

ASME A17.1 – 2013 Part 7 Dumbwaiters
Synopsis

Introduction

- This is a synopsis of the requirements most noteworthy to installers – this is not a full list of all ASME requirements.
- Codes that do not apply to Waupaca designs are not included.
- Local codes and requirements may differ.
- Final interpretation and acceptance is subject to inspection by a code enforcing authority.

7.1 **Power Dumbwaiters**

7.1.1 Hoistway

- Where required, fire resistive construction shall conform to the requirements of local building codes.
- Hoistway openings shall be protected by entrances having fire ratings in conformance to local building codes.
- The hoistway enclosure must be of sufficient strength to maintain true alignment of the landing doors and operating mechanisms.

7.1.2 Pits

- Pits are not required but shall be permitted.

7.1.3 Counterweights

- Not applicable to Waupaca units.

7.1.4 Vertical Car Clearances

- At the lowest limit of travel, the car shall not encounter an obstruction other than a buffer.
- At the highest limit of travel, the car shall not encounter an obstruction other than a mechanical stop or buffer.

7.1.5 Horizontal Car Clearances

- Clearance between the car and the enclosure shall be not less than 1/2 inch.
- Clearance between the car sill and landing sill shall be not less than 1/2 inch and not greater than 1 1/4 inch.

7.1.6 Protection of Spaces Below Hoistway

- Car safeties shall be provided.
- Buffers shall be provided.

7.1.7 Machine Rooms and Spaces

- Where fire resistive construction is required by the local building code, the machine room shall be separated from the rest of the building by a fire resistive enclosure in conformance with the building code.
- Dumbwaiter equipment may be located in a room containing other equipment providing all moving parts are guarded.

- When the equipment is located in the bottom of the hoistway, the controller shall be outside the hoistway or on the inside face of the access door.
- A means of access to machinery spaces shall be provided.
- Access doors shall be provided with an electric contact.
- Permanent electric lighting shall be provided in all machine spaces.

7.1.8 Electrical Equipment

- Only electrical equipment for the dumbwaiter shall be permitted in the hoistway.
- Sprinklers shall be permitted in the hoistway.
- Pipes not related to the dumbwaiter operation shall not be permitted in the hoistway or machine spaces.

7.1.9 Machinery and Sheave Beams

- Machines and sheaves shall be supported to prevent any part from becoming loose under the conditions imposed in service.

7.1.10 Guarding of Equipment

- In machine rooms, driving machines and sheaves shall be guarded to protect against accidental contact.

7.1.11 Hoistway Openings

- Landing openings shall be provided with entrances that guard the entire length and width of the opening.
- Doors shall not open to a width or height greater than 1 inch more than the car opening.
- Entrances may be swing, horizontal slide, vertical slide bi-parting or vertical slide counterweighted.
- Doors shall be kept closed except for the landing the car is located at.
- Access doors with an electric contact, shall be permitted.
- Hoistway doors shall be provided with locking devices.
- Where vertical slide type entrances are used landing sills shall be of metal securely fastened to the building structure.
- Hoistway doors must withstand 250 pounds of force.
- Where required, rated doors shall be labeled accordingly.

7.1.12 Door Locking Devices

- Interlocks must be listed by a certifying organization (EMI residential only).
- A door unlocking device shall be provided at the top and bottom landing.
 - Must not be accessible with common tools.
 - Access must not be located higher than 83 inches.

7.1.13 Power Operation of Hoistway Doors

- Not applicable to Waupaca units.

7.1.14 Identification

- When multiple machines are located in the same machine room, they shall be so identified.

7.2 Electric Dumbwaiters

7.2.1 Car Enclosures, Gates and Lighting

- The car shall be securely fastened to the point of suspension.
- The maximum inside height shall not exceed 48 inches.
- Car gates which guard the full width of the opening shall be provided at all entrances.
- Each gate shall be provided with an electric contact which will stop the car when the gate is opened more than 3/4 inches.
- Gate posts shall not enter into the access door area.
- Lighting is not required.

7.2.2 Car Frames and Platforms

- The car shall be guided on each guide rail by upper and lower guiding members.

7.2.3 Capacity and Loading

- The rated load shall be not less than 13.9 pounds per cubic foot of inside car volume.
- A metal capacity plate shall be provided.
- A data plate shall be provided. The installer must complete the "date installed".
- A sign stating "NO RIDERS" shall be located in the car.

7.2.4 Car Safeties

- Car safeties are not required unless there is accessible space below the hoistway (Waupaca Elevator requires safeties on all models).

7.2.5 Speed Governors

- Not applicable to Waupaca units.

7.2.6 Suspension Means

- A wire rope data tag shall be provided.
- Rope ends must be clamped and secured from interference with equipment.
- Must have at least one spare rope turn on winding drums when the car is in the pit.

7.2.7 Counterweights

- Not applicable to Waupaca units.

7.2.8 Buffers and Bumpers

- Cars shall be provided with buffers or bumpers.
- Buffers shall be provided if there is accessible space below the hoistway.

7.2.9 Guide Rails and Fastenings

- Mounting bolts shall be graded fasteners (Waupaca Elevator recommends grade 5).

7.2.10 Driving Machines and Sheaves

- Driving machines may be winding drum, traction, rack and pinion, screw column, belt drive, chain drive or hydraulic.

7.2.11 Terminal Stopping Devices

- Upper and lower terminal stopping devices shall be provided.
- Upper and lower final terminal stopping devices operated by movement of the car shall stop the car after it passes the terminal stopping device and before an obstruction is struck.
- A slack rope switch may be used as a lower final terminal stopping device.
- Final terminal stopping devices must prevent movement in both directions.

7.2.12 Operating Devices

- Operation of the car shall be by continuous-pressure or automatic means.
- Winding drum units require a slack rope device which must be reset manually.
- Access openings to the hoistway shall be provided with a locking device.
- The car sill shall stop vertically within 1/2 inch of the landing sill.