

PART 1 - GENERAL

1.1 SUMMARY

- A. General: Provide elevator car finishes, complete, as shown and specified per Contract Documents.
- B. Performance: Perform work necessary to provide a complete elevator car including wall panels, front returns and doors, ceiling, and associated components.
- C. Applicable conditions of General, Special, and Supplemental Conditions, Division 1, and all sections listed in Contract Documents "Table of Contents."

1.2 DEFINITIONS

- A. Definitions in the latest version of ASME A17.1 apply to work of this Section.
- B. Defective Elevator Work: Operation or control system failure, including excessive malfunctions; performances below specified ratings; excessive wear; unusual deterioration or aging of materials or finishes; unsafe conditions; need for excessive maintenance; abnormal noise or vibration; and similar unusual, unexpected, and unsatisfactory conditions.
- C. Reference to a device or a part of the equipment applies to the number of devices or parts required to complete the installation.

1.3 QUALITY ASSURANCE

- D. Installation: Performed by manufacturer. Begin work in elevator cabs following completion of elevator manufacturers' work, with exception of final performance of adjustment.

1.4 SUBMITTALS

- A. General:
 - 1. Submittals: Submit samples in accordance with section pertaining to Submittals.
 - 2. Architect's Sample Review: Architect review to establish and control criteria for graining, color, texture, workmanship, and joint tolerances. Other requirements are Contractor's responsibility. Submit additional samples as required to complete Architect's review and selection.
- B. Samples:
 - 1. Samples for Initial Selection: For finishes, including finished metals, materials with involving surface treatments, paint, and color selection.

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2. Stainless Steel Bar: Provide minimum of 3-inches long.
 3. Stainless Steel Plate: Provide minimum of 3-inches square with 1/32-inch wide by 1/16-inch deep saw cut separating different specified finishes.
- C. Fabricated Samples:
1. Handrail: Provide minimum of 3-inches long rail including support and end condition.
 2. Wainscot: Provide finished back unit with stainless steel and stainless steel bar stock assembly; 2-feet long by height of panel.
 3. Ceiling Grill Assembly: Provide two foot square sample with stainless steel grill, laminated glass, and unistrut hanger components.
 4. Panels: Provide three 12-inches square samples of wall panel above wainscot. Provide assembly of three samples showing joinery assemblies; extent shown on drawings.
- D. Shop Drawings: Submit shop drawings for each condition. Include plans and elevations at 1/2-inch = 1-foot scale, and detail sections at 3-inches = 1-foot scale. Show arrangement, alignment, jointing, anchorage and accessory items; specify finishes.
- E. Certification of Fire-Retardant Treatment: Provide certification stating name of fire retardant salts used and compliance with local building code requirements.
- F. Warranty: Wall Panels: Provide written guarantee, signed by Fabricator and Installer. Guarantee elevator car wall panels against warpage and delamination for a period of five (5) years.

1.5 MOCKUPS:

- A. Mockups: Build mockups in the Installer's factory identified for the factory visit required by these specifications. Obtain Architect's approval of mockups before constructing for installation.
1. Elevators: Build full scale cab mockups for each elevator type to verify selections made under sample and shop drawing submittals to demonstrate typical joints, surface finish, texture, tolerances, and standard workmanship. Build mockups to comply with the following requirements, using materials indicated for the completed work.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. General:
1. The protection of all equipment and exposed finishes is the responsibility of the Elevator Contractor during delivery, handling, and installation until final acceptance of elevator equipment.
 2. The Elevator Contractor replaces damaged materials with new, at no additional cost for material and labor.
- B. Delivery and Storage: It is the responsibility of the Elevator Contractor to properly store and protect all materials in space provided or designated by the Contractor against damage, stains, scratches, corrosion, weather, construction debris and environmental conditions.

- C. Hoisting: All required hoisting and movement of equipment is the responsibility of the Elevator Contractor.

PART 2 - PRODUCTS

2.1 REFERENCES

- A. Definitions: Terms used are defined in the latest edition of the Safety Code for Elevators and Escalators, ASME A17.1.
- B. American Society of Mechanical Engineers:
 - 1. ASME A17.1 - Safety Code for Elevators and Escalators.
 - 2. ASME A17.2 – Guide for Inspection of Elevators, Escalators, and Moving Walks.
 - 3. ASME A17.5 – Elevator and Escalator Electrical Equipment.
 - 4. ASME A17.6 – Standard for Elevator Suspension, Compensation, and Governor Systems.
- C. International Building Code (IBC)
- D. National Fire Protection Association (NFPA):
 - 1. NFPA 70 – National Electric Code.
 - 2. NFPA 80 – Fire Doors and Windows.
 - 3. NFPA 101 – Life Safety Code.
- E. Washington Administrative Code, WAC.
- F. American National Standard Institute (ANSI): A117.1 - Accessible and Usable Buildings and Facilities.
- G. 2010 ADA Standards for Accessible Design, Section 407.

2.2 MANUFACTURERS

- A. All elevator cabs to be sized to accommodate the ambulance gurney (24" x 84").
- B. Subject to compliance with project requirements, provide products by one of the following:
 - 1. **(DESIGN TEAM TO CONFIRM WITH PORT OF SEATTLE FOR SPECIFIC PROJECTS. CAB INTERIOR MANUFACTURERS CHANGE REGULARLY.):**
 - a. KONE Incorporated
 - b. Mitsubishi Electric Corporation
 - c. Otis Elevator Company
 - d. Schindler Elevator Corporation
 - e. TK Elevator
 - f. Eklund's Inc.
 - g. Hauenstein and Burmeister, Inc.

- h. Manufacturer's standard components, including machines, controllers, door equipment, fixtures, and cab enclosures, are approved.

2.3 MATERIALS

A. Steel:

1. Sheet Steel (Furniture Steel for Exposed Work): Stretcher-leveled, cold-rolled, commercial quality carbon steel, complying with ASTM A366, matte finish.
2. Sheet Steel (for Unexposed Work): Hot-rolled, commercial quality carbon steel, pickled and oiled, complying with ASTM A568/A568M-03.
3. Structural Steel Shapes and Plates: ASTM A36.

B. Stainless-steel:

1. Type 302, 304, or 316 complying with ASTM A240, with standard tempers and hardness required for fabrication, strength, and durability.
 - a. No. 4 Satin: Directional polish finish with grain in the longest direction.
 - b. Textured Stainless Steel: As approved by design team.

C. Sound Deadener: 3M Coating EC1000, Presstite's No. 105A, Vibradamp Corp or approved equal; asphaltic based compound for spray application; black.

D. Plywood: Flame spread 25 or less when tested per ASTM E84; UL listed. Meets the American Plywood Association standards and is minimum thickness to support surfacing with another material. **[DESIGN TEAM NOTE: PARTICLEBOARD IS NOT ALLOWED ON AIRPORT PROJECTS. PLYWOOD OR METAL HONEY-COMB SUBSTRATES FOR BACKING ONLY.]**

E. Steel Honeycomb: Stanford Advanced Materials, SS6118 Stainless Steel Honeycomb or approved equal.

F. Aluminum:

1. Extrusions per ASTM B221; sheet and plate per ASTM B209.

G. Nickel-Silver: Extruded:

- a. C77600 nickel-silver
- b. Hot extruded, temper code M30

H. Fire-Retardant Treated Particle Board Panels:

1. Minimum 3/4" thick backup for natural finished wood and plastic laminate veneered panels, edged and faced as shown, provided with suitable anti-warp backing.
2. Meet ASTM E84 with a flame-spread rating and smoke development rating.

I. Glass: Laminated safety glass, minimum 9/16" thick.

2.4 FINISHES

- A. Steel Sheet:
 - 1. Shop Prime: Clean of foreign substances. Apply baked-on coat of mineral filler and primer; sand each coat smooth.
 - 2. Finish Paint: Three coats low sheen baked enamel; sand each coat smooth; color as selected by Architect.
- B. Stainless Steel:
 - 1. Plain: No. 4 satin long grain finish, unless otherwise specified; provide with graining as shown and directed by Architect; match sample in Architect's office.
 - 2. Plate: No. 4 satin long grain finish; match sample in Architects office.
 - 3. Grill: No. 4 stain long grain finish; match sample in Architects office.
- C. Steel Sheet Ceiling Panels:
 - 1. Shop Primed: Clean of foreign substances. Apply baked-on coat of mineral filler and primer; sand each coat smooth.
 - 2. Finish Paint: Baked enamel paint; semi-gloss finish. Custom color as selected by Architect.
- D. Touch-Up; Painted Surfaces:
 - 1. General: Field touch-up abraded and damaged surfaces; use same paint as factory.
 - 2. Baked Enamel Finish: No touch-up permitted; refinish whole panel.

2.5 FABRICATION

- A. General: Fabricate as shown and specified; make work smooth and free from warps, buckles, squeaks, and rattles; joints light proof. No visible fastenings except as indicated. Assemble all panels with continuous rubber gasket between panels.
 - 1. Emergency Lighting: Provide system utilizing normal car fixtures connected to self-contained power supply located on car top; system to be capable of providing power to emergency lights for a period of six hours.
 - 2. Ventilation: Two-speed squirrel cage exhaust blower. Mount on canopy with flush substantially stainless steel grille.
 - 3. Removable Panels:
 - a. General: Design with minimum joints for expansion, contraction, and installation considerations. Finish faces and edges as shown and specified.
 - b. Construction: Construct panels in accordance with dimensional and design requirements indicated, details, elevations, and schedules.
 - c. Workmanship: Fabricate work by skilled workmen to Architect's satisfaction. Reinforce as required to ensure rigid, secure assembly. Leave exposed surfaces free from dents, tool marks, warpage, buckle, glue, and open joints. Accurately fit joints, corners and miters. Conceal fastenings. Tighten threaded connections so threads are concealed.
 - d. Fastening: Except where otherwise shown, specified or directed, Contractor has option on methods of assembly and joining provided results are satisfactory with Architect. Use manufacturer's proven methods producing required standards of workmanship subject to Architect's review. Conceal fastenings.

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- e. Assembly: Fit and assemble work in shop insofar as practicable. Mark and disassemble units which are too large for shipment to project site, retaining units in sizes as large as possible for shipment and erection.
- B. Passenger Elevators: **DESIGN TEAM: Two Different Types of Cab Interiors for Passenger Elevators: Public Facing and Staff Only.**
- 1. Car Body: Walls; 14-gauge stainless steel sheet, design to accept removable panels. Clear height under canopy 9'-0".
 - 2. Front Return: Full swing type; 14 gauge stainless steel, with operating buttons mounted integrally. Latch access holes at top and bottom of panel only; maximum 1/8 inch hole.
 - 3. Car Doors: Flush type hollow metal, horizontal sliding. Provide 2 door gibs per panel. Fabrication and cladding minimum 16-gauge material. Make provisions to prevent rattling. Face with stainless steel.
 - 4. Transom: Fixed type; same material and finish as front return.
 - 5. Wall Panels: **DESIGN TEAM: Wall Panel selections will be custom for each project.** Removable panel design per drawings; face and edge with stainless steel. Provide 1/2 inch reveals between panels and at corners.
 - 6. Base & Reveals: Provide 6-inch high base with stainless steel finish. Reveals to be stainless steel.
 - 7. Suspended Ceiling: Provide flat ceiling faced and edged in stainless steel; grid ceiling with reveals to align with wall panels. Provide cove or perimeter lighting at the edges of the ceilings at all sides. Provide hinged or removable portion with concealed latch for access to emergency exit.
 - 8. Handrails:
 - a. Provide 1½-inch diameter handrail on side and rear walls. Fabricate from stainless steel with ends capped. Support handrail at maximum 30-inch intervals; fabricate support posts and fasteners from the same material and finish as handrails.
 - b. Secure Side of Airport: Provide bottom round handrail at 8 inches above car floor to center of handrail.
 - c. Non-Secure/Public areas: Provide bottom guardrail size of 8 inch by 3/8-inch-thick stainless steel stock bars mounted on both sides and rear of the car at 6 inches above car floor.
 - d. Return all handrail and guardrail ends to car walls.
 - 9. Sill: Milled stainless steel or nickel-silver; similar design as hoistway entrance sills.
 - 10. Flooring: Terrazzo for passenger public elevators. Terrazzo or resilient flooring for staff-passenger elevators. **DESIGN TEAM: Flooring is typically by others and handled by the project's flooring contractor but designed by Architect of record.**
- C. Service Elevators:
- 1. Car Body:
 - a. Walls 14 gauge patterned stainless steel sheet.
 - b. Clear height under canopy; 9'-0".
 - 2. Front Return: Full swing type as specified; 14 gauge stainless steel, with operating buttons mounted integrally. Latch access holes at top and bottom of panel only; maximum 1/8 inch hole.
 - 3. Car Doors: Flush type hollow metal, horizontal sliding. Provide 2 door gibs per panel. Fabrication and cladding minimum 16-gauge material. Make provisions to prevent rattling. Face with stainless steel.

4. Transom: Fixed type; same material and finish as front return.
5. Lights: LED Downlights with standard black bezel.
6. Handrails:
 - a. Two rows. [DESIGN TEAM: For elevators on secure side – both top and bottom rails are round handrails. For elevators on non-secure/public areas, top row is round handrail and bottom is guardrail.]
 - b. Handrail minimum 1½ inch diameter stainless steel handrail on side and rear walls. Fabricate from stainless steel with ends capped. Support handrail at maximum 30-inch intervals; fabricate support posts and fasteners from same material and finish as handrail.
 - c. Bottom guardrail size of 8 inch by 3/8-inch-thick stainless steel stock bars mounted on both sides and rear of the car.
 - d. Locate bottom guardrail at 6 inches above car floor and upper handrail line at 32 to 34 inches above the car floor.
 - e. For all handrails and guiderails, bolt rails through car walls from back and mount 1½ inch deep round stainless steel standoff spacers no more than 18 inches off-center.
 - f. Return all handrail and guardrail ends to car walls.
7. Base & Reveals: Provide 6-inch high base with stainless steel finish. Reveals to be stainless steel.
8. Bumper Rail: Provide 8 inch by 1½ inch stainless steel with #4 finish or bead blast finish bumper rails, attached directly to wall panels on all sides without openings. Ends of rail at strike jamb and front return to be chamfered at 45 degrees. Reinforce cab shell and bolt directly to wall panels; design so bumper rails are removable from inside the cab.
9. Sills: Provide of similar design as hoistway entrance sills. Align edge of sill with face of front returns. Milled stainless steel or nickel-silver.
10. Flooring: Provide ¼ inch thick aluminum raised pattern plate; through bolt to platform with countersunk stainless steel machine bolts removable from within the car for future replacement of flooring material.

PART 3 - EXECUTION

3.1 EXAMINATION

A. EXAMINATION

- B. Verification of Conditions: Examine elevator areas to receive Work for compliance with requirements for installation tolerances and other conditions affecting performance. Examine hoistway openings, pits, overheads, and machine rooms as constructed and verify critical dimensions; examine supporting structure and other conditions under which elevator Work is to be installed.
- C. Installation: Remedy conditions detrimental to the proper and timely completion of the Work. Proceed with installation only after unsatisfactory conditions have been corrected.

- D. Field Measurements: Verify dimensions before proceeding with Work. Obtain field measurements for Work accurately fitted to other construction.
- E. Documentation: Prepare a written report, endorsed by the Elevator Contractor, listing dimensional discrepancies and conditions detrimental to performance or indicating that dimensions and conditions were found to be satisfactory.

3.2 INSTALLATION

- A. Examine supporting structure and condition under which work is to be installed. Notify Contractor in writing of conditions detrimental to proper and timely completion of work. Do not proceed with installation until unsatisfactory conditions have been corrected.
- B. Install paneling in strict compliance with manufacturer's recommendations and final shop drawings.
- C. Back prime panels surfaces to be concealed in finished work. Perform back priming immediately upon receipt at project site.
- D. Install metal work with utmost care. Use experienced, skilled mechanics accustomed to installation of custom architectural work. Assemble, fit and attach unassembled sections with concealed connections.
- E. Firmly secure panels to previously prepared grounds, furring, framing and other backings. Fit to adjacent materials carefully to not damage materials.
- F. Install paneling over wall surfaces by concealed metal clips, hangers or blind fasteners in accordance with final shop drawings.
- G. Maintain true, plumb and level alignment of paneling and trim. Maintain reveals and exposed panel terminating edges in constant line and width.
- H. Restore finish or replace panels after installation to eliminate unsatisfactory appearance determined by Architect.

END OF SECTION 14 25 00