



SECTION 08360 (08 36 00)

OVERHEAD DOORS

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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.

[Click Here] for more information

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. Commercial aluminum doors.

1.2 RELATED SECTIONS

**** NOTE TO SPECIFIER **** Delete any sections below not relevant to this project; add others as required.

- 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

**** NOTE TO SPECIFIER **** Delete references from the list below that are not required by the text of the edited section.

- A. America National Standards Institute (ANSI) / Door and Access Systems Manufacturers Association, International (DASMA):

1. DASMA Thermal Performance Verification Program.
 2. ANSI/DASMA 105 - Test Method For Thermal Transmittance And Air Infiltration Of Garage Doors.
 3. ANSI/DASMA 108 – Determination of Structural Performance Under Uniform Static Air Pressure Difference.
 4. ANSI/DASMA 115 – Determination of Structural Performance Under Missile Impact and Cyclic Wind Pressure.
 5. ANSI/DASMA 163 - R-Value and U-Factor As Applied To A Residential or Commercial Garage Door.
- B. ASTM International (ASTM):
1. ASTM A653/A653M - Standard Specification for Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 2. ASTM B209 - Standard Specification for Aluminum-Alloy Sheet and Plate.
 3. ASTM B221 - Standard Specification for Aluminum-Alloy Extruded Bars, Rods, Wires, Shapes and Tubes.
 4. ASTM C518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
 5. ASTM E283 - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
 6. ASTM E330 – Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
 7. ASTM E1886 – Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials.
 8. ASTM E1996 – Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes.
- C. American Architects Manufacturers Association (AAMA):
1. AAMA 2604 – Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix).
- 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 SYSTEM DESCRIPTION

**** NOTE TO SPECIFIER ** Include the following paragraph for exterior doors.**

A. Doors to Withstand:

**** NOTE TO SPECIFIER ** Delete one of the first two following options.**

1. Positive and negative design wind loads in accordance with Building Code.
2. Positive and negative design wind loads of ___ psf.

**** NOTE TO SPECIFIER ** Delete cycle life options not required. 10,000 cycles is standard.**

3. Cycle Life: 10,000 cycles.
4. Cycle Life: 25,000 cycles.
5. Cycle Life: 50,000 cycles.
6. Cycle Life: 100,000 cycles.
7. Cycle Life: ___ cycles.

B. Door Opening and Closing:

**** NOTE TO SPECIFIER ** Delete operation options not required.**

1. Operation: Electric.
2. Operation: Manual.
3. Operation: Chain hoist.

C. Track and Operating Hardware:

**** NOTE TO SPECIFIER ** Delete the track type options not required.**

1. Standard lift type.
2. Vertical lift type.
3. High lift type.
4. Follow Roof/Incline pitch type.
5. Low headroom type.

1.5 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.

**** NOTE TO SPECIFIER ** Retain one or both paragraphs below. Retaining both paragraphs indicates "Two Stage Samples" process. Delete "Samples for Initial Selection" if colors have already been determined. Delete items not required.**

- D. Samples for Initial Selection: Provide manufacturer's finish charts showing full range of colors and textures available for units with factory applied finishes.
- E. Samples for Verification: Provide for each type of exposed finish on the following components in manufacturer's standard sizes:
 1. Color Chip Sample.
 2. Glass Chip Sample.

**** NOTE TO SPECIFIER ** Include the following for projects requiring LEED certification. Credits are available for the use of recycled materials and also for regional materials if the project is located within a 500-mile radius of the C.H.I. manufacturing facility in Arthur, IL.**

- 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.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer shall provide an overhead door system capable of withstanding positive and negative wind loads as required by local building code for 10,000 cycles.
- 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 sectional doors from one manufacturer for each type of door. Provide operators and other accessories from source acceptable

to overhead door manufacturer.

1.7 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.

1.8 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.

1.9 WARRANTY

- A. Manufacturer's limited warranty against manufacturing defect and product workmanship.

**** NOTE TO SPECIFIER ** Select the warranty duration specified. Aluminum Sections and Finishes available for Aluminum Full View Models and Sections.**

- 1. Hardware, Including Springs: For defects in material or workmanship.
 - a. Warranty Period: 1 year from date of manufacture.
- 2. Aluminum Sections: For aluminum door sections in commercial applications against defects in material and workmanship.
 - a. Warranty Period: 10 years from date of manufacture.
- 3. Aluminum Finishes: Against cracking, checking, or peeling.
 - a. Warranty Period: 3 years from date of manufacture.

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: 800-738-5006; Email: aia@chiohd.com; Web: <http://www.chiohd.com>.

**** NOTE TO SPECIFIER ** Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.**

- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with the provisions of Section 01 60 00 - Product Requirements.

**** NOTE TO SPECIFIER ** Delete article if not required or delete models not required.**

2.2 COMMERCIAL ALUMINUM DOORS

- A. Aluminum Full View Door:
 - 1. Model 3297. Polystyrene Insulated Aluminum Full View.
 - a. Insulation: CFC-free polystyrene sized to rail profile.
 - b. U-Factor: 0.88 with 1/2 inch (13 mm) insulated glass.
 - c. Calculated R-Value: 3.07. Will vary according to glass selection.
 - d. Air Filtration 0.42 per ANSI/DASMA 105, ASTM E283.
 - 2. Additional Product Features:
 - a. Door Size (WxH): Standard up to 24 ft 2 inches (7.37 m) x 16 ft 0 inches (4.88 m). Consult with C.H.I. up to 20 ft 0 inches (6.10m) tall.
 - b. Material: Extruded 6063-T6 Aluminum.
 - c. Thickness: 2 inches (51 mm).

- d. Joints: Tongue and groove.
- e. STC rating of 27.
- f. Pass door capable. Complete section 2.6.C if required.
- g. Center Stiles: 2 inch (51 mm) face, thru bolted rails.

**** NOTE TO SPECIFIER **** Delete end stiles option not required. 4 inch is standard up to 16 ft 2 inches (4.93 m). 8 inch is optional up to 16 ft 2 inches (4.39 m) and standard for 16 ft 3 inches (4.95 m) and over.

- h. End Stiles: 4 inch (102 mm) face, thru bolted rails.
- i. End Stiles: 8 inch (203 mm) face, thru bolted rails.
- j. Intermediate Rails: 2 inch (51 mm) by full width of section.

**** NOTE TO SPECIFIER **** Delete bottom rail option not required. 4 inch is standard up to 16 ft 2 inches (4.93 m). 8 inch is optional up to 16 ft 2 inches (4.39 m) and standard for over 18 ft 3 inches (5.56 m). Between 16 ft 3 inches (4.95 m) and 18 ft 2 inches (5.54 m), rail based on glass selection.

- k. Bottom Rail: 4 inch (102 mm) by full width of section.
- l. Bottom Rail: 8 inch (203 mm) by full width of section.

**** NOTE TO SPECIFIER **** Delete top rail option not required. 4 inch is standard up to 20 ft 2 inches (6.15 m). 8 inch is optional up to 20 ft 2 inches (6.15 m) and standard for over 20 ft 3 inches (6.17 m).

- m. Top Rail: 4 inch (102 mm) by full width of section.
- n. Top Rail: 8 inch (203 mm) by full width of section.
- o. Plank Sections: 18 inches (457 mm), 21 inches (533 mm) and 24 inches (610 mm) based on overall door height. Consult factory for custom height sections.

**** NOTE TO SPECIFIER **** Delete finish options not required.

- p. Finish: Clear anodized.
- q. Finish: White powder coat.
- r. Finish: Black powder coat.
- s. Finish: Powder Coat RAL No. _____.

**** NOTE TO SPECIFIER **** Optional. Delete locking option if not required.

- t. Locking: Inside slide lock.

**** NOTE TO SPECIFIER **** Optional. Delete Glazing options not required. If combination of aluminum panels and glazing desired, specify sections for glazing type.

- u. Glazing: 1/8 inch (3 mm) DSB.
- v. Glazing: 1/8 inch (3 mm) tinted.
- w. Glazing: 1/8 inch (3 mm) frosted.
- x. Glazing: 1/8 inch (3 mm) polycarbonate.
- y. Glazing: 1/8 inch (3 mm) tempered.
- z. Glazing: 1/8 inch (3 mm) tempered tinted.
- aa. Glazing: 1/8 inch (3 mm) tempered frosted.
- bb. Glazing: 1/4 inch (6 mm) tempered.
- cc. Glazing: 1/4 inch (6 mm) tempered tinted.
- dd. Glazing: 1/4 inch (6 mm) tempered frosted.
- ee. Glazing: 1/4 inch (6 mm) clear laminated.
- ff. Glazing: 1/4 inch (6 mm) white laminated.
- gg. Glazing: 1/2 inch (13 mm) insulated glass.
- hh. Glazing: 1/2 inch (13 mm) tinted insulated.
- ii. Glazing: 1/2 inch (13 mm) frosted insulated.
- jj. Glazing: 1/2 inch (13 mm) Low E insulated.
- kk. Glazing: 1/2 inch (13 mm) tempered insulated.
- ll. Glazing: 1/2 inch (13 mm) tempered Low E insulated.
- mm. Glazing: 1/2 inch (13 mm) tempered tinted insulated.
- nn. Glazing: 1/2 inch (13 mm) tempered frosted insulated.
- oo. Glazing: 3/8 inch (10 mm) triple wall poly insulated.

- pp. Glazing: 16-gauge 0.050 inch (1.27 mm) aluminum panel.
- qq. Glazing: 16-gauge 0.050 inch (1.27 mm) aluminum panel with 3 inch (76 mm) exhaust port.
- rr. Glazing: 16-gauge 0.050 inch (1.27 mm) aluminum panel with 4 inch (102 mm) exhaust port.
- ss. Glazing: Insulated aluminum panel - 3/8 inch (9.5 mm) polystyrene insulation sandwiched between 16-gauge 0.050 inch (1.27 mm) aluminum panels.
- tt. Glazing: Insulated aluminum panel with 3 inch (76 mm) exhaust port - 3/8 inch (9.5 mm) polystyrene insulation sandwiched between 16-gauge 0.050 inch (1.27 mm) aluminum panels with 3 inch (76 mm) exhaust port.
- uu. Glazing: Insulated aluminum panel with 4 inch (102 mm) exhaust port - 3/8 inch (9.5 mm) polystyrene insulation sandwiched between 16-gauge 0.050 inch (1.27 mm) aluminum panels with 4 inch (102 mm) exhaust port.
- vv. Glazing: Open for 1/8 inch (3 mm) field glazing.
- ww. Glazing: Open for 1/4 inch (6 mm) field glazing.
- xx. Glazing: Open for 1/2 inch (13 mm) field glazing.

**** NOTE TO SPECIFIER ** Delete weather seal options not required. First option is standard.**

- yy. Weather Seal: U-shaped bottom astragal with aluminum retainer.
- zz. Weather Seal: Integrated bulb seal in between rails.
- aaa. Weather Seal: Top seal.
- bbb. Weather Seal: Header and Jambs. Flexible one-piece vinyl extrusion.

**** NOTE TO SPECIFIER ** Delete operation options not required.**

- ccc. Operation: Manual.
- ddd. Operation: Chain hoist. Not available for standard lift or low headroom track options.
- eee. Operation: Electric.

**** NOTE TO SPECIFIER ** Delete jamb material option not required. Steel jambs will require sections to be 2 inches (51 mm) wider than opening.**

- fff. Jamb Material: Wood.
- ggg. Jamb Material: Steel.

**** NOTE TO SPECIFIER ** Delete track type options not required.**

- hhh. Track Type: Standard Lift, 15 inches (381 mm) radius standard. Consult factory for openings more than 300 sq ft (27.9 sq m).
- iii. Track Type: Vertical Lift. Consult factory for doors over 16 ft (4.877 m) or openings more than 300 sq ft (27.9 sq m).
- jjj. Track Type: High Lift. Consult factory for more than 120 inches (3.05 m) or openings more than 300 sq ft (27.9 sq m). Specify Lift Amount: ____ inches (____ mm).
- kkk. Track Type: Follow Roof Line / Incline. Pitch Increments: 0.5 from 0.5/12 to 12/12. Consult Factory: Headroom less than 15 inches (381 mm), openings over 300 sq ft (27.9 sq m) or pitch greater than 6/12.
- lll. Track Type: Low Head Room.

**** NOTE TO SPECIFIER ** Delete mount options not required.**

- 1) Front Mount: 12 inches (305 mm) Radius, 2 inches Track Only.
- 2) Front Mount: 15 inches (381 mm) Radius.
- 3) Rear Mount: 12 inches (305 mm) Radius, 2 inches Track Only.
- 4) Rear Mount: 15 inches (381 mm) Radius.

**** NOTE TO SPECIFIER ** Delete appearance options not required. Galvanized is standard.**

- mmm. Track Appearance: Galvanized.
- nnn. Track Appearance: White Powder Coat.
- ooo. Track Appearance: RAL Powder Coat No. _____.

- ppp. Track Mounting and Size: Based on door size and weight. Lower track is adjustable for weathertight fit. May upgrade to clip angle or continuous when not standard. Track is 16 ga, 0.055 inch (1.39 mm) min. galvanized steel. Gauge increases based on design requirements. 2 inch (51 mm) track for 2 inch (51 mm) rollers or 3 inch (76 mm) track with 3 inch (76 mm) rollers.
- qqq. Roller Assemblies: Galvanized steel adjustable roller holders with floating hardened steel bearing rollers, located at top and bottom of each side of each section. Size and type is determined by the manufacturer based on door size and weight.
- rrr. Hinges: 14 ga 0.070 inch (1.77 mm) galvanized steel, to 24 ft 2 inches (7.37m), and 11 ga, 0.114 inch (2.89 mm) galvanized steel if larger.
- sss. Spring Counterbalance: Helically-wound, oil-tempered torsion springs mounted on cross-header shaft supported by galvanized steel ball bearing end plates and center carrier brackets as required. Springs to be individually calibrated to each door. Spring shafts are hollow or solid based on door size and weight. Counterbalance transferred to doors via aircraft quality braided steel lift cables.
- ttt. Spring Cycle Life: 10,000 cycles. Consult factory for life cycles up to 100,000 cycles. There are limitations based on door size and weight.

2.3 COMPONENTS

**** NOTE TO SPECIFIER ** Delete the following paragraph if doors are manually operated.**

A. Electric Operator:

- 1. Externally mounted on drive side of door.

**** NOTE TO SPECIFIER ** Delete power supply options not required.**

- 2. Power Supply: 115 Volts AC single phase.
- 3. Power Supply: 208/230 Volts AC single or three phase.
- 4. Power Supply: 460 Volts AC three phase.
- 5. Manually operable in case of power failure.

**** NOTE TO SPECIFIER ** Delete control station power option and control station options not required.**

- 6. Control Station Power: 24 VDC.
- 7. Control Station Power: 115 VAC.
- 8. Control Station: Keyed Switch.
- 9. Control Station: Two button (Open / Close) station.
- 10. Control Station: Three button (Open / Stop / Close) station.

**** NOTE TO SPECIFIER ** Delete paragraph if no safety device is specified for electrically controlled units or delete safety device options not required.**

B. Safety Reversing Device:

- 1. Safety Device: Photoelectric sensor; detect obstruction and reverse door without requiring door to contact obstruction.
- 2. Safety Device: Electric pneumatic edge; detect obstruction and reverse door upon contact with pneumatic hose.
- 3. Safety Device: Electric edge; detect obstruction and reverse door upon contact with electric strips in vinyl housing.
- 4. Safety Device: Electric edge; fail-safe, self-monitoring.

**** NOTE TO SPECIFIER ** Delete paragraph if pass door is not required.**

- C. Pass Door: Entry door incorporated into overhead door allowing entry and exit without opening the door. Door placement and opening direction based on inside looking out orientation. Doors open to the outside. Not ADA compliant.

**** NOTE TO SPECIFIER **** The following overhead door requirements must be met to include a pass door.

1. Overhead Door Requirements: Minimum Width: 5 ft 6 inches (1.68 m).
2. Overhead Door Requirements: Maximum Width: 14 ft 2 inches (4.32 m).
3. Overhead Door Requirements: Minimum Height: 7 ft 0 inches (2.13 m).
4. Overhead Door Requirements: Maximum Height: 18 ft 0 inches (5.49 m).
5. Overhead Door Requirements: Minimum Headroom: 15 inches (0.38 m).
6. Door Width: 32 inches (0.81 m).
7. Door Height: Based on stacking arrangement required for overhead door.
 - a. Min. Height: 68 inches (1.73 m). Max. Height: 77 inches (1.96 m).
8. Door Side Placement: Door will be 8 inches (203 mm) from end of section.

**** NOTE TO SPECIFIER **** Delete options not required.

- a. Left.
 - b. Middle.
 - c. Right.
9. Hinge Side:

**** NOTE TO SPECIFIER **** Delete options not required.

- a. Left.
 - b. Right.
10. Door Handle:

**** NOTE TO SPECIFIER **** Delete options not required.

- a. Door Latch.
 - b. Push Bar.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until work areas have been properly prepared.
- B. If preparation is the responsibility of another installer, notify Architect of unsatisfactory conditions before proceeding.

3.2 INSTALLATION

- A. Install door assembly in accordance with manufacturer's instructions.
- B. Anchor to adjacent construction without distortion or stress.
- C. Securely brace door tracks suspended from structure. Secure tracks to structural members only.
- D. Fit and align door assembly including hardware, level and plumb, to provide smooth operation.

**** NOTE TO SPECIFIER **** Include the following paragraph if head and jamb weatherstripping is specified.

- E. Position head and jamb weatherstripping to contact door sections when closed; secure in position.

**** NOTE TO SPECIFIER **** Include the following paragraph if electrically operated doors are specified.

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

3.3 ADJUSTING

- A. Adjust to operate smoothly throughout full operating range.

3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before substantial completion.

END OF SECTION