

SECTION 14245
HYDRAULIC ELEVATORS

1 PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract including General and Supplementary Conditions and Division 1 specification sections, apply to work of this section.

1.2 SECTION INCLUDES

- A. Passenger elevator systems.
- B. Motor and pump, controllers, equipment and fitments.

1.3 SYSTEM DESCRIPTION

- A. Hydraulic Elevator System: One unit; telescoping holeless, with motor and pump at location indicated on the plans from the hoistway.
- B. Characteristics of each elevator are as follows:
1. Rated Net Capacity: 2500 lbs.
 2. Rated Speed: 125 ft./min.
 3. Clear Net Platform Size: 6'-8" x 4'-3" inches.
 4. Cab Ceiling Height: 7'-3" inches.
 5. Hoistway and Cab Entrance Frame Opening Sizes: 42 x 84 inches.
 6. Door Type: Single Slide, Right Hand Arrangement.
 7. Door Operation: Side opening.
 8. Number of Stops: 2
 9. Number of Openings: 2 Front; 0 Rear.
- C. Control System: Conform to the following criteria:
1. Single Automatic Operation elevator control system.
- D. Special Operational Features:
1. Key operated Independent Service, Fire Fighter's Service with 3502 cylinders
 2. Interconnect with building fire alarm system, with automatic recall to first floor.
 3. Door Edge Protective Device: Infrared multi-beam door reversal device.
 4. Seismic Design: In accordance with applicable code.

1.4 SUBMITTALS

- A. Shop Drawings: Indicate the following minimum information on shop drawings:
1. Motor and hydraulic pump, valves, and other component locations.
 2. Car, supporting beams, guide rails, and other components in hoistway.
 3. Loads on rails.

4. Applicable seismic design data; certified by a Registered Professional Structural Engineer.
 5. Elevator control functions and operational description.
- B. Product Data: Provide data on the following items:
1. Signal and operating fixtures, operating panels, indicators.
 2. Cab design, dimensions, layout, and components.
 3. Cab and hoistway door and frame details.
- C. Schematic: Provide 3 copies of legible schematic of hydraulic piping and electric wiring diagrams describing installed equipment, to become property of the Owner. Provide one copy of master schematic, mounted in plastic glazed metal frame, mounted on machine room wall.
- D. Samples: Submit samples, illustrating cab floor material, cab interior finishes, cab and hoistway door and frame finishes.
- E. Warranty: One year parts and labor warranty on installed system after date of substantial completion.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with the following:
1. ASME A17.1 - Safety Code for Elevators and Escalators.
 2. UL 10B - Fire Tests of Door Assemblies.

1.6 MAINTENANCE

- A. Include full maintenance program during warranty period. Prior to end of warranty period, submit proposal for continued maintenance program to Owner.
- B. Include description of elevator system's method of operation, control description, motor control system, cab and hoistway door operation, visual and audio signals, fire fighter's service, and specified non-standard features.
- C. Include a parts catalog with complete list of equipment replacement parts and spare parts inventory.
- D. Include legible schematic wiring diagrams of installed electrical equipment.
- E. Provide one copy of master hydraulic and electrical schematic and one copy of lubrication chart, each framed with clear plastic; mount on machine room wall.

2 PART 2 PRODUCTS

2.1 ELEVATOR SYSTEM AND COMPONENTS

- A. Manufacturers:
1. Canton Elevator
 2. Dover Elevator Systems, Inc.

3. Otis Elevator Co.
 4. Schindler Elevators.
- B. Structural Components: Required to construct elevator system and conform to code.
 - C. Sheet Steel: ASTM A366/A366M Class 1 .
 - D. Stainless Steel: ASTM A167 Type 304 #4 finish.
 - E. Aluminum: ASTM B221, extruded.
 - F. Plastic Laminate: General Purpose type, fire retardant finish, surface finish, color/pattern as selected.
 - G. Motor; Pump, Valves, Regulators, Fluid Tank, Hydraulic Fluid, Controller, Controls, Buttons, Wiring and Devices, Indicators: UL approved.
 1. Motor and Pump: dry type.
 2. Valves: shutoff valves in both hoistway and machine room.
 - H. Spring Buffers, Attachment Brackets and Anchors: Purpose designed, sized according to code with safety factors.
 - I. Pump Housing: Sheet steel, acoustically insulated, removable with minimum 1" isolation pads.
 - J. Guides: T-shaped steel cab guide rails with 4" roller guides.

2.2 ELECTRICAL CHARACTERISTICS AND COMPONENTS

- A. Electrical Characteristics:
 1. 208 volts, three phase, 60 Hz.
 2. Starter Characteristics: Reduced voltage, soft start system.
 3. Refer to Division 16 Section for electrical connections.
- B. Operating system: Single car collective controller.

2.3 CAB FABRICATION

- A. Flooring: Carpet, of type specified in Section 09680.
- B. Walls: Plastic laminate on plywood
- C. Front Return Panel: Stainless steel.
- D. Base: Stainless steel, recessed.
- E. Ceiling: Stainless steel.
- F. Light Fixtures: Recessed halogen
- G. Ventilation: Fan above ceiling; perforations in base.
- H. Control Panel and Face Plate: Stainless steel with illuminating call buttons.

- I. Indicator Panel: Above door with illuminating position indicators.
- J. Hand Rail: Stainless steel flat bar stock spaced from wall; placed at rear wall and side walls.
- K. Pad Hooks: Permanent stainless steel button type.
- L. Protective Pads: One set, canvas cover, padded, brass grommets.

2.4 CAB ENTRANCES

- A. Cab Doors: Stainless steel of hollow sandwich panel construction, flush design, rolled profiles, rigid construction.
- B. Cab Door Frames: Stainless steel, welded corner design with smooth invisible joints.
- C. Thresholds: Extruded aluminum type.

2.5 HOISTWAY ENTRANCES

- A. Hoistway Doors: Stainless steel ; of hollow sandwich panel construction, flush design, rolled profiles, rigid construction.
- B. Hoistway Door Frames: Stainless steel of rolled profiles, welded corner with smooth invisible joints. knocked down design.
- C. Door and Frame Construction: 1-1/2 hour fire rating.
- D. Sills: Extruded aluminum.
- E. Landing Buttons: Illuminating type, one for originating UP and one for originating DOWN calls, one button only at terminating landings; marked with arrows
- F. Car Direction Indicators: None.
- G. Car Position Indicator: Wall mounted at each floor with illuminating position indicators.

2.6 FINISHES

- A. Baked Enamel on Steel: Clean and degrease metal surface; apply one coat of primer sprayed and baked; two coats of enamel sprayed and baked; color as selected.
- B. Stainless Steel: #4 Satin Polished.
- C. Aluminum: Clear anodized finish.

3 PART 3 EXECUTION

3.1 EXAMINATION AND PREPARATION

- A. Verify that hoistway, pit and machine room are ready for work of this Section.
- B. Verify shaft and openings are of correct size and within tolerances.

- C. Verify that electrical power is available and of the correct characteristics.

3.2 INSTALLATION

- A. Install in accordance with ASME A17.1.
- B. Install system components and connect to building utilities. Power connection of equipment to be done by Electrical Contractor.
- C. Accommodate equipment in space indicated.
- D. Coordinate installation of hoistway wall construction.
- E. Grout sills in place. Set entrances in vertical alignment with car openings and aligned with plumb hoistway lines.
- F. Fill hoistway door frames solid with grout
- G. Adjust for smooth acceleration and deceleration of car so not to cause passenger discomfort.
- H. Adjust automatic floor levelling feature at each floor to achieve 1/4 inch from flush.

3.3 TESTS BY REGULATORY AGENCIES

- A. Obtain required permits to perform tests. Perform tests required by regulatory agencies.
- B. Schedule tests with agencies and Architect, Owner, and Contractor present.

...END OF SECTION