SECTION 14 91 00

CHUTES

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\*\* NOTE TO SPECIFIER \*\* CHUTES International; Linen chutes, trash chutes.
This section is based on the products of CHUTES International, which is located at:33 Industrial Park Dr.Waldorf, MD 20602Toll Free Tel: 800-88-CHUTETel: 240-448-5000Fax: 301-753-4108Email: [request info (Darren.Harp@chutes.com)](https://arcat.com/rfi?action=email&company=CHUTES%252BInternational&message=RE%253A%2520Spec%2520Question%2520(14560chu)%253A%2520&coid=31437&spec=14560chu&rep=&fax=301-753-4108)
Web: <http://www.chutes.com>
 [ [Click Here](https://arcat.com/company/chutes-international-31437) ] for additional information.
CHUTES International has pioneered and revolutionized the construction debris chute industry since 1989. We first introduced our patented, heavy-duty steel debris chute to fill the need for safe, time-saving and cost efficient debris removal. Then, in response to industry demand, we introduced our own DURACHUTE, a 32" HDPE plastic debris chute system.
More recently, CHUTES introduced its own flat chute line, DURAFLAT. The system is designed with the roofer in mind. In 2004, CHUTES introduced its own line of internal trash and linen chutes, to accompany its compactor, DuraPak line, postal specialties, service department and tenant storage lockers.

1. GENERAL
	1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Trash chutes.
		2. Linen chutes.
	1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 05 40 00 - Cold-Formed Metal Framing.
	1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. National Fire Protection Association (NFPA) - Code 82 - Standard on Incinerators and Waste and Linen Handling Systems and Equipment.
	1. SUBMITTALS
		1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
		2. Catalog Cuts: Prior to material delivery, submit catalog cut sheets to the Architect in accordance with these specifications, showing all details of installation and assembly and all requirements for work by other trades.
		3. Product Data: Manufacturer's product specifications, standard details and recommendations for project conditions; indicate selected sizes and installation details specific to the project.
			1. Preparation instructions and recommendations.
			2. Storage and handling requirements and recommendations.
			3. Installation methods.
		4. Shop Drawings:
			1. Specific project conditions
			2. Dimensions and clearances required
			3. Products required for installation of the chute, but not supplied by manufacturer.
			4. Delete following if NO Electric Interlocks, Pneumatic Standard or Pneumatic Interlocks
			5. Wiring Diagrams: Power, signal and control wiring
			6. Pneumatic Diagrams: Power, regulator flow and control tubing.

\*\* NOTE TO SPECIFIER \*\* Delete selection samples if colors have already been selected.

* + 1. Close-out Submittals:
			1. Manufacturer's printed operation manual.
			2. Executed warranty as listed in this section.
	1. QUALITY ASSURANCE
		1. Manufacturer Qualifications: All primary products specified in this section will be supplied by a single manufacturer with a minimum of ten (10) years experience manufacturing products of the same type as listed in this section.
		2. Installer Qualifications: All products listed in this section are to be installed by a single installer with a minimum of five (5) years demonstrated experience in installing products of the same type and scope as specified.
	2. DELIVERY, STORAGE, AND HANDLING
		1. Store products in manufacturer's unopened packaging until ready for installation.
	3. PROJECT CONDITIONS
		1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
	4. WARRANTY
		1. At project closeout, provide to Owner or Owners Representative an executed copy of the manufacturer's standard limited warranty against manufacturing defect, outlining its terms, conditions, and exclusions from coverage.
			1. Duration: One year from date of installation.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: CHUTES International, which is located at:33 Industrial Park Dr.Waldorf, MD 20602Toll Free Tel: 800-88-CHUTETel: 240-448-5000Fax: 301-753-4108Email: [request info (Darren.Harp@chutes.com)](https://arcat.com/rfi?action=email&company=CHUTES%252BInternational&message=RE%253A%2520Spec%2520Question%2520(14560chu)%253A%2520&coid=31437&spec=14560chu&rep=&fax=301-753-4108);Web: <http://www.chutes.com>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
		2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. TRASH CHUTES
		1. Performance Requirements:
			1. Fire Rated Door Assemblies:
				1. UL Labeled Intake Doors and Access Doors:

Mininum1 to 1-1/2 hour fire rated with 30 minute temperature rise of 250 degrees F (140 degrees C) Maximum.

* + - 1. Standard: Chutes to comply with NFPA 82.
			2. 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.
		1. Trash Chute Material and Size:

\*\* NOTE TO SPECIFIER \*\* Delete metal and thickness options not required.

* + - 1. Metal: Aluminum-coated; ASTM A 463/A 463M, Type 1 with not less than T1-40 (T1M-120) coating. Cold-rolled, commercial steel sheet.
				1. Metal Thickness: 0.060 inch (1.52 mm); 16 gauge.
				2. Metal Thickness: 0.080 inch (2.03 mm); 14 gauge.
			2. Metal: 430 ROF Stainless Steel; ASTM A240/ASME SA240. Cold-rolled, commercial steel sheet.
				1. Metal Thickness: 0.060 inch (1.52 mm); 16 gauge.
				2. Metal Thickness: 0.080 inch (2.03 mm); 14 gauge.
			3. Metal: 304 Stainless Steel; ASTM A 240. Cold-rolled, commercial steel sheet.
				1. Metal Thickness: 0.060 inch (1.52 mm); 16 gauge.
				2. Metal Thickness: 0.080 inch (2.03 mm); 14 gauge.

\*\* NOTE TO SPECIFIER \*\* Delete size options not required.

* + - 1. Size: 24 inch (610 mm) diameter.
			2. Size: 30 inch (762 mm) diameter.
			3. Size: 36 inch (914 mm) diameter.
		1. Fire Sprinklers: Manufacturer's standard NPS 1/2 inch (DN 13) fire sprinklers ready for piping connections. Furnished only, Installed by others.
		2. Intake Door Assemblies: Stainless steel front and back, noiseless, self-closing with positive latch and ADA compliant lever handle; as required to provide fire-protection and temperature rise ratings indicated. Corrosion-resistant, industrial grade enamel painted steel frame suitable for enclosing chase construction.
			1. Door Type: Bottom hinged, hopper type, typically used in public access applications.
			2. Trash Deflector: Stainless Steel intake to protect bottom of intake door from debris build-up.
			3. Size: Manufacturer's standard size for door type, chute type, and diameter indicated.
			4. Finish: Stainless steel, front and back, with No. 3 finish.

\*\* NOTE TO SPECIFIER \*\* Delete the two following paragraphs if Pneumatic doors are selected.

* + - 1. Handles and Locks: ADA compliant lever handle, cylinder locks with 2 keys. All locks keyed alike.
			2. Electric Interlocks: Interlock system that is energized by opening one intake door. All other doors remain locked when system is energized. Control System: Manual control system with key operated switch that locks doors of chute during shut-down hours and/or service operations, including manual override switch to bypass interlock system.

\*\* NOTE TO SPECIFIER \*\* Delete the three following paragraphs if no Pneumatic Intake Door.

* + - 1. ADA Compliant bottom-hinged, self-closing, positive latching, pneumatically operated chute intake doors with push button opening mechanism designed to preclude the need to grasp, twist or pinch the control mechanism in order to operate the intake doors.
			2. The Pneumatic Intake Door opens to the Full-Open position and remains open typically for 10 seconds or any other time selected. Door then closes automatically releasing the pneumatic interlock valve. Air Regulator/Dump Valve Control System: Control system with air regulator and manual dump valve to de-energize chute intake doors during shut-down hours and/or service operations, including manual override switch to bypass interlock system.

\*\* NOTE TO SPECIFIER \*\* Delete paragraph below if no Pneumatic Interlocks.

* + - 1. Pneumatic Interlocks: Interlock system that is energized by opening one intake door; interlock valve shuts off air pressure to the remaining doors automatically locking them out until the door in use closes.
		1. Discharge Assemblies: Required to provide fire protection ratings indicated; equipped with fusible links that cause discharge to close in the event of a fire.

\*\* NOTE TO SPECIFIER \*\* Delete direct vertical discharge option not required. Accordion damper assembly is recommended

* + - 1. Direct Vertical Discharge: Accordion Damper Assembly. UL labeled, interlocking type blades held open by fusible link assembly for automatic closing with heat rising above 165 degrees F (74 degrees C).
			2. Direct Vertical Discharge: Rolling Inclined Door held open by fusible link assembly for automatic closing with heat rising above 165 degrees F (74 degrees C), Not UL Labeled.

\*\* NOTE TO SPECIFIER \*\* Delete optional accessories not required.

* + 1. Optional Accessories:

\*\* NOTE TO SPECIFIER \*\* Only available with electric and pneumatic interlock systems. Delete if not required.

* + - 1. Heat and Smoke Detector connection: Electro Thermal Fusible Link and wire connection at Manual Control Box to lock out chute doors. Heat Sensor located outside discharge door. 24 to 32 VDC contact Smoke Detector supplied by others, manufacturer provides connection only.
			2. Access Door Assembly: Stainless steel front and back, noiseless, self- closing with positive latch and ADA compliant lever handle; as required to provide fire-protection and temperature rise ratings indicated. And with corrosion-resistant, industrial grade enamel painted steel frame suitable for enclosing chase construction; and in No. 3 finish.
			3. Disinfecting and Sanitizing Unit: NPS 3/4 inch (DN 19) disinfecting and sanitizing spray head unit located in chute above highest intake door, including 1 gallon. (3.8 L) tank and adjustable proportioning valve with bypass for manual control of sanitizing and flushing operation, ready for hot or cold water piping connection, and with access for head and piping maintenance.
			4. Intake Door Baffles: Rubber baffles, 1/8 imch (3 mm) thick to minimize back draft when door is opened.
			5. Sound Dampening: Manufacturer's factory applied standard sound deadening coating on exterior of chute from discharge level to top of last intake.
			6. Isolator Pad: Manufacturer's standard, 1/4 inch (6 mm) top and bottom waffle design, oil resistant, neoprene with 3/8 inch (9 mm) close grained cork core.
		1. Chute Fabrication:
			1. Trash Chute Sections: Factory assembled.
				1. Sections shall sleeve inside the sections below.
				2. No bolts, clips, or other projections are to be inside the chute to snag the flow of material.
			2. Vertical Seams: fully welded.
			3. Pre-Positioned Support Clips: Assure proper intake levels.
			4. Expansion Joints: In the chute between support joints.
			5. Discharge Offsets: 12 gauge material at area of impact. where required.
				1. No ' spiral' manufactured sections within chute will be allowed.
			6. Vent: Full diameter Aluminum .080 (2.03 mm) 12 gauge extending 3 ft (914 mm) per NFPA Code 82; 2009, above roof penetration with aluminum hinged metal safety cap.
			7. Standard Floor Frames: 1-1/2 x 1-1/2 x 3/16 (38 x 38 x 5 mm) corrosion resistant, industrial grade enamel painted, steel angle.
			8. Fire Sprinklers: 1/2 inch NPT sprinkler and 3/4 inch NPT flushing head at top intake. Additional 1/2 inch sprinkler heads at alternate intake floors and at intake above discharge floor as required by NFPA Code 82.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. LINEN CHUTES
		1. Performance Requirements:
			1. Fire Rated Door Assemblies:
				1. UL Labeled Intake Doors and Access Doors:

Mininum 1-1/2 hour fire rated with 30 minute temperature rise of 250 degrees F (140 degrees C) Maximum.

* + - 1. 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.
		1. Trash Chute Material and Size:

\*\* NOTE TO SPECIFIER \*\* Delete metal and thickness options not required.

* + - 1. Metal: Aluminum-coated; ASTM A 463/A 463M, Type 1 with not less than T1-40 (T1M-120) coating. Cold-rolled, commercial steel sheet.
				1. Metal Thickness: 0.060 inch (1.52 mm); 16 gauge.
				2. Metal Thickness: 0.080 inch (2.03 mm); 14 gauge.
			2. Metal: 430 ROF Stainless Steel; ASTM A240/ASME SA240. Cold-rolled, commercial steel sheet.
				1. Metal Thickness: 0.060 inch (1.52 mm); 16 gauge.
				2. Metal Thickness: 0.080 inch (2.03 mm); 14 gauge.
			3. Metal: 304 Stainless Steel; ASTM A 240. Cold-rolled, commercial steel sheet.
				1. Metal Thickness: 0.060 inch (1.52 mm); 16 gauge.
				2. Metal Thickness: 0.080 inch (2.03 mm); 14 gauge.

\*\* NOTE TO SPECIFIER \*\* Delete size options not required.

* + - 1. Size: 24 inch (610 mm) diameter.
			2. Size: 30 inch (762 mm) diameter.
			3. Size: 36 inch (914 mm) diameter.
		1. Fire Sprinklers: Manufacturer's standard NPS 1/2 inch (DN 13) fire sprinklers ready for piping connections. Furnished only, Installed by others.
		2. Intake Door Assemblies: Stainless steel front and back, noiseless, self-closing with positive latch and ADA compliant lever handle; as required to provide fire-protection and temperature rise ratings indicated. Corrosion-resistant, industrial grade enamel painted steel frame suitable for enclosing chase construction.

\*\* NOTE TO SPECIFIER \*\* Delete door type not required.

* + - 1. Door Type: Right side hinged, not for public access applications.
			2. Door Type: Left side hinged, not for public access applications.
			3. Size: Manufacturer's standard size for door type, chute type, and diameter indicated.
			4. Finish: Stainless steel, front and back, with No. 3 finish.

\*\* NOTE TO SPECIFIER \*\* Delete the two following paragraphs if Pneumatic doors are selected.

* + - 1. Handles and Locks: ADA compliant lever handle, cylinder locks with 2 keys. All locks keyed alike.
			2. Electric Interlocks: Interlock system that is energized by opening one intake door. All other doors remain locked when system is energized. Control System: Manual control system with key operated switch that locks doors of chute during shut-down hours and/or service operations, including manual override switch to bypass interlock system.
		1. Discharge Assemblies: Required to provide fire protection ratings indicated; equipped with fusible links that cause discharge to close in the event of a fire.

\*\* NOTE TO SPECIFIER \*\* Delete direct vertical discharge option not required. Hopper damper assembly is recommended

* + - 1. Hopper discharge constructed of same material as the chute, supported by a 2 inch (51 mm) diameter adjustable pedestal, "UL" labeled, top-hinged spring counter-balanced door, fusible linked for closing with heat rising above 165 degrees F (74 degrees C).

\*\* NOTE TO SPECIFIER \*\* Delete size options not required.

* + - * 1. Size (WxH): 24 x 30 inches (610 x 762 mm).
				2. Size (WxH): 28 x 36 inches (711 x 914 mm).
				3. Size (WxH): 36 x 48 inches (914 x 1219 mm).
			1. Accordion Damper Assembly: UL labeled, interlocking type blades held open by fusible link assembly for automatic closing with heat rising above 165 degrees F (74 degrees C).

\*\* NOTE TO SPECIFIER \*\* Delete optional accessories not required.

* + 1. Optional Accessories:

\*\* NOTE TO SPECIFIER \*\* Only available with electric and pneumatic interlock systems. Delete if not required.

* + - 1. Heat and Smoke Detector connection: Electro Thermal Fusible Link and wire connection at Manual Control Box to lock out chute doors. Heat Sensor located outside discharge door. 24 to 32 VDC contact Smoke Detector supplied by others, manufacturer provides connection only.
			2. Access Door Assembly: Stainless steel front and back, noiseless, self- closing with positive latch and ADA compliant lever handle; as required to provide fire-protection and temperature rise ratings indicated. And with corrosion-resistant, industrial grade enamel painted steel frame suitable for enclosing chase construction; and in No. 3 finish.
			3. Disinfecting and Sanitizing Unit: NPS 3/4 inch (DN 19) disinfecting and sanitizing spray head unit located in chute above highest intake door, including 1 gallon. (3.8 L) tank and adjustable proportioning valve with bypass for manual control of sanitizing and flushing operation, ready for hot or cold water piping connection, and with access for head and piping maintenance.
			4. Intake Door Baffles: Rubber baffles, 1/8 imch (3 mm) thick to minimize back draft when door is opened.
			5. Isolator Pad: Manufacturer's standard, 1/4 inch (6 mm) top and bottom waffle design, oil resistant, neoprene with 3/8 inch (9 mm) close grained cork core.
	1. FABRICATION
		1. Chute Fabrication:
			1. Trash Chute Sections: Factory assembled.
				1. Sections shall sleeve inside the sections below.
				2. No bolts, clips, or other projections are to be inside the chute to snag the flow of material.
			2. Vertical Seams: fully welded.
			3. Pre-Positioned Support Clips: Assure proper intake levels.
			4. Expansion Joints: In the chute between support joints.
			5. Discharge Offsets: 12 gauge material at area of impact. where required.
				1. No ' spiral' manufactured sections within chute will be allowed.
			6. Vent: Full diameter Aluminum .080 (2.03 mm) 12 gauge extending 3 ft (914 mm) per NFPA Code 82; 2009, above roof penetration with aluminum hinged metal safety cap.
			7. Standard Floor Frames: 1-1/2 x 1-1/2 x 3/16 (38 x 38 x 5 mm) corrosion resistant, industrial grade enamel painted, steel angle.
			8. Fire Sprinklers: 1/2 inch NPT sprinkler and 3/4 inch NPT flushing head at top intake. Additional 1/2 inch sprinkler heads at alternate intake floors and at intake above discharge floor as required by NFPA Code 82.
1. EXECUTION
	1. EXAMINATION
		1. Verification of conditions:
			1. Confirm slab penetrations are properly sized (diameter of chute + 4"), aligned, plumb and clear of any obstructions at chute location. Also, confirm floor heights and other applicable dimensions are in accordance with the approved shop drawings.
	2. PREPARATION
		1. Clean surfaces thoroughly prior to installation.
		2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
	3. INSTALLATION
		1. Install chute in accordance with approved shop drawings and manufacturer's printed installation instructions.
		2. General Contractor shall provide control line for location and finished face wall to determine chute intake centerline location.
	4. DEMONSTRATION
		1. Arrange demonstration of system operation, conducted by manufacturer's representative, to Owner's maintenance personnel.

END OF SECTION