



GREEN® GARBAGE CHUTES

CODE FOR INSTALLATION and METHOD STATEMENT

Contra International recommends use of this Code to cover the installation of garbage chutes in multi-storey developments and the storage of receptacles for the receipt of garbage from these chutes. This Code shall be complied with wherever **GREEN®** garbage chutes are installed, unless Local Authorities require otherwise.

A garbage chute will be required to be installed in all residential buildings in which any storey containing a flat is situated more than three storeys above or below a level used for storage of garbage receptacles which is readily and directly accessible for garbage collection purposes.

Location of Chute in Residential Premises

- The chute receiving point or hopper door shall be accessible on each habitable floor of the building serviced by the chute.
- The access from each occupancy unit should be direct, convenient and well illuminated.
- It is preferred that the chute be constructed on external walls and accessible via ambulatories or open passageways.
- Should central core design be used, then the chute must be located well away from bedrooms or living rooms so as to minimize noise and odor intrusion, or, if otherwise designed, adequate provision is to be made for impact sound and a minimum Sound Transmission class of 50 provided.

Storage of Non-Chuteable Articles

- It is necessary to provide storage in the form of shelving and conventional garbage cans for temporary holding of wastes which cannot or should not be chute-fed at each floor level.
- Large cartons, bottles and semi-liquid wastes can then be adequately stored and ultimately removed by the Caretaker.
- The preferred design would be to provide a chute, located within a storage room, the dimensions of the room being adequate to provide convenient access directly to the chute hopper door and the storage provisions aforementioned.
- Such room shall be naturally ventilated or mechanically exhausted at not less than 6 ac per hour.
- The floor and walls shall be finished with a smooth finish.

Chute Construction

- The chute must be circular in its cross section dimension and shall be constructed of stainless steel 304, a suitable alloy of aluminum or other approved material.
- Diameter of the chute shall not be less than 500 millimeters and would rarely exceed 600 millimeters.
- The thickness of materials used in metal chutes, shall be (1.5) millimeters minimum in the tube and in the throat intake section.
- The discharge offset section (if used) of any metal chute, shall be constructed of metal of similar alloy to the remainder of the chute but shall not be less than three (3) millimeters in wall thickness unless they are otherwise constructed from (2) millimeters metal plus (2) millimeters reinforcing plate.
- The aluminum alloy, if used, should contain sufficient magnesium to yield high tensile strength and resistance to distortion and corrosion, such as used in marine craft application.
- The chute shall rise vertically, without off-set, and terminate in the atmosphere at least six hundred (600) millimeters above roof level. The opening shall be weatherproofed but provide full ventilation (200m³/hr or minimum 50 air changes).
- All welded joints shall be dressed smooth and expansion joints lapped against the direction of travel of materials and waste so as to remain watertight at all times. The number of joints shall be minimal.
- The chute tube shall be conveniently supported and mountings must provide for expansion and prevent the transfer of noise and vibration to the building frame or slabs.

Hopper Doors and Feed Throats

- Hopper doors must be self-closing. Doors must be one (1) hour fire rated, except where the doors open into a garage room, fitted with a one (1) hour rated door.
- Construction should be smooth-faced, formed so as not to retain waste material or be difficult to clean.
- Bottom hinged hopper doors may be located at any convenient height above the floor level and be provided with a key operated dead lock so as to render the opening safe.
- In case of electrically interlocked doors, opening a door on any level locks all the remaining doors.
- The door opening or feed throat into any chute shall have a diagonal measurement not in excess of the chute diameter.

Enclosure of Chutes

- A square penetration should be provided in each concrete slab (other than the lowest level). After erection of the tube, brickwork must be erected so as to totally enclose the tube. Proper bonding of the hopper feed door, the masonry and the chute throat should be provided.
- The enclosing brickwork shall extend slab to slab and carry up six hundred (600) millimeters above roof level and include adequate ventilation into the outside air so as to ventilate the annular space between the chute and the enclosing brickwork.

Storage and Collection Facilities

- The chute shall terminate in a separate room which is constructed of masonry, having a minimum fire resistance rating of one (1) hour (greater if required by Regulation) and has all openings thereto protected by one (1) hour self-closing fire doors.
- The collection room shall be located at a level where easy access can be gained by contractors for the emptying of the storage bins.
- Alternatively, a suitable bin storage area may be approved if suitable access can be obtained thereto for both placement of all bins and emptying of bins. Adequate access must be provided to the refuse storage room in order to move steel containers (if in use) into and out of the room.
- The chute should be terminated without offset, if possible, and into either:
 - a) A mobile steel container of approved design, with a ventilated canopy of approved construction shall be provided to join and enclose the chute to the container, so as to adequately contain the waste;
 - OR
 - b) An automatic rotating turn-table, fitted with bins or approved garbage bags for the storage of waste materials, with or without compaction equipment.
- There shall be provided, at the base of chutes, an optional "shut off" mechanism which can be closed when bins are being removed or serviced.
- The refuse storage room shall be cement rendered to a smooth, even surface, all intersections of walls and floors shall be adequately coved and the floor shall be graded to a sewer connection floor gully. A water point is also required for cleansing.

Fire Control

- There shall be provided, at the base of all chutes, a fire cut-off door made from (2) millimeters stainless steel or (3) millimeters galvanized steel and this door shall be fitted with a fusible link to melt at 71°C.
- A sprinkler system with a down flow, and rated at 68°C, shall be provided either within the refuse canopy or compactor, so as to automatically extinguish the seat of any fire in this equipment.



Additionally, fire sprinklers rated at 68°C can be incorporated in every intake section.

Sound Attenuation

- The mounting of the chute suspension brackets shall be so designed as to eliminate noise and vibration likely to arise.
- The hopper doors shall be provided with an adequate seal (against smoke and odor) which will effectively deaden impact on closing of the door.
- Hopper doors shall be self-closing.
- The chute shall be coated over its entire span with sound dampening compound.

Chute Cleansing

- If constructed without offsets, the chute shall be equipped with a sanitizing liquid dispenser and a mechanical or electrical brush-pulley assembly that extends over the entire length of the chute and brushes its walls.
- If constructed with offsets, the chute shall be equipped with pressurized cleaning sprinklers (minimum 2 bar) as the brush-pulley system cannot function in such layouts.

Capacity of Waste Storage

- Where un-compacted waste is to be collected in steel containers, the required volume of the container shall be calculated to hold seven (7) days capacity at the rate of (0,07) cubic meters of garbage per unit household per week. This figure may be reduced if garbage collection is made twice weekly.
- A minimum of two (2) containers would be required at any building - one (1) in use and one (1) awaiting removal.
- Containers awaiting removal must be stored on site, in accordance with the requirements of local authorities.
- Where compacted waste is to be stored in bags, storage bags used shall be (0.13) millimeters thick polyethylene, having a maximum weight of twenty-five (25) kilograms per bag. Bags may be stored in steel containers, on site, for bulk removal.
- Conditions for bulk removal apply as previously described.