underwriters Laboratories "B" Label designation and rated for a 250° F maximum door temperature rise over 30 minutes. The intake door is integrated with a door control panel which includes the waste recycling system low voltage electronics and interlocks in a UL® approved, 1½ hour, "B" Label, 1½ hour assembly.
 3. Discharge: CSLLC, U.S. #16 gauge aluminized steel type "A" open end chute discharge sliding steel door with 165°F. fusible link hold open on a steel track at the bottom of the chute just above the appropriate Tri-Sorter model to close automatically when the ambient temperature reaches 165°F. as required by city or state building and/or fire codes.
 4. Vent: Chute shall extend full diameter through roof to metal top vent cap 4'-0" above roof level with counter flashing and insect screen. A roof curb (44"x 44" x minimum of 8" high) is required for flat roof conditions and is to be provided by others. Specify stainless steel for aggressive environments.
 5. Accessories: ¾ inch IPS flushing spray head and ½ inch sprinkler head above highest intake. Additional ½-inch sprinkler heads at every second intake (counting from the top) or as required by local code.

6. Provide Disinfecting & Sanitizing unit for installation in line to the flushing spray head. Connection to flushing spray head, back flow prevention valve and electric control switch by others.
7. Provide 15 inches wide x 15 inches high right side hinged, hand operated, self closing, positive latching, UL 1 1/2-hour "B" labeled, stainless steel plumbing access door having stainless steel door trim for installation by forces erecting enclosing shaft wall. Door to have master keyed lock. Cylinder provided by others. Door for access to disinfecting & sanitizing unit above the highest intake door of the chute.
8. Offsets (bends) in the chute, if required, shall be made the same diameter as the chute of #16 US gauge aluminized steel and have an additional layer of # 13 US gauge aluminized steel reinforcing the impact area. Offsets are not to deviate more than 15% off the vertical axis of the chute.
9. Provide Daubert 934 sound coat (or equal) vibration dampening compound to the exterior of the chute only. Include Korfund sound isolator pads at each floor support frame.
10. Tri-Sorter Construction: The Tri-Sorter shall be of 1/4" welded steel plate construction. It shall utilize 2) 1/4" steel diverter blades welded to 2) 1 1/2" dia. steel shafts to deflect materials from the chute to appropriate containers. Hydraulic cylinders shall drive the deflector mechanisms appropriately.
11. Master Control Panel: A Master Control shall be housed in a UL[®] approved, NEMA 13 enclosure mounted on the hydraulic power pack of the Tri-Sorter in the trash/garbage room a minimum of 35" above the floor to the bottom of the panel. No conduit should access this panel from the bottom. The Master Control Panel shall control and monitor all mechanical and electronic operating functions of the Recycling System. Inherent in the design of the control will be suitable repair and serviceability standards including use of plug-in connectors where possible. Supply power will be 208 3 phase VAC with a 24 VAC output to the individual control panels and a 24VAC output to the chute intake doors interlocks on each floor. The component of the system shall meet or carry applicable UL[®] labels and/or standards.
12. Manual Switch: As part of the Master Control, manually actuated Switch shall be provided to disable all chute doors as required for purposes of Systems shut-down for service and other needs.
13. Floor Control panels will be Illuminated mechanical push buttons: Stations permit user selection of material types for disposal, transmit "In Use" signals and disables all other floor control panel units, and perform the following additional functions:
 - a. Activate diverter baffles to deflect material into appropriate container corresponding to materials selection push-button on Floor Control Panel.
 - b. Can optionally respond to signal from compactor when garbage container is full, transmitting notification to maintenance personnel on location via monitoring service and transmit "Pick-up in Progress" signal and disable all floor control panels.
 - a. Self-diagnostic program detects system component failure, then transmits notification to maintenance personnel on location via monitoring service and transmits "Pick-up in Progress" signal and disable all floor control panels.
14. Recycling Containers: Industry standard 90-gallon recycling containers.

2.2 FABRICATION

- A. The waste recycling system shall be fully factory assembled and all joints, except those

required to separate the sections for shipment and installation shall be welded or lock-seamed tight. The floor intake doors shall be bolted in place on throats formed into the chute. All chute sections shall flash inside the sections below and there shall be no bolts, clips, or other projections inside the chute to snag the flow of material. Pre-positioned support frames shall assure proper intake levels and there shall be an expansion joint in the chute between all support joints. Discharge hoppers and offsets, where required, shall be reinforced and separately supported in the impact area.

Part 3 EXECUTION

3.1 EXAMINATION

- A. Verification of conditions:
 - 1. Area in which system is to be located is correct size and location, and is prepared for installation of waste recycling system components.
 - 2. Electrical power source is in correct location, and is correct voltage, amperage capacity, and phase for recycling system electrical components.
 - 3. Low voltage conduit, is in correct location, and is correct size and capacity for waste recycling system low-voltage electrical components.
- B. Installer's examination:
 - 1. Have installer of this section examine conditions under which construction activities of this section are to be performed, then submit written notification if conditions under which construction activities of this section are to be performed are unacceptable.
 - 2. Beginning construction activities of this section before unacceptable conditions have been corrected is prohibited.
 - 3. General Contractor shall verify and record chute alignment with installer immediately following installation.

3.2 INSTALLATION

- A. Install waste recycling system components in accordance with shop drawings and manufacturer's printed installation instructions.

3.3 DEMONSTRATION

- A. Arrange demonstration of system operation, conducted by manufacturer's representative, to Owner's maintenance personnel.

* END OF SECTION *