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Optional text is indicated by brackets []; delete optional text in final copy of specification. Specifier Notes typically precede specification text; delete notes in final copy of specification. Trade/brand names with appropriate symbols typically are used in Specifier Notes; symbols are not used in specification text. Metric conversion, where used, is soft metric conversion.

This section specifies residential elevator systems marketed under the Elevette® brand name manufactured by Inclinator Company of America. Elevette is a registered trademark of Inclinator Company of America. Elevette elevator systems are available in many styles and are offered with constant pressure or automatic controls to meet any local code requirements. Their key operated control stations allow restricted authorized access for enhanced security. Revise section number and title below to suit project requirements, specification practices and section content.

**SECTION 14200
 ELEVATORS
 (RESIDENTIAL ELEVATORS)**

PART 1: GENERAL

1.01 SUMMARY

- A. Section Includes: Residential elevators, including labor, materials and equipment necessary or required to fully complete the installation of the Inclinator elevator as indicated on the drawings and specifications. Elevator shall be in accordance with ASME A17.1, 2004 elevator code and local codes that may govern the requirements of the installation.
1. Types: Types of residential elevators include:

Specifier Note: Elevette 5100 - These cars feature a metal frame with acrylic panels.

- a. Elevette 5100 Residential Elevators.

Specifier Note: Elevette 4400 - These cars feature solid raised wood with veneer center panels.

- b. Elevette 4400 Residential Elevators.

Specifier Note: Elevette 3450 - These cars feature smooth hardwood veneer walls with crown, chair, baseboard and picture mouldings.

- c. Elevette 3450 Residential Elevators.

Specifier Note: Elevette 3400 - These cars offer smooth hardwood veneer wall panels with square, flush corners.

- d. Elevette 3400 Residential Elevators.

Specifier Note: Elevette 2100 - These cars feature aluminum frames, with custom snap-in panels.

- e. Elevate 2100 Residential Elevators.

Specifier Note: Revise paragraph below to suit project requirements. Add section numbers and titles per *MasterFormat* and specifier's practice.

- B. Related Sections: Section(s) related to this section include:
 1. Electrical Work: Division 16 Electrical Sections.

Specifier Note: Article below may be omitted when specifying manufacturer's proprietary products and recommended installation. Retain Reference Article when specifying products and installation by an industry reference standard. If retained, list standard(s) referenced in this section. Indicate issuing authority name, acronym, standard designation and title. Establish policy for indicating edition dates of standards referenced. Conditions of the Contract or Division 1 References Section may establish the edition dates of standards. This article does not require compliance with standards but is merely a listing of references used. Article below should list only those industry standards referenced in this section.

1.02 REFERENCES

- A. General: Standards listed by reference, including revisions by issuing authority, form a part of this specification section to extent indicated. Standards listed are identified by issuing authority, authority abbreviation, designation number, title or other designation established by issuing authority. Standards subsequently referenced herein are referred to by issuing authority abbreviation and standard designation.
- B. American National Standards Institute/American Society of Mechanical Engineers (ANSI/ASME):
 1. ANSI/ASME A17.1 Part V, 2004 Edition.

1.03 SYSTEM DESCRIPTION

- A. Performance Requirements: Provide residential elevator system which has been manufactured, fabricated and installed to withstand loads from [Specify code/standard reference.] and to maintain [Specify performance criteria.] performance criteria stated by manufacturer without defects, damage or failure.

Specifier Note: Article below includes submittal of relevant data to be furnished by Contractor before, during or after construction. Coordinate this article with Architect's and Contractor's duties and responsibilities in Conditions of the Contract and Division 1 Submittal Procedures Section.

1.04 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.
- B. Product Data: Submit product data, including manufacturer's specification product sheet, for specified products.
- C. Shop Drawings: Submit shop drawings showing layout, profiles and product components, including anchorage, accessories, finish colors, patterns and textures.
 1. Shop drawings shall show complete layout of lifting equipment detailing dimensions and clearance, including loads and reactions provided by elevator manufacturer.
- D. Samples: Submit selection and verification samples for finishes, colors and textures.
- E. Quality Assurance Submittals: Submit the following:
 1. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.
 2. Certificates: Product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
 3. Manufacturer's Instructions: Manufacturer's installation instructions.

Specifier Note: Coordinate paragraph below with Part 3 Field Quality Requirements Article herein. Retain or delete as applicable.

- 4. Manufacturer's Field Reports: Manufacturer's field reports specified herein.
- F. Closeout Submittals: Submit the following:
 1. Operation and Maintenance Data: Operation and maintenance data for installed products in accordance with Division 1 Closeout Submittals (Maintenance Data and Operation Data) Section. Include methods for maintaining installed products and precautions against cleaning materials and methods detrimental to finishes and performance.
 2. Warranty: Warranty documents specified herein.
 3. Record Documents: Project record documents for installed materials in accordance with Division 1 Closeout Submittals (Project Record Documents) Section.

1.05 QUALITY ASSURANCE

A. Qualifications:

1. Installer Qualifications: Installer experienced in performing work of this section who has specialized in installation of work similar to that required for this project.

Specifier Note: Retain paragraph below to suit project requirements; otherwise, delete paragraph below.

- a. Certificate: When requested, submit certificate indicating qualifications.
2. Manufacturer Qualifications: Manufacturer capable of providing field service representation during construction, approving acceptable installer and approving application method.

Specifier Note: Paragraph below should list obligations for compliance with specific code requirements particular to this section. General statements to comply with a particular code are typically addressed in Conditions of the Contract and Division 1 Regulatory Requirements Section. Repetitive statements should be avoided.

- B. Regulatory Requirements: [Specify applicable requirements of regulatory agencies.].
 1. Building Code: [Specify applicable requirements of building code agencies.] Current data on building code product compliance may be obtained from Inclinor Company of America technical support specialists. Installation must comply with the requirements of all applicable local, state and national code jurisdictions.
 2. Approvals: [Specify applicable requirements for approvals of regulatory agencies.] Contact manufacturer for information on approvals by industry entities.
- C. Certifications: [Specify material or system certifications required for project.].
- D. Preinstallation Meetings: Conduct preinstallation meeting to verify project requirements, substrate conditions, manufacturer's installation instructions and manufacturer's warranty requirements. Comply with Division 1 Project Management and Coordination (Project Meetings) Section.

Specifier Note: Article below should include special and unique requirements. Coordinate article below with Division 1 Product Requirements Section.

1.06 DELIVERY, STORAGE & HANDLING

- A. General: Comply with Division 1 Product Requirements Sections.
- B. Ordering: Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.
- C. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- D. Storage and Protection: Store materials protected from exposure to harmful weather conditions, at temperature and humidity conditions recommended by manufacturer. Handle and store product components according to Inclinor Company of America recommendations.

1.07 PROJECT CONDITIONS

- A. Existing Conditions: [Specify existing conditions affecting product use and installation.].
- B. Field Measurements: Verify actual measurements/openings by field measurements before fabrication; show recorded measurements on shop drawings. Coordinate field measurements and fabrication schedule with construction progress to avoid construction delays.

Specifier Note: Coordinate article below with Conditions of the Contract and with Division 1 Closeout Submittals (Warranty) Section.

1.08 WARRANTY

- A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.
- B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Documents.

Specifier Note: Coordinate paragraph below with manufacturer's warranty requirements. Manufacturer offers the following: Inclinor Company of America offers a 2 year limited warranty on products. The warranty is for replacement, at no cost, of defective parts but does not include labor or the cost to replace the defective part or parts. For more information on warranty conditions, duration and remedies, contact the manufacturer.

1. Provide 3 months free service from the date of approval by local authorities. The entire elevator and all component parts shall carry a 2 year warranty. Warranty shall be for replacement, at no cost, of defective parts but shall not include labor or costs required to replace the defective part or parts.
2. Warranty Period: [Specify term.] years commencing on Date of Substantial Completion.

1.09 SYSTEM STARTUP & OWNER'S INSTRUCTION

- A. System Startup: [Specify system startup requirements].
- B. Owner's Instruction: Instruct Owner's personnel in operation and maintenance of installed units. Provide manufacturer's installation, operation and maintenance instructions for installed units.

Specifier Note: Coordinate article below with Division 1 Closeout Submittals (Maintenance Materials) Section.

1.010 MAINTENANCE

Specifier Note: A service contract with the installer is recommended. Additional maintenance requirements, including the items to be serviced, and how often, may be obtained from the manufacturer.

- A. Extra Materials: Deliver to Owner extra materials from same production run as products installed. Package products with protective covering and identify with descriptive labels. Comply with Division 1 Closeout Submittals (Maintenance Materials) Section.

Specifier Note: Revise paragraph below specifying size and percentage as required for project.

1. Quantity: Furnish quantity of [Identify items.] units equal to [Specify %.] of amount installed.
2. Delivery, Storage and Protection: Comply with Owner's requirements for delivery, storage and protection of extra materials.

Specifier Note: Delete paragraph below if not required for project.

- B. Maintenance Service: Submit for Owner's consideration and acceptance maintenance service agreement for products installed.

PART 2: PRODUCTS

Specifier Note: Retain article below for proprietary method specification. Add product attributes, performance characteristics, material standards and descriptions as applicable. Use of such phrases as "or equal" or "or approved equal" may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining "or equal" products.

2.01 RESIDENTIAL ELEVATORS

Specifier Note: Since 1923, Inclinator Company of America has been the pioneer in the development of stair lifts and remains a leader in the residential elevator and vertical lift markets. The manufacturer offers technical support to the specifier regarding equipment specifications, product warranties and cost estimates. For technical assistance, contact Inclinator Company of America.

- A. Manufacturer: Inclinator Company of America.

Specifier Note: Paragraph below is a supplement to the main specification. Retain or delete paragraph below per project requirements and specifier's practice.

1. Contact: 601 Gibson Boulevard, Harrisburg, PA 17104; Telephone: (800) 343-9007; (717) 939-8420; Fax: (717) 939-8075; E-mail: isales@inclinator.com; website: www.inclinator.com.

Specifier Note: Inclinator Company of America offers its innovative Elevette line of custom designed and built elevators for residential and institutional use. These elevators are suitable for new projects or can be retrofitted into existing homes. Simple to specify requirements include 8' (2438 mm) overhead, 8" (203 mm) pit (check with local code requirements) and a typical 38" x 50" (965 mm x 1270 mm) OD car which translates to a finished hoistway of 48" x 54" (1219 mm x 1372 mm), depending on car configuration. They are available in any style Elevette and are offered with constant pressure or automatic controls to meet any

local code requirements. There are 3 types of available drive systems: cable drum system, which is the most affordable; CD 2200, which features a cable drum system that incorporates a programmable speed control and emergency battery operation that allows the elevator to travel up or down for 75 cycles; and hydraulic monorail system available with battery lowering. Use and installation of these systems is design dependent. Consult manufacturer for more information.

- B. Proprietary Product(s)/System(s): Elevette Residential Elevator Systems with Monorail HydraRide HIH.

Specifier Note: Elevette 5100 - These cars feature a metal frame with acrylic panels.

1. Elevette 5100 Residential Elevators.

Specifier Note: Elevette 4400 - These cars feature solid raised wood with veneer center panels.

2. Elevette 4400 Residential Elevators.

Specifier Note: Elevette 3450 - These cars feature smooth hardwood veneer walls with crown, chair, baseboard and picture moulding.

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Specifier Note: Elevette 3400 - These cars feature smooth hardwood veneer wall panels with square, flush corners.

4. Elevette 3400 Residential Elevators.

Specifier Note: Elevette 2100 - These cars feature aluminum frames, with custom snap-in panels.

5. Elevette 2100 Residential Elevators.

C. Elevator System Data:

1. HydraRide HIH, HydraRide Hydraulic Drive System, Rated Load: 750 lb (341 kg) or 950 lb (431kg).
2. CD 2200 Programmable Speed Control and Battery Back-up for Up and Down Travel, Rated Load: 500 lb (227 kg).
3. Cable Drum, Rated Load: 500 or 750 lb (227 or 341 kg).

Specifier Note: Elevette elevator cars are offered in custom sizes up to 12 ft² (1.1 m²) with larger sizes available up to 38" x 60" (965 mm x 1524 mm) where approved by authority having jurisdiction.

4. Car Dimensions: 38" (965 mm) width x 50" (1270 mm) depth (platform outside).
5. Levels Served: [Specify number of levels up to a maximum of six].
6. Number of Openings: [Specify number of openings].
7. Travel: [Specify distance up to a maximum of 50 feet (1524 cm)].
8. Operation: Automatic or constant pressure where required.

Specifier Note: Electrical requirements and capacity vary. Consult manufacturer or current published product information. 240 V, 60 Hz single phase AC or 208 V, 60 Hz single phase AC supply requirements are typical. Control voltage is 24 V.

9. Power Supply: 240 V/1 phase/30 amp.
10. Lighting Supply: 120 V.
11. Hoisting Means: 1:2 Roped Holeless Hydraulic or Cable Drum.
12. Control Type: Relay.
13. Drive System: Winding Drum, Hydraulic, CD 2200 Cable Drum.

Specifier Note: Elevette elevator cars are available in solid wood, hardwood veneer, or acrylic finishes. Standard wood finishes include: oak, maple, cherry, walnut, mahogany, birch, variety of exotic wood finishes, acrylic panels, custom decorative painting and finish options available upon request.

- D. Car Enclosure:
1. Interior Walls: 3/8" (9.5 mm) or 3/4" (19.1 mm) wood veneer panels [Specify choice of wood finish].
 2. Ceilings: 3/4" (19.1 mm) melamine with covered down light.
 3. Floor: Oak wood or Wilsonart flooring.
 4. Handrail: Wood, Brass, Bronze, or Stainless Steel.
 5. Emergency Light: Constant charge battery back-up shall operate a 2-bulb light in the event of a power failure.
 6. Emergency Operation: Up and down with CD 2200, down 1 time with Hydraulic.
 7. Car Operating Panel: Consists of 1 button for each landing, emergency stop/alarm switch and a light switch mounted on a brass, bronze, stainless or duranotic plate.
 8. Car Lighting: Consists of 1 covered recessed light and optional trim rings.

Specifier Note: Gate options below include: (1) Collapsible gates - available in anodized aluminum, brass, black, bronze or silver, and (2) Accordion folding gates - available in wood and/or acrylic panels.

9. A car gate shall cover the side of the car used in entering and exiting the elevator and shall be equipped with a device to stop the car in the event the gate is opened or pressure is applied in the up or down direction.
- E. Elevator System Components:
1. Landing Devices: Doors shall be supplied with electromechanical door locks that shall not allow the car to operate unless it is within 6" (152 mm) of the landing level. Locks shall be electrically released and allow the door to open only when the car is within 6" (152 mm) of the landing level. Hall stations at each landing shall be provided with single button mounted in a brass, bronze, stainless, duranotic or Kydex (white or almond) plate to call the elevator to the landing level.
 2. Leveling Devices: Provide the car with an anti-creep leveling device which shall maintain the car within 1/2" (12.7 mm) of the landing level. Limit switches and leveling devices shall be inaccessible to unauthorized persons. Limit switches shall operate by use of adjustable and rigid cams. Provide mechanically operated final limits.
 3. All: Operating switches shall be rigidly mounted on top of the car enclosure. Controller shall be equipped with relays and located in the machine room for easy access.
 - a. Hydraulic Drive System: Will consist of a pump, reservoir, piston and valve assembly.
 - b. CD 2200 Cable Drum: Will consist of a gearbox with drums and motor/brake.
 - c. Cable Drum: Will consist of a gear box with drums and motor/brake.
 4. Guide Rail: Single steel guide rail to be mounted to 2 x 12 plank. Plank to be supplied by general contractor, installed plumb and straight and shall securely hold the guide rail in a plumb and straight position regardless of car loading. All exposed wood is to be painted with fire retardant paint. Guide rail shall be capable of supporting the loads imposed. Studs used to support wood plank shall be of wood. Studs shall be located per drawing. Cable: Minimum two 1/4" (6.4 mm) IWRC traction steel cable with minimum braking strength of 5600 lb (24,920 N) each on 500lb capabilities. Minimum two 3/8" (9.5 mm) IWRC traction steel cable with minimum braking strength of 11, 700 lb (52,065 N) each on 750 lb and 950 lb capabilities.
 5. Safety Device: A slack/broken rope safety device shall be supplied that will stop and sustain the elevator with its rated load should any one cable become slack or broken. The safety device shall be instantaneous and operate without delay. Safeties shall be released by moving the car in the up direction only. Operation of the safeties shall remove power from the drive unit.
 6. Terminal Stopping Devices: Normal terminal stopping devices shall be located at top and bottom of the hoistway to stop the car automatically.
 7. Car Support: Car support shall be fabricated of steel and shall support the loads imposed. Guide blocks shall be mounted to the support at the top and bottom while being held captive inside the single steel guide rail.
 8. Wiring: Wiring and electrical connections shall comply with national, state and local codes. Traveling cables shall be adequately supported and flexible enough to prevent stress in the conductors.
- F. Product(s)/System(s) Testing: All elevators are designed to meet or exceed ANSI A17 requirements, and shall have 500, 750 or 950 lb (227, 341, or 431 kg) lift capability.
- G. Accessories: [Specify accessories.] Elevette elevators include brass accents, decorative brass or stainless steel phone boxes, custom lighting and flooring, including Wilsonart surfaces and hardwood.
- H. Inclinator Optional Equipment: Contact manufacturer.

Specifier Note: Edit article below to suit project requirements. If substitutions are permitted, edit text below. Add text to refer to Division 1 Project Requirements (Product Substitutions Procedures) Section.

2.02 PRODUCT SUBSTITUTIONS

- A. Substitutions: No substitutions permitted.

2.03 RELATED MATERIALS

- A. Related Materials: Refer to other sections listed in Related Sections paragraph herein for related materials.

2.04 SOURCE QUALITY

- A. Source Quality: Obtain residential elevator system from a single manufacturer.

PART 3: EXECUTION

Specifier Note: Article below is a supplement to the main specification. Revise article below to suit project requirements and specifier's practice.

3.01 MANUFACTURER'S INSTRUCTIONS

- A. Compliance: Comply with manufacturer's product data, including product technical bulletins, product catalog installation instructions and product carton instructions for installation.

3.02 EXAMINATION

- A. Site Verification of Conditions: Verify substrate conditions, which have been previously installed under other sections, are acceptable for product installation in accordance with manufacturer's instructions.
 1. Verify site dimensions taken to ensure that tolerances and clearances have been maintained and meet local regulations.

3.03 PREPARATION

Specifier Note: Jobsite dimensions should be taken to ensure that tolerances and clearances have been maintained and meet local regulations. Inspect the construction and service requirements for work by others. These requirements will be included in drawings, diagrams, engineering data sheets and special instructions before the work commences.

- A. Preparation: Inspect the construction and service requirements for work by others. These requirements will be included in drawings, diagrams, engineering data sheets and special instructions before the work commences.
- B. Preparatory Work: The following preparatory work to receive the elevator:
 1. Permanent 240 V, single phase, 30 amp power to operate the elevator is to be provided to a lockable fused/cartridge-type disconnect switch with auxiliary contacts for battery lowering.
 2. Provide 120 V lighting supply and disconnect.
 3. Provide an enclosed, plumb and square hoistway (for enclosed applications) with smooth interior surfaces. Include for fascias or furring of hoistway interior.
 - a. Provide doors, frames and door hardware.
 - b. Provide rough openings as per elevator installer's shop drawings.
 4. Provide substantial level pit floor slab to support the loads imposed.
 5. Provide adequate supports for the guide rail fastenings.
 6. Provide a waterproof pit 8" (203 mm) deep.
 7. Provide 8' (2438 mm) minimum overhead (overhead = distance from upper floor level to the underside of the roof or finished ceiling).
 8. Provide machine room area to meet local and national codes.

Specifier Note: Coordinate article below with manufacturer's recommended installation details and requirements.

3.03 INSTALLATION

Specifier Note: Installation of all components of the elevator should be carried out by an authorized elevator contractor, in accordance with the installation and operating instructions provided by the manufacturer. Complete installation recommendations are available from Inclinator Company of America.

- A. Installation Requirements: Installation of all components of the elevator specified in this section shall be carried out by an authorized elevator contractor, in accordance with installation/operating instructions provided by the manufacturer. Work shall be accomplished in compliance with national, state and local codes.
- B. Residential Elevator Installation:
 - 1. Electrical: Permanent 240 V, single phase, 30 amp power to operate the elevator shall be provided to a lockable fused/cartridge-type disconnect switch. Provide 120 V lighting supply and disconnect. Wiring and electrical connections must comply with applicable codes.
 - 2. Enclosure: Provide an enclosed, plumb and square hoistway (for enclosed applications) with smooth interior surfaces. Include fascias or furring of hoistway interior, doors, frames and door hardware. Rough openings should be shown on the elevator contractor's shop drawings.
 - 3. Elevator Pit: A substantially level pit floor slab to support the loads imposed, adequate supports for the guide rail fastenings and a waterproof pit.
 - 4. Provide 8' (2438 mm) minimum overhead distance from upper floor level to the underside of the roof or finished ceiling and machine room area to meet codes. Comply with shop drawings for complete layout of lifting equipment detailing dimensions and clearance, including loads and reactions provided by the manufacturer.
 - 5. Structural: Install guide rail supports and structural framing fabricated and installed to resist imposed loads. Normal terminal stopping devices shall be located at the top and bottom of the hoistway to stop the car automatically.
 - 6. Limit Switches: Provide limit switches and leveling devices inaccessible to unauthorized persons.
 - 7. Cables: Traveling cables shall be supported and flexible enough to prevent stress in the conductors.

Specifier Note: Coordinate paragraph below with manufacturer's installation instructions to avoid conflicts.

- C. Installation Reference Standard(s): Install elevator system in accordance with requirements of ASME A17.1, 2004 elevator code and local codes that may govern the requirements of the installation.
 - 1. Comply with American National Standards Institute/American Society of Mechanical Engineers ANSI/ASME A17.1 Part V, 2004 edition.
- D. Interface with Other Work: [Specify applicable requirements for interface with other work.].
- E. Site Tolerances: [Specify applicable site tolerances for specified product(s) installation.].
- F. Related Products Installation: Refer to other sections listed in Related Sections paragraph herein for related products installation.

3.05 FIELD QUALITY REQUIREMENTS

- A. Site Tests [Installation and Post-Installation Testing]: [Specify applicable test requirements to be performed during and/or after product installation.].
- B. Inspection: [Specify applicable product inspection requirements to be performed after product installation.].

Specifier Note: Edit paragraph below. Establish number and duration of periodic site visits with Owner and manufacturer, and specify below. Consult with manufacturer for services required. Coordinate paragraph below with Division 1 Quality Assurance Section and Part 1 Quality Assurance Submittals herein. Delete if manufacturer's field service is not required.

- C. Manufacturer's Field Services: Upon Owner's request, provide manufacturer's field service consisting of product use recommendations and periodic site visits for inspection of product installation in accordance with manufacturer's instructions.
 - 1. Site Visits: [Specify number and duration of periodic site visits.].

3.06 ADJUSTING

- A. Adjusting: [Specify applicable product adjusting requirements].

3.07 CLEANING

- A. Cleaning: Remove temporary coverings and protection of adjacent work areas. Repair or replace damaged installed products. Clean installed products in accordance with manufacturer's instructions prior to Owner's acceptance. Remove construction debris from project site and legally dispose of debris.

3.08 PROTECTION

- A. Protection: Protect installed product and finish surfaces from damage during construction.

END OF SECTION