



SECTION 08 33 00
COILING DOORS

****Displaying notes to specifier.****

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**** NOTE TO SPECIFIER ** C.H.I. Overhead Doors; Overhead Doors.**

This section is based on the products of C.H.I. Overhead Doors, which is located at:
1485 Sunrise Drive.
Arthur, IL 61911.
Tel: (800) 677-2650.
Fax: (800) 738-5006.
E-mail: aia@chiohd.com
Web: www.chiohd.com.

C.H.I. Overhead Doors, a NUCOR (NYSE: NUE) company, has been manufacturing overhead doors for over 40 years. Through our authorized dealer network across North America, you can access our entire product line including commercial and residential sectional doors, rolling service and fire doors or shutters, and high-performance doors. C.H.I. integrates premium-quality materials with superior designs, workmanship, and a strong focus on end user satisfaction. Dedicated to continuing the best customer service and dealer support in the industry, it is apparent why C.H.I. is referred to as "The Door to Quality". C.H.I. is headquartered in Arthur, IL with additional manufacturing in Terre Haute, IN. For more information visit chiohd.com.

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Overhead coiling service doors; non-insulated, heavy duty. (Models 6221)
- B. Electric motor operation for overhead coiling service doors.

1.2 RELATED SECTIONS

- A. Section 05 10 00 - Structural Metal Framing.
- B. Section 06 10 00 - Rough Carpentry.
- C. Section 09 90 00 - Painting and Coating.
- D. Section 26 05 00 - Common Work Results for Electrical.

1.3 REFERENCES

- A. ASTM International (ASTM):
 - 1. ASTM A480/A480M - Standard Specification for Flat-Rolled Stainless and Heat-

- Resisting Steel Plate, Sheet, and Strip.
 - 2. ASTM A653/A653M - Standard Specification for Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - 3. ASTM A666 - Standard Specification for Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
 - 4. ASTM B209 - Standard Specification for Aluminum - Alloy Sheet and Plate.
 - 5. ASTM B221 - Standard Specification for Aluminum - Alloy Extruded Bars, Rods, Wires, Shapes and Tubes.
- B. National Fire Protection Association NFPA 80 - Standard for Fire Doors and Fire Windows.
 - C. Underwriters Laboratories (UL) 10B - Standard for Fire Tests of Door Assemblies.
 - D. Consult factory for projects requiring Buy American requirements for American Recovery and Reinvestment Act, Build America Buy America Act or American Iron and Steel Certification

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements.
- B. Shop Drawings: Indicate opening dimensions and required tolerances, jamb connection details, anchorage spacing, hardware locations, installation details, and special conditions.
- C. Product Data: Provide information on components, application, hardware and accessories.
- D. Samples for Initial Selection: Provide manufacturer's finish charts showing full range of colors and textures available for units with factory applied finishes:
 - 1. Include similar samples of accessories involving color selection.
- E. Samples for Verification: Provide for each type of exposed finish on the following components in manufacturer's standard sizes:
 - 1. Curtain slats.
 - 2. Bottom bar.
- F. Sustainable Design Submittals:
 - 1. Recycled products: Indicate percentage of recycled material used in the manufacturing of products and percentage classified as post-consumer.
 - 2. Regional products: Indicate location of product manufacturer and distance from manufacturing facility to project site.
- G. Closeout Submittals: Operation and maintenance data.

1.5 QUALITY ASSURANCE

- A. Company specializing in the manufacturing of products specified in this section and with a minimum of five years' experience.
- B. Installer Qualifications: Installer shall be authorized and qualified to install overhead door systems on the type and scope of project specified.
- C. Source Limitations: Provide overhead coiling doors from one manufacturer for each type of door. Provide operators and other accessories from source acceptable to overhead coiling door manufacturer.
- D. Performance Requirements:
 - 1. Fire Door Construction: Conform to UL 10B.

2. Installed Fire Door Assembly: Conform to NFPA 80.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store and dispose of all materials in accordance with federal, state, and local laws.

1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.8 WARRANTY

- A. Provide an original of the manufacturer's limited warranty against manufacturing defects and product workmanship.
 1. All models except 6241: 5-year limited warranty to be free from defects in materials and workmanship from date of manufacture.
 2. Model 6241: 1 year limited warranty to be free from defects in materials and workmanship from date of manufacture.
 3. Spring wire is warranted for 1 year.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: C.H.I. Overhead Doors, which is located at: 1485 Sunrise Dr.; Arthur, IL 61911; Toll Free Tel: 800-677-2650; Fax: 217-543-4454; Email: aia@chiohd.com; Web: <http://www.chiohd.com>
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

2.2 OVERHEAD COILING SERVICE DOORS; NON-INSULATED, INDUSTRIAL DUTY

- A. Performance Requirements:
 1. Wind Loads: Door assembly to withstand 20 psf (958 Pa) per ASTM E330 using a 1.0 factor of safety. Certified windload also available.
 2. Windborne-Debris Impact Resistance: Design door assembly to pass missile impact and cyclic pressure tests in accordance with ANSI/ DASHA 108 and/or ANSI/DASHA 115 and to withstand wind load pressures indicated.
 3. Seismic Performance: Evaluated to withstand earthquake motions determined per ASCE/SEI 7.
 4. Operation: 20,000 cycles for door assembly including operator. (Standard)
 5. Operation: Low demand, 20 cycles per day for door assembly including operator.
 6. Operation: High demand, 50,000 cycles for door assembly including operator.
 7. Operation: High demand, 100,000 cycles for door assembly including operator.
 8. LEED Requirements:
 - a. Recycled Content, Minimum Percent: _____.
 - b. Percent Classified as Post Consumer, Minimum Percent: _____.
- B. Model 6221 as manufactured by C.H.I. Overhead Doors:
 1. Openings up to (WxH) 20 ft-4 inch x 20 ft-4 inch (6198 x 6198 mm)
 2. Curtain: Flat faced, full width, interlocking roll formed slats. Individual slat profile is 2-

- 1/2 x 3/4 inch (64 x 19 mm)
- a. Slat Material: 22-gauge, 0.028 inch (0.72 mm) polyester painted (G90 coating) galvanized steel.
 - 1) Finish: Gray
 - 2) Finish: White
 - 3) Finish: Tan
 - 4) Finish: Brown
 - 5) Finish: Galvanized. Clear coated in place of paint.
 - 6) Finish: Powder Coat Upgrade. RAL# _____ available up to 20 ft-2 inches wide (6147 mm)
 - b. Optional Slat Design: Fenestrated with rectangular 5 x 1-1/8 inch (127 x 29 mm) openings, on 7 inch (178 mm) centers
 - 1) Pattern: As shown on drawings.
 - 2) Pattern:
 - a) Number of Openings Wide: _____.
 - b) Number of Openings High: _____.
 - c) Bottom Height of Openings Above Floor (in/mm): _____.
 - c. End locks: Galvanized malleable iron, attached to every other slat to act as wearing surface and prevent lateral movement. Riveted in place.
 - d. Wind locks: Per design and wind load requirements.
 - e. Bottom Bar:
 - 1) Two steel angles bolted back-to-back. Minimum 11-gauge, 0.114 inch (2.90 mm)
 - a) Finish: Primed Black
 - b) Finish: Powder coat to match curtain
 - 2) Extruded aluminum tube type bottom bar, 2 x 4 inches (51 x 102 mm). Available up to 20 ft-4 inches (6198 mm)
 - a) Finish: Clear anodized
 - b) Finish: Powder coat to match curtain
 - f. Vision Lites, Rectangular (WxH): 5 x 1-1/8 inch (127 x 29 mm), on 7 inch (178 mm) centers. Clear acrylic glazing.
 - 1) Pattern: As shown on drawings.
 - 2) Pattern:
 - a) Number of Lites Wide: _____.
 - b) Number of Lites High: _____.
 - c) Bottom Height of Lites Above Floor (in/mm): _____.
3. Guides: Three, minimum 3/16 inch (4.76 mm) structural angles bolted together to form guide and mounting surface. Removable 24 inch (610 mm) service panel for easy access to slats and bottom bar.
 - a. Finish: Primed Black
 - b. Finish: Hot dipped galvanized
 - c. Finish: Powder Coat to match curtain
 4. Head Plate: Minimum 1/4 inch (6.34 mm) rectangular steel plate. Precision sealed ball bearings supporting drive side axle.
 5. Barrel Assembly:
 - a. Barrel: Steel pipe sized for maximum deflection under full load to not exceed 0.03 inch (0.76 mm) per 1 ft (305 mm) of span. Welded rings or threaded lugs to barrel assembly for curtain attachment.
 - b. Springs: Tension assembly supported in barrel by precision ball bearings. Curtain weight counterbalanced by oil tempered, helically wound torsion springs, grease packed and mounted on steel torsion shafts with cast spring plug.
 6. Hood: Half-hexagonal hood for structural rigidity and aesthetic appeal. Fits within head plates with intermediate supports as required.
 - a. Material: 24-gauge, 0.022 inch (0.57 mm) polyester painted (G90 coating) galvanized steel

- 1) Finish: To match curtain interior.
- 7. Weather Seal:
 - a. Bottom astragal (standard)
 - b. Vinyl guide seal
 - c. Rubber hood baffle
 - d. Jamb brush. (Not available for between jamb mounting)
 - e. Header brush. (Not available for under lintel mounting)
- 8. Locking Mechanism:
 - a. Two plated steel slide bolt locks. Padlock provisions.
 - b. Chain keeper suitable for padlocking.
 - c. Cylinder lock for bottom bar
 - 1) Keyed on exterior of door with handle throw on interior.
 - 2) Keyed on both sides of the door.
- 9. Interlock Switches: Equip power-operated doors with safety interlock switch to disengage power supply when door is locked.
- 10. Mounting:
 - a. Face of wall and above lintel.
 - b. Face of wall and under lintel.
 - c. Between jamb and above lintel.
 - d. Between jamb and under lintel.
- 11. Jamb Construction:
 - a. Solid Masonry: Anchor bolt fasteners.
 - b. Hollow Masonry: Through bolt fasteners and crush plates.
 - c. Stacked Brick: Through bolt fasteners and crush plates.
 - d. Steel Jambs: Self tapping fasteners.
 - e. Steel Frame Covered With Gypsum: Self tapping fasteners.
 - f. Wood Jambs: Provide wood lag bolts.
- 12. Operation:
 - a. Manual: Manual push-up available up to 10 ft-4 inch (3150 mm) wide x 8 ft-4 inch tall (2540 mm)
 - b. Manual: Chain hoist
 - c. Electric: See article "Electric Motor Operation for Overhead Coiling Service Doors."

2.3 ELECTRIC MOTOR OPERATION FOR OVERHEAD COILING SERVICE DOORS

- 1. Electric Motor Operator: UL listed and labeled. Sized by manufacturer.
 - a. Drive Speed of Door: 8 to 12 inches (203 to 305 mm) per sec.
 - b. Usage Classification:
 - 1) Heavy Duty: 25 or more cycles per hr. Over 90 cycles per day.
 - 2) Standard Duty: 25 cycles per hr. 90 cycles per day.
 - 3) Medium Duty: 12 cycles per hr. 50 cycles per day.
 - 4) Light Duty: Up to 10 cycles per hr.
 - c. Operator Location: Front of hood.
 - d. Operator Location: Wall.
 - e. Operator Location: Opposite side of wall. Connection through wall.
 - f. Operator Location: As shown on drawings.
 - g. Operator Exposure: Interior.
 - h. Operator Exposure: Exterior; wet and humid. Provide operator cover to protect operator from weather.
 - 1) Operator cover. Finish: Match hood.
 - 2) Operator cover. Finish: Galvanized.
 - i. Power Supply: 115 VAC, single phase.
 - j. Power Supply: 230 VAC, single phase.
 - k. Power Supply: 208/230 VAC, three phase.
 - l. Power Supply: 460 VAC, three phase.
 - m. Power Supply: 575 VAC, three phase.

- n. Control Station: 24 V, 3-button. Open, close, stop. (standard)
 - o. Control Station: 24 V, 3-button. Open, close, stop. Keyed lockout.
 - p. Control Station: 24 V, key with open and close contacts.
 - q. Control Station: 24 V, key with open/close contacts and stop button.
 - r. Control Station Mounting: NEMA 1 Surface. Interior. (standard)
 - s. Control Station Mounting: NEMA 1 Flush. Interior.
 - t. Control Station Mounting: NEMA 4 Surface. Exterior.
 - u. Control Station Mounting: NEMA 4 Flush. Exterior.
2. Remote Controls:
- a. Radio Receiver: Single button remote control.
 - b. Radio Receiver: Three button remote controls.
 - 1) Program remote controls to Open/ Close/ Stop the door.
 - c. Transmitters: _____.
3. Special Controls:
- a. Keypad entry system. Mounting post.
 - b. Card reader system. Mounting post.
 - c. Internet connectivity.
 - d. Door timer.
 - e. Loop detector.
 - f. Pull cord.
 - g. Vehicle detector.
4. Primary Entrapment Protection Devices:
- a. NEMA 1 Monitored Photo Sensors: Photo eyes fully monitored, non-contact, infrared beam photo sensor system. Reverses closing door to full open position when obstruction is sensed. Photo sensors to be mounted no higher than 6 inches (152 mm) above floor.
 - b. NEMA 4 Monitored Photo Sensors: Photo eyes fully monitored, non-contact, photo beam reversing photo sensor system with NEMA 4 watertight enclosure. Reverses closing door to full open position when obstruction is sensed. Photo sensors to be mounted no higher than 6 inches (152 mm) above floor.
 - c. Monitored Electric Sensing Edge: Electric sensing edge fully monitored and connected to operator shall reverse a closing door to full open position when an obstruction is sensed.
 - d. Ancillary Entrapment Protection Device: Non-Monitored Electric Sensing Edge. Reverses closing door to full open position when obstruction is sensed.
 - e. Ancillary Entrapment Protection Device: Pneumatic Sensing Edge. Reverses closing door to full open position when obstruction is sensed.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions for compliance with requirements for substrate construction and other conditions affecting performance of the work.
- B. Examine locations of electrical connections.
- C. Proceed with installation only after all unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install door and shutter assembly in accordance with manufacturer's instructions.
- B. Anchor to adjacent construction without distortion or stress.
- C. Fit and align door and shutter assembly including hardware, plumb, level and square to ensure smooth operation.

- D. Make wiring connections between power supply and operator and between operator and controls.

3.3 ADJUSTING

- A. Adjust hardware and moving parts so that doors operate smoothly throughout full operating range.
- B. Adjust seals to provide a tight fit around the entire perimeter.

3.4 DEMONSTRATION

- A. Demonstrate proper operation to Owner.
- B. Perform fire door and shutter drop tests in presence of Owner or owner's representative. Require signature for manufacturer supplied drop test form.

3.5 MAINTENANCE SERVICE

- A. Initial Maintenance Service: Beginning at Substantial Completion.
 - 1. Full Maintenance: 3 months by skilled employees of installing company.
 - 2. Full Maintenance: 6 months by skilled employees of installing company.
 - 3. Full Maintenance: 9 months by skilled employees of installing company.
 - 4. Full Maintenance: 12 months by skilled employees of installing company.
 - 5. Preventative Maintenance: Repair or replace worn or defective components. Lubricate, clean, and adjust as required for door or shutter operation.
 - a. Maintenance Frequency: Monthly.
 - b. Maintenance Frequency: Quarterly.
 - 6. Parts and Supplies: Manufacturer's authorized replacement parts and supplies.
 - 7. Callback Service: Maintenance, including emergency callback service during normal working hours.
 - 8. Callback Service: Maintenance, 24 hours per day, seven days per week, emergency callback service.

END OF SECTION