**SECTION 08 33 00**

**Overhead Coiling Doors**

*To display hidden notes to specifier, select tools/ options/ view/ hidden text.*

\*\*This guide specification document is provided by C.H.I. Overhead Doors to assist design professionals in the preparation of specification documents for overhead coiling doors and is based on the products manufactured by C.H.I. Overhead Doors. For more information, contact C.H.I. at 1485 Sunrise Drive, Arthur, IL 61911; Toll Free AIA Hotline: (800) 590-0559; AIA Fax: (217) 543-4454; E-mail: [AIA@chiohd.com](mailto:); Website: www.chiohd.com.

\*\*Optional text requiring a selection by the user is enclosed within brackets, e.g.: “Section [09000] [ ]”.

\*\*Items requiring user input are enclosed within brackets, e.g.: “Section [ - ]”.

\*\*Optional paragraphs are separated by an “OR” statement, e.g.:

\*\*\*\*\*OR\*\*\*\*\*

\*\*”Green” requirements are included for projects requiring LEED certification and are included as green text. For additional information on LEEDS, visit the U.S. Green Building Council website at www.usgbc.org.

\*\*Products included in this document in the sequence in which they are listed are as follows. Delete sections that are not applicable to your project.

1. **Medium Duty Overhead Coiling Service Doors (Model 6241)**
2. **Non-Insulated Overhead Coiling Service Doors (Models 6180, 6181, 6200, 6201, 6220, 6221, 6244, 6266)**
3. **Insulated Overhead Coiling Service Doors (Models 6182, 6202, 6222, 6242)**
4. **Fire Rated Non-Insulated Overhead Coiling Service Doors (Models 7300, 7301, 7400, 7401)**
5. **Fire Rated Insulated Overhead Coiling Service Doors (Model 7302)**
6. **Overhead Coiling Counter Doors (Models 6522, 6544, 6566)**
7. **Fire Rated Overhead Coiling Counter Doors (Models 7522, 7566)**
8. **Specialty Overhead Coiling Doors (Combo Door/ Grille; Superimposed Door)**
9. GENERAL
   1. RELATED DOCUMENTS

\*\*NOTE TO SPECIFIER \*\* Retain or delete this article in all Sections of Project Manual.

* + 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
  1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Fire Rated Non-Insulated Overhead Coiling Service Doors
  1. RELATED SECTIONS

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

* + 1. Section 05 10 00 - Structural Metal Framing.
    2. Section 06 10 00 - Rough Carpentry.
    3. Section 09 90 00 - Painting and Coating.
    4. Section 26 05 00 - Common Work Results for Electrical.
  1. REFERENCES

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

* + 1. ASTM A480/A480M-04; 2004 - Standard Specification for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet, and Strip.
    2. ASTM A653/A653M-03; 2003 - Standard Specification for Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
    3. National Fire Protection Association NFPA 80, 2013 Edition - Standard for Fire Doors and Fire Windows.
    4. Underwriters Laboratories (UL) 10B, 1997 Edition - Standard for Fire Tests of Door Assemblies.
  1. SUBMITTALS
     1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
     2. Product Data: For each type and size of overhead coiling door and accessory.
        1. Include construction details, material descriptions, dimensions of individual components, profiles for slats, and finishes.

**\*\* NOTE TO SPECIFIER \*\* Retain first subparagraph below for power operated doors.**

* + - 1. Include rated capacities, operating characteristics, electrical characteristics, and furnished accessories.

**\*\* NOTE TO SPECIFIER \*\* Retain subparagraph below for fire rated doors.**

* + - 1. Include description of automatic closing device and testing and resetting instructions.
    1. Shop Drawings: For each installation and for special components not dimensioned or detailed in manufacturer’s product data.
       1. Include plans, elevations, sections, and mounting details
       2. Include details of equipment assemblies and indicate dimensions, required clearances, and components.
       3. Provide BIM models upon request.

**\*\* NOTE TO SPECIFIER \*\* Retain subparagraph below for fire rated doors only. Include detectors and fusible links as needed to reflect fire door requirements.**

* + - 1. Show controls, locking devices, [detectors] [fusible links], and other accessories.

**\*\* NOTE TO SPECIFIER \*\* Retain one or both paragraphs below. Retaining both paragraphs indicate “Two Stage Samples” process. Delete “Samples for Initial Selection” if colors have already been determined.**

* + 1. Samples for Initial Selection: Upon request, 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
    2. Samples for Verification: Upon request, provide for each type of exposed finish on the following components in manufacturer’s standard sizes.

**\*\* NOTE TO SPECIFIER \*\* Retain paragraphs below to suit project. Delete items not required.**

* + - 1. Curtain slats.
      2. Bottom bar.

\*\* 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.

1. 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.
2. Closeout Submittals:
   * + 1. Operation and maintenance data.
   1. QUALITY ASSURANCE
      1. Manufacturer Qualifications:
         1. Company specializing in the manufacturing of products specified in this section and with a minimum of five years experience.
      2. Installer Qualifications: Installer shall be authorized and qualified to install overhead door systems on the type and scope of project specified.

\*\* NOTE TO SPECIFIER \*\* Retain “Maintenance Proximity” subparagraph below if retaining “Maintenance Service” article in Part 3 of this document. Delete paragraph if maintenance service is not required.

* + - 1. Maintenance Proximity: Not more than [insert number] hours normal travel time from installers place of business to project site.

\*\* NOTE TO SPECIFIER \*\* Delete the following if fire rated doors are not required.

* + 1. Fire Rated Door Assemblies: Assemblies complying with NFPA 80 that are tested and labeled by a qualifying testing agency for fire protection ratings indicated and based on testing at as close to neutral pressure as possible according to UL 10B.
       1. Smoke Control: [Where indicated] [In corridors and smoke barriers], provide doors that are listed and labeled with the letter “S” on the fire rating label by a qualified testing agency for smoke- and draft-control based on testing according to UL 1784; with maximum air-leakage rate of 3.0 cfm/sq. ft. (0.01524 cu. m/s x sq. m) of door opening at 0.10-inch wg (24.9 Pa) for both ambient and elevated temperature tests.

\*\* NOTE TO SPECIFIER \*\* Delete the following if acoustically rated doors are not required.

* 1. DELIVERY, STORAGE, AND HANDLING
     1. Store products in manufacturer's unopened packaging until ready for installation.
     2. Store and dispose of all materials in accordance with federal, state and local laws.
  2. PROJECT CONDITIONS
     1. 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 absolute limits.
  3. COORDINATION
     1. Coordinate with other operations and installation of adjacent materials to avoid damage to installed materials.
  4. WARRANTY

\*\* NOTE TO SPECIFIER \*\* Include the following warranty paragraph for model 6241 Standard Duty Overhead Coiling Service Door.

* + 1. Warranty: Manufacturer’s warranty that all parts and components are to be free from defects in materials and workmanship for 1 year.

\*\* NOTE TO SPECIFIER \*\* Include the following warranty paragraph for all Industrial Duty Service Doors, Fire Rated Service Doors, Counter Shutters, and Fire Rated Counter Shutters.

* + 1. Warranty: Manufacturer’s warranty that all parts and components, except counterbalance spring and finish, are to be free from defects in materials and workmanship for 5 years. Counterbalance springs to be warrantied for 1 year.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: C.H.I. Overhead Doors, which is located at: 1485 Sunrise Dr. ; Arthur, IL 61911; Toll Free Tel: 800-590-0559; Fax: 217-543-4454; Email: [AIA@chiohd.com](mailto:AIA@chiohd.com); Web: [www.chiohd.com](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.

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.
  1. PERFORMANCE REQUIREMENTS

\*\* NOTE TO SPECIFIER \*\* Delete any of the following product categories that don’t apply to your project.

Paragraph A = Medium Duty Service Doors; (Model 6241)

Paragraph B = Non-Insulated Service Doors; (Models 6180, 6181, 6200, 6201, 6220, 6221, 6244, 6266)

Paragraph C = Insulated Service Doors; (Models 6182, 6202, 6222, 6242)

Paragraph D = Fire Rated Non-Insulated Service Doors; (Models 7300, 7301, 7400, 7401)

Paragraph E = Fire Rated Insulated Service Doors; (Model 7302)

Paragraph F = Counter Doors; (Models 6522, 6544, 6566)

Paragraph G = Fire Rated Counter Doors; (Models 7522, 7566)

**Paragraph H =** **Specialty Overhead Coiling Doors (Combo Door/ Grille; Superimposed Door)**

* + 1. Fire Rated Non-Insulated Overhead Coiling Service Doors
       1. Fire Door Construction: Conform to UL 10B.
       2. Installed Fire Door Assembly: Conform to NFPA 80.

\*\* NOTE TO SPECIFIER \*\* Retain "Seismic Performance" Paragraph below if required for Project. Nonstructural architectural components in Seismic Design Category A are exempt from seismic design requirements; and in Seismic Design Category B, nonstructural architectural components are generally exempt if the Component Importance Factor is 1.0. Coordinate requirements with Project's structural engineer.

* + - 1. Seismic Performance: Overhead coiling doors shall be evaluated for seismic performance to withstand the effect of earthquake motions determined according to ASCE/SEI 7.

\*\* NOTE TO SPECIFIER \*\* Operation of 20,000 cycles is standard for this product.

* + - 1. Operation: Design complete door assembly including operator for use of not less than 20,000 cycles
    1. 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.
  1. MATERIALS

\*\* NOTE TO SPECIFIER \*\* Select material used in construction. Delete any of the following 3 paragraphs that do not apply. Aluminum is not applicable to fire doors.

* + 1. Galvanized Steel Sheet:
       1. Galvanized commercial steel, (CS type) per ASTM A653/A653M, G90 and G60 coating class.
    2. Stainless Steel Sheet: ASTM A480/A480M or ASTM A666; Type 304, roll form temper.

\*\* NOTE TO SPECIFIER \*\* Include the following paragraph for projects requiring LEED certification.

* + 1. LEED Requirements:
       1. Recycled content: Minimum [ ] percent with minimum [ ] percent classified as post-consumer.
  1. DOOR ASSEMBLY

\*\* NOTE TO SPECIFIER \*\* Delete any of the following product categories that don’t apply to your project.

Paragraph A = Medium Duty Service Doors; (Model 6241)

Paragraph B = Non-Insulated Service Doors; (Models 6180, 6181, 6200, 6201, 6220, 6221, 6244, 6266)

Paragraph C = Insulated Service Doors; (Models 6182, 6200, 6220, 6242)

Paragraph D = Fire Rated Non-Insulated Service Doors; (Models 7300, 7301, 7400, 7401)

Paragraph E = Fire Rated Insulated Service Doors; (Model 7302)

Paragraph F = Counter Doors; (Models 6522, 6544, 6566)

Paragraph G = Fire Rated Counter Doors; (Models 7522, 7566)

* + 1. Fire Rated Non-Insulated Overhead Coiling Service Doors

\*\* NOTE TO SPECIFIER \*\* Fire Rated Non-Insulated Overhead Coiling Service Doors from C.H.I. Overhead Doors have a standard maximum width of 24’0” and standard maximum height of 24’0”. For larger sizes, call our Toll Free AIA Hotline: (800) 590-0559 or email us at [AIA@chiohd.com](mailto:) to check availability.

Model numbers are based on hour rating and slat profile. Standard curtain material and color options available varies based on door size. Use the following guide to determine the correct model for the basis of design.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Model | Hour Rating | Slat Profile | Standard Material/ Standard Maximum Width and Height | Color Options |
| 7300 | 3/4 Hr., 1-1/2 Hr., or 3 Hr. | Curved Slat | 20 gauge steel = 24’0” max width and 24’0” max height.  22 gauge steel = 18’4” max width and 24’0” max height. | 20 gauge steel = Gray, White, Galvanized, Powder Coat.  22 gauge steel = Gray, White, Tan, Brown, Galvanized, Powder Coat. |
| 7301 | 3/4 Hr., 1-1/2 Hr., or 3 Hr. | Flat Slat |
| 7366 | 3/4 Hr., 1-1/2 Hr., or 3 Hr. | Flat Slat | 22 gauge stainless steel = 13’4” max width and 24’0” max height. | #4 Stainless Steel |
| 7400 | 4 Hr. | Curved Slat | 18 gauge steel = 24’0” max width and 24’0” max height.  20 gauge steel = 18’4” max width and 24’0” max height.  22 gauge steel = 13’4” max width and 24’0” max height. | 18 gauge steel = Gray, White, Galvanized, Powder Coat.  20 gauge steel = Gray, White, Galvanized, Powder Coat.  22 gauge steel = Gray, White, Tan, Brown, Galvanized, Powder Coat. |
| 7401 | 4 Hr. | Flat Slat |

* + - 1. Basis of Design: C.H.I. Overhead Doors model 7301
      2. Fire Rating Classification:

**\*\* NOTE TO SPECIFIER \*\* Select from the following 4 paragraphs based on requires of project. If more than one is selected, note which doors are associated with each requirement.**

* + - * 1. 3 hour rating, listed by Underwriters Laboratories (U.L.).
        2. 1-1/2 hour rating, listed by Underwriters Laboratories (U.L.).
        3. 3/4 hour rating, listed by Underwriters Laboratories (U.L.).
      1. Construction:
         1. Curtain: Constructed from interlocking slats formed from the following.

Material:

\*\* NOTE TO SPECIFIER \*\* Select one of the following 3 paragraphs and delete the paragraphs not required. For doors with galvanized steel material, “Per design requirements” is recommended as the standard to allow the manufacturer to use the gauge that best suits the opening size and hour rating that is required based on the fire door listing. If noting a specific gauge is preferred, refer to the guide above for maximum standard sizes available for each gauge of steel.

Galvanized steel per design requirements.

[20] [22] gauge galvanized steel.

Finish: Hot-dipped galvanized in accordance with ASTM A653 and with baked on enamel primer coat and polyester finish coat.

\*\* NOTE TO SPECIFIER \*\* Select one of the following 2 subparagraphs and specific color if known. Polyester top coat is standard. Powder coat finish is available in 188 standard RAL colors with an additional option for custom color match.

Polyester Finish: [Gray], [White], [Tan**(22 gauge only)**] [Brown**(22 gauge only)**] [Galvanized]

Powder Coat: [RAL# ] [Custom Color Match]

\*\* NOTE TO SPECIFIER \*\* Select one of the following 3 subparagraphs. Model numbers that is standard for each profile is listed in notes following each option.

Profile:

Flat, non-insulated, 2-3/4 inches high by 5/8 inch deep. **(models 7301, 7366)**

End locks: Galvanized malleable iron, attached to every other slat to act as wearing surface and prevent lateral movement.

Wind locks: Per design requirements.

Bottom bar:

\*\* NOTE TO SPECIFIER \*\* Select one of the following 2 paragraphs. Two angles of the same material as the curtain are standard for this product.

Two steel angles bolted back-to-back, with adjustable tubular compression weather seal. **(standard for models 7300, 7301, 7400, 7401; optional for 7366)**

Bottom Bar Finish:

\*\* NOTE TO SPECIFIER \*\*Retain one of the following 4 subparagraphs. Painted medium black is standard. Hot dipped galvanizing, cold galvanizing, and powder coat are optional. Powder coat finish is available in 188 standard RAL colors with an additional option for custom color match.

Painted Black

Hot Dipped Galvanized

Cold Galvanizing

Powder Coat [RAL# ] [to match curtain]

Two stainless steel angles bolted back-to-back, with adjustable tubular compression weather seal. **(standard for model 7366)**

Bottom Bar Finish:

Mill Finish.

\*\* NOTE TO SPECIFIER \*\* Vision lites are optional for flat slat profiles only (models 7301, 7366, 7401). Select one of the following options if required or delete both options if not required.

Vision Lites: Provide rectangular lites, approximately 5 inches wide by 1-1/8 inch high, spaced 7 inches on center, and with fire rated glazing.

Pattern: [As shown on drawings] [[ ] lites wide by [ ] lites high] at [ ] feet above finished floor.

* + - * 1. Guides: Structural steel angles bolted together to form guide and mounting surface.

\*\* NOTE TO SPECIFIER \*\*Retain one of the following 2 paragraphs. Steel is standard for all models.

Guide Material:

Steel

Guide Finish:

\*\* NOTE TO SPECIFIER \*\*Retain one of the following 4 subparagraphs. Painted medium black is standard. Hot dipped galvanizing, cold galvanizing, and powder coat are optional. Powder coat finish is available in 188 standard RAL colors with an additional option for custom color match.

Painted Black

Hot Dipped Galvanized

Cold Galvanizing

Powder Coat [RAL# ] [to match curtain]

Stainless Steel

Guide Finish: Mill finish

* + - * 1. Head Plate: Rectangular steel plate, with precision sealed ball bearings supporting drive side axle.
        2. Barrel Assembly: Steel pipe sized for maximum deflection under full load not to exceed 0.03” per foot of span with threaded rings or lugs welded to barrel assembly for curtain attachment.
        3. Springs: Spring tension assembly supported within 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.

\*\* NOTE TO SPECIFIER \*\* 20,000 cycles is standard for this product.

Designed for minimum 20,000 cycles.

\*\* NOTE TO SPECIFIER \*\* Retain one of the following two paragraphs. 24 gauge galvanized steel is standard for all models.

Hood Material:

Minimum 24 gauge galvanized steel

Hood finish:

**\*\* NOTE TO SPECIFIER \*\* Retain one of the 3 color options below. Standard color for the hood is to match the coil side of the curtain. Option 2 can be selected if the color of the hood will differ from the curtain. Powder coat finish is available in 188 standard RAL colors with an additional option for custom color match.**

Match curtain finish

Polyester Finish: [Gray], [White], [Tan], [Brown], [Galvanized]

Powder Coat: [RAL# ] [to match curtain]

Minimum 24 gauge stainless steel

Hood finish:

#4 polished stainless steel

**\*\* NOTE TO SPECIFIER \*\* Retain the following paragraph if smoke seals and labels are required.**

* + - * 1. Smoke Seals: Equip each fire rated door with replaceable smoke seal perimeter gaskets or brushes for smoke and draft control as required for door listing and labeling by a qualified testing agency.

Smoke Label: Provide doors with U.L. “S” label in addition to the fire door label to certify smoke control listing.

* + - * 1. Weather Seal:

**\*\* NOTE TO SPECIFIER \*\* Select any of the following options that are required or delete entire paragraph if weather seal is not required. Weather seal is not standard for fire doors.**

Tubular vinyl bottom seal

Guide brush seal.

Header brush seal.

* + - * 1. Locking Mechanism:

**\*\* NOTE TO SPECIFIER \*\* Select one of the following three options. Two plated steel slide bolt locks is standard for manual push up doors. Chain keepers are standard for chain hoist operated doors. Motor operated doors are locked through their drive train however other locking mechanisms can be added for additional security if used in conjunction with an interlock switch for each lock.**

Two plated steel slide bolt locks with padlock provisions.

Chain keeper suitable for padlocking.

Cylinder lock mounted to double angle bottom bar.

Keyed on exterior of door with thumb turn on interior.

Keyed on both sides of the door.

**\*\* NOTE TO SPECIFIER \*\* Select the following option if specifying locks on motor operated doors. Delete if door is manually operated or does not require locks.**

Interlock Switches: Equip power-operated doors with safety interlock switch to disengage power supply when door is locked.

* + - 1. Mounting:

**\*\* NOTE TO SPECIFIER \*\* Select one of the following 4 mounting options. Face of wall and above lintel is most common.**

* + - * 1. Face of wall and above lintel.
        2. Face of wall and under lintel.
        3. Between jamb and above lintel.
        4. Between jamb and under lintel.

**\*\* NOTE TO SPECIFIER \*\* Select one of the following 6 jamb construction options. If more than one is selected, note which doors are associated with each requirement.**

* + - 1. Jamb Construction:
         1. Solid Masonry

Provide anchor bolt fasteners complying with fire door listing.

* + - * 1. Hollow Masonry

Provide through bolt fasteners and crush plates complying with fire door listing.

* + - * 1. Stacked Brick

Provide through bolt fasteners and crush plates complying with fire door listing.

* + - * 1. Steel Jambs

Provide self tapping fasteners complying with fire door listing.

* + - * 1. Steel Frame Covered With Gypsum

Provide self tapping fasteners complying with fire door listing.

* + - * 1. Wood Jambs

Provide wood lag bolts complying with fire door listing.

* + - 1. Automatic Closing Device: Equip each fire rated door with an automatic closing device or release holder mechanism and governor unit complying with NFPA 80. Automatic closing device shall be designed for activation by the following:

**\*\* NOTE TO SPECIFIER \*\* Retain one or more of the paragraphs below to meet project requirements and the requirements of the Authority Having Jurisdiction. If more than one option is required, identify primary and secondary closing devices.**

**Paragraph one for fusible links complies with NFPA 80 requirements for fusible links on both sides of the door opening. Revise paragraph if not required on both sides of the door opening or to add fusible link ceiling unit for use with suspended ceilings. Rating of 165 degrees Fahrenheit is standard for rolling steel fire doors.**

* + - * 1. Fusible links with melting point of [165] degrees Fahrenheit, interconnected and mounted on both sides of door opening.
        2. Manufacturer’s standard UL labeled [ionization] [photo electric] smoke detectors on both sides of the wall and door holder release device.
        3. Manufacturer’s standard UL labeled heat rise detectors on both sides of the wall and door holder release device.
        4. Connected to building fire detection, smoke detection, and alarm systems through manufacturer’s UL labeled release device.

**\*\* NOTE TO SPECIFIER \*\* Retain following paragraph if automatic closing device specified included a release holder.**

Release Holder: Provide fail safe release holder as an interface between the detection device specified and fire rated door.

**\*\* NOTE TO SPECIFIER \*\* Select all options required.**

Provide adjustable time delay for up to 10 seconds.

**\*\* NOTE TO SPECIFIER \*\* The following option should be included if the release holder needs to be equipped with a stand-alone battery backup system. If backup power is available from building alarm system, the release holder can receive backup power from that source and does not require a built in battery backup feature.**

Provide battery back-up system.

Provide speaker and verbal warning when activated.

Provide warning strobe light when activated.

Provide warning horn when activated.

**\*\* NOTE TO SPECIFIER \*\* Include the following paragraph if manual operation is required and select one of the two manual operation options. Delete the entire paragraph if motor operation is required.**

* + - 1. Manual Operation

**\*\* NOTE TO SPECIFIER \*\* Manual push up is available for doors up to 12 feet 4 inches wide and 10 feet 4 inches high. Chain hoist operation is available on doors up to 256 square feet. Door larger than 256 square feet require motor operation.**

* + - * 1. Manual push up operated, utilizing partial spring tension release to initiate closure on alarm.

Governor: If required by the size of manual push up door, provide a governing device to maintain the closing speed in a range from 6 inches to 24 inches per second per NPFA 80 requirements.

* + - * 1. Chain hoist operated, utilizing enclosed gear reduction operating system and maintaining spring tension when activated by release of a fusible link or release holder.

Provide simple test design featuring a drop test handle that allows for drop testing and resetting from the floor.

Governor: If required by the size of manual chain hoist operated door, provide a governing device to maintain the closing speed in a range from 6 inches to 24 inches per second per NPFA 80 requirements.

**\*\* NOTE TO SPECIFIER \*\* Include the following paragraph if electric motor operation is required. Delete the entire paragraph if not required.**

* + - 1. Electric Motor Operator: Provide fail safe operator unit that is listed and approved for use on door. Operator to be of size and capacity recommended and provided by door manufacturer for door, maintains spring tension when activated by alarm, and be easily reset from the floor without requiring tools.
         1. Usage Classification: Electric operator and components capable of operating for not less than number of cycles indicated for each door.
         2. Operator Location:

**\*\* NOTE TO SPECIFIER \*\* Select one two following options based on requirements.**

Mounted on front of hood.

Wall mounted.

* + - * 1. Power Supply:

**\*\* NOTE TO SPECIFIER \*\* Select one of the 5 following options.**

115 VAC, single phase

230 VAC, single phase

208/230 VAC, three phase

460 VAC, three phase

575 VAC, three phase

* + - * 1. Control Station:

**\*\* NOTE TO SPECIFIER \*\* Select one of the 4 following options. Three button control station with open, close, and stop buttons is standard.**

24 V three button control station with open, close, and stop buttons

24 V three button control station with open, close, and stop buttons and keyed lockout.

24 V key control station with open and close contacts.

24 V key control station with open/close contacts and stop button.

**\*\* NOTE TO SPECIFIER \*\* Select one of the 4 following options. Surface mounted for interior is standard.**

NEMA 1 Surface mounted for interior.

NEMA 1 Flush mounted for interior.

NEMA 4 Surface mounted for exterior.

NEMA 4 Flush mounted for exterior.

* + - * 1. Remote Controls:

**\*\* NOTE TO SPECIFIER \*\* Three button remote controls can operate up to doors or can be programed to function as Open/ Close/ Stop control.**

Provide radio receiver and [single] [three] button remote control(s).

Provide […..] transmitters.

**\*\* NOTE TO SPECIFIER \*\* Include the following subparagraph if you have specified a three button remote control and Open/ Close/ Stop function is required.**

Program remote controls to Open/ Close/ Stop the door.

**\*\* NOTE TO SPECIFIER \*\* Delete the following paragraph if special controls are not required or retain items listed below that are required. There are many methods in which special controls can be implemented into the operation of the door and may determine which entrapment protection devices are specified. Sequence of operation is another factor that may determine which controls are best suited to provide the desired operation. Call our Toll Free AIA Hotline: (800) 590-0559 or email us at** [**AIA@chiohd.com**](mailto:) **for additional information.**

* + - * 1. Special Controls:

Keypad Entry System.

Mounting post.

Card Reader System.

Mounting post.

Internet Connectivity

Door Timer.

Loop Detector.

Pull Cord.

Vehicle Detector.

* + - * 1. Primary Entrapment Protection Devices

**\*\* NOTE TO SPECIFIER \*\* For operators complying with UL 325, one of the following monitored entrapment protection devices must be connected or constant contact on the 3-button station “Close” button is required to lower the door. Select one of the following and delete options not required.**

NEMA 1 Monitored Photo Sensors: Photo eyes fully monitored, non-contact, infrared beam photo sensor system shall reverse a closing door to the full open position when an obstruction is sensed; photo sensors shall be mounted no higher than 6 inches (152 mm) maximum above the floor.

NEMA 4 Monitored Photo Sensors: Photo eyes fully monitored, non-contact, photo beam reversing photo sensor system with NEMA 4 watertight enclosure shall reverse a closing door to the full open position when an obstruction is sensed; photo sensors shall be mounted no higher than 6 inches (152 mm) maximum above the floor.

Monitored Electric Sensing Edge: Electric sensing edge fully monitored and connected to the operator shall reverse a closing door to the full open position when an obstruction is sensed.

* + - * 1. Ancillary Entrapment Protection Devices:

**\*\* NOTE TO SPECIFIER \*\* Ancillary entrapment protection devices are optional and can be used to supplement, but not replace, primary entrapment protection devices for operators complying with UL 325. Select one of the following if required and delete any or all options not required.**

Non-Monitored Electric Sensing Edge: Non-monitored electric sensing edge shall reverse a closing door to the full open position when an obstruction is sensed.

Pneumatic Sensing Edge: Pneumatic sensing edge shall reverse a closing door to the full open position when an obstruction is sensed.

1. EXECUTION
   1. EXAMINATION
      1. Examine substrates, areas, and conditions for compliance with requirements for substrate construction and other conditions affecting performance of the work.
      2. Examine locations of electrical connections.
      3. Proceed with installation only after all unsatisfactory conditions have been corrected.
   2. INSTALLATION
      1. Install in accordance with manufacturer's instructions.
      2. Anchor to adjacent construction without distortion or stress.
      3. Fit and align door and shutter assembly including hardware, plumb, level and square to ensure smooth operation.

**\*\* NOTE TO SPECIFIER \*\* Delete the following paragraph(s) if fire rated doors and or smoke rated doors are not required.**

* + 1. Complete wiring from operator to controls and components.
    2. Coordinate installation of electrical service from power supply to operator.

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

* + 1. Complete wiring from operator to controls and components.
    2. Coordinate installation of electrical service from power supply to operator.
  1. ADJUSTING
     1. Adjust hardware and moving parts so that doors operate smoothly throughout full operating range.

**\*\* NOTE TO SPECIFIER \*\* Delete the following paragraph if weather seal is not included on project.**

* + 1. Adjust seals to provide a tight fit around the entire perimeter.

**\*\* NOTE TO SPECIFIER \*\* Delete the following paragraph if maintenance service is not required for this project.**

* 1. MAINTENANCE SERVICE

**\*\* NOTE TO SPECIFIER \*\* Maintenance service frequency should be determined by the usage of the door and the environment in which they are installed.**

* + 1. Initial Maintenance Service: Beginning at Substantial Completion, maintenance service shall include [three] [six] [nine] [twelve] months full maintenance by skilled employees of installing company. Include [monthly] [quarterly] preventive maintenance, repair or replace of worn or defective components, lubrication, cleaning, and adjusting as required for door operation. Parts and supplies shall be manufacturer’s authorized replacement parts and supplies.

**\*\* NOTE TO SPECIFIER \*\* Retain one of the following two paragraphs. The second paragraph adds appreciable cost and is general retained only for critical locations**

* + - 1. Perform maintenance, including emergency callback service, during normal working hours.
      2. Include 24 hour per day, seven days per week, emergency callback service.
  1. DEMONSTRATION
     1. Demonstrate proper operation to Owner.

**\*\* NOTE TO SPECIFIER \*\* Retain the following paragraph only if fire doors are required.**

* + 1. Perform fire door and shutter drop tests in presence of Owner or owner's representative. Require signature for manufacturer supplied drop test form.

END OF SECTION