

SECTION 14 10 00 - DUMBWAITERS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes power dumbwaiters with self-supporting dumbwaiter structures.
- B. Related Requirements:
 - 1. Section 03 30 00 "Cast-in-Place Concrete" for setting inserts and anchoring devices in concrete.
 - 2. Section 05 12 00 "Structural Steel Framing" for attachment plates, angle brackets, and other preparation of structural steel to receive guide-rail brackets.
 - 3. Section 08 31 13 "Access Doors and Frames" for hoist-way and access doors and frames not specified in this Section.

1.2 PREINSTALLATION MEETINGS

- A. Pre-installation Conference: Conduct conference at Project site.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for dumbwaiters.
 - 2. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
- B. Shop Drawings: For dumbwaiters.
 - 1. Include plans, elevations, sections, and attachment details.
 - 2. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
 - 3. Include diagrams for power, signal, and control wiring.
- C. Samples: For each exposed product and for each color and texture specified, 6 inches (150 mm) square in size. Provide the Manufacture's full range of color selections.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.

- B. Product Certificates: For each type of dumbwaiter.
- C. Field quality-control reports.
- D. Sample Warranty: For manufacturer's special warranty.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For dumbwaiters to include in operation and maintenance manuals.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Dumbwaiter manufacturer or a qualified installer who is approved by dumbwaiter manufacturer.

1.7 WARRANTY

- A. Manufacturer's Special Warranty: Manufacturer agrees to repair or replace components of dumbwaiters that fail in materials or workmanship within specified warranty period.

1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

- A. Regulatory Requirements: Comply with ASME A17.1.
- B. 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.

2.2 PERFORMANCE REQUIREMENTS

- A. Fire-Rated Door and Frame Assemblies: Units complying with NFPA 80 that are listed and labeled by UL or another testing and inspecting agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated, based on testing according to NFPA 252 or UL 10B.

2.3 DUMBWAITERS

- A. Power Dumbwaiter: Manufacturer's standard pre-engineered, electric-driving-machine dumbwaiter system.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Basis-of-Design Product: Subject to compliance with requirements, provide Matot, Inc. or comparable product by one of the following:
 - b. Auton Motorized Systems.
 - c. Butler's Buddy Inc.
 - d. Fowler, W. B., Industries Inc.
 - e. Giant Lift Equipment Mfg. Co., Inc.
 - f. Gillespie Corporation.
 - g. Inclinator Company of America.
 - h. Powerlift Dumbwaiters Corp.
 - i. Summit Lifts, Inc.
 - j. Waupaca Elevator Company, Inc.
2. Car Platform Size: Minimum 36 inches (914 mm) wide by 36 inches (914 mm) deep, clear inside dimensions.
3. Car Inside Height: 48 inches (1220 mm), clear inside dimension to lowest point.
4. Rated Load: Minimum 500 lb (227 kg).
5. Guide Rails: Steel.
6. Self-Supporting Structure: Structural-steel, self-supporting hoistway framing that supports vertical loads of unit only at base, with lateral support only at landing levels.
7. Rated Speed: 75 fpm (0.38 m/s).
8. Electric Power Supply: As indicated on Drawings.
9. Electric-Driving-Machine Type: Manufacturer's standard.
10. Leveling Device: Provide two-way automatic maintaining device to level car within a 1/4-inch (6-mm) leveling tolerance regardless of load or direction of travel.
11. Car: Manufacturer's standard construction and as follows:
 - a. Enclosure: Sound-deadened, stainless-steel panels with welded joints
 - b. Tray Brackets: Manufacturer's standard, fixed stainless-steel brackets to support trays slid into car.
 - c. Light Fixture: Manufacturer's standard recessed LED light fixture, located in ceiling near front of car.
12. Car Entrance: Power operated, vertically bi-parting doors.
 - a. Automatic Hoist-way-Door Operation: Equip car entrance with connecting linkages to operate hoist-way doors at each landing when car is present.
 - b. Car-Door Vision Panel: Glazed port through car door aligning with vision panel in hoist-way door.
 - c. Material and Finish: Match car-enclosure walls.
13. Hoist-way Doors and Frames: Power operated, vertically bi-parting doors equipped with linkages to allow opening only when car is present at landing.
 - a. Construction: Flush stainless steel.

- b. Fire Rating: 1-1/2 hours with 30-minute temperature rise of 450 deg F (250 deg C)].
- c. Hardware: Equip fire-rated doors with fire-rated hardware and closers.
- d. Vision Panel: Glazed port through door, sufficient for observation that car is at landing and aligning with vision panel in car door.

14. Stainless-Steel Finish: No. 4 directional satin polish.

2.4 OTHER COMPONENTS

- A. Access Door and Frame: Stainless Steel swing door.
 1. Fire Rating: 1-1/2 hours with 30-minute temperature rise of 450 deg F (250 deg C).
 2. Hardware: Equip fire-rated doors with fire-rated hardware and closers.
- B. Control System for Power Dumbwaiters: Manufacturer's standard, fully automatic, call-and-send microprocessor-control system that responds to momentary push-button signals at each landing and as follows:
 1. Car shall not respond to station calls for service while in transit, for a predetermined time after arrival at a landing, and when doors are open.
 2. Noninterference Timer: Adjustable, limited period of time for receiving station to gain access to car before it responds to next station call for service.
 3. Parking: When delivery has been completed and doors are closed and no calls for service are registered, return car automatically for parking at lowest landing.
- C. Signal Equipment for Power Dumbwaiters: Manufacturer's standard signal equipment at each landing push-button station; include call button, send button for each landing served, and illuminated "car-in-use" light that flashes when car arrives at landing until door is opened. Station recessed, set in wall adjacent to dumbwaiter, with surface-mounted, stainless-steel faceplate.
 1. Power-Operated Door Buttons: Momentary-pressure "door open" and constant-pressure "door close" buttons.
 2. Arrival Signal: Manufacturer's standard arrival lantern and gong system, located above each hoist-way entrance, that indicates car is approaching landing to which it has been dispatched. Lantern remains illuminated until car door is opened.
 3. Audible Service Call Signal: Manufacturer's standard buzzer system, located on top of each car, equipped to sound continuously when call button is depressed and held, but only if car is located at landing where hoist-way or car door is open.
- D. Master Control Station for Power Dumbwaiters: Manufacturer's standard master control station for each dumbwaiter or group of dumbwaiters, located where indicated on Drawings. Provide keyed switches and pilot lights for shutdown/startup and emergency stop buttons.

- E. Attachment Devices: Manufacturer's standard inserts and brackets as required for securing guide rails, machines, and other components of dumbwaiter work to building structure.
- F. Machine Mounts: Provide manufacturer's standard vibration-isolation units for mounting dumbwaiter machines.
- G. Hoist-way-Door Sills: Stainless steel. Where sill is at floor level, reinforce it to prevent deformation.

2.5 MATERIALS

- A. Steel Sheet: Cold-rolled steel sheet, ASTM A 1008/A 1008M; or hot-rolled steel sheet, ASTM A 1011/A 1011M.
- B. Stainless Steel: ASTM A 666, Type 304.
- C. Non-shrink, Nonmetallic Grout: Factory-packaged, non-staining, noncorrosive, nongaseous grout complying with ASTM C 1107/C 1107M.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine conditions, with Installer present, for compliance with requirements for hoist-way installation tolerances and other conditions affecting performance of dumbwaiter work.
- B. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of dumbwaiter work.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Comply with ASME A17.1 and manufacturer's written instructions.
- B. Machine Locations: Unless otherwise indicated, locate dumbwaiter machines inside shaft at top of hoist-way.
- C. Alignment: Coordinate hoist-way doors with dumbwaiter travel and car positioning for accurate alignment and required clearances between dumbwaiter components including car, hoist-way doors, sills, and door frame at each landing.
- D. Set sills flush with finished surface of landings. Fill space under sills solidly with non-shrink, nonmetallic grout.

- E. Adjust car stops for accurate stopping and leveling at each landing, within required tolerances.
- F. Lubricate operating parts of dumbwaiter, including wire ropes, guide rails, door tracks, and hardware.

3.3 FIELD QUALITY CONTROL

- A. Acceptance Testing: On completion of installation and before permitting use of dumbwaiters, perform acceptance inspections and tests as required by ASME A17.1 and authorities having jurisdiction.
- B. Operating Test: Load dumbwaiters to rated load and operate continuously for 30 minutes between lowest and highest landings served. Readjust stops, signal equipment, and other devices for accurate stopping and operation of system.
- C. Advise Owner, Architect, and authorities having jurisdiction in advance of dates and times tests are to be performed on dumbwaiters.
- D. Dumbwaiters will be considered defective if they do not pass tests and inspections.
- E. Prepare test and inspection reports.

3.4 MAINTENANCE SERVICE

- A. Maintenance Service: Beginning at Substantial Completion, maintenance service shall include 12 months' full maintenance by skilled employees of dumbwaiter Installer. Include monthly preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper dumbwaiter operation. Parts and supplies shall be manufacturer's authorized replacement parts and supplies.

3.5 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain dumbwaiters.

END OF SECTION