

SECTION 08335

OVERHEAD COILING FIRE DOORS

This guide specification has been prepared by C.H.I. Overhead Doors to assist design professionals in the preparation of a specification section covering steel overhead coiling fire doors, available with 18, 20, or 22 gage steel or stainless steel slats, with structural steel guides. Refer to C.H.I. Overhead Doors literature for additional information on these products.

This specification may be used as the basis for developing either a project specification or an office master specification. Since it has been prepared according to the principles established in the *Manual of Practice* published by The Construction Specifications Institute (CSI), it may be used in conjunction with most commercially available master specifications systems with minor editing.

Other C.H.I. Overhead Doors products are covered by the following guide specifications, available from C.H.I. Overhead Doors:

Section 08334 - Overhead Coiling Doors.

Section 08336 - Overhead Coiling Shutters.

Section 08337 - Overhead Coiling Fire Shutters.

Section 08361 - Steel Sectional Overhead Doors.

Section 08362 - Aluminum Sectional Overhead Doors.

The following should be noted in using this guide specification:

Notes are included to assist the user in editing the section to suit project requirements. These notes are included as hidden text, and can be revealed or hidden by one of the following methods:

Microsoft Word: From the pull-down menus select TOOLS, then OPTIONS. Under the tab labeled VIEW, select or deselect the HIDDEN TEXT option.

Corel WordPerfect: From the pull-down menus select VIEW, then select or deselect the HIDDEN TEXT option.

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.

This guide specification is available in a variety of electronic formats to suit most popular word processing programs. Please contact C.H.I. Overhead Doors at 800-677-2650 or www.chiohd.com.

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
1. [Manually] [Electrically] operated steel overhead coiling fire doors.
 2. Operating hardware, controls, and supports.

Edit the following paragraphs to suit project requirements and to coordinate with other sections in the project manual.

- B. Related Sections:
 - 1. Division 1: Administrative, procedural, and temporary work requirements.
 - 2. Section [09910 - Paints:] [_____ - _____]: Field painting of doors.

Include the following paragraph for electrically operated doors.

- 3. Section [_____] - [_____]: Connection to power supply and control devices.

1.2 REFERENCES

Include only those reference standards that are included within the text of this section. If statements are included in Division 1 addressing the edition dates of standards, delete edition dates from the following statements.

- A. ASTM International (ASTM) (www.astm.org) A653/A653M-03 - Standard Specification for Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- B. National Fire Protection Association (NFPA) (www.nfpa.org) 80, 1999 Edition- Standard for Fire Doors and Fire Windows.
- C. Underwriters Laboratories (UL) (www.ul.com) 10B, 1997 Edition - Standard for Fire Tests of Door Assemblies.

1.3 SYSTEM DESCRIPTION

In the following paragraph, 20,000 cycles is standard.

- A. Design doors to withstand cycle life of [20,000] [50,000] [100,000] [___] cycles.

Include the following for Model 7331 Guardian Motor with Auto-Set doors. An electric safety edge is required to reverse door from obstructions when under power. A self-monitoring edge is recommended for fail-safe operation. 24 VAC control circuit may be used power smoke alarms or audible or visual warning devices as long as power is present. Smoke detectors and alarms may be directly wired to the control panel to activate closure.

- B. Door Operation:
 - 1. Fail safe, motor operated, utilizing planetary geared, continuous duty operating system, not relying on spring tension release to initiate closure.
 - 2. Emergency closure achieved:
 - a. Under power: Upon receipt of signal from detection device or alarm system.
 - b. Upon power disruption or by fusible link separation: By means of normally engaged electric holding brake that releases door from any position to gravity close.
 - 3. Speed governing achieved by centrifugal brake at 6 inches per second.
 - 4. 10 second time delay to prevent nuisance drops.
 - 5. Mechanical reset not required.
 - 6. Drop testing performed from floor level without use of ladders or tools.

**** OR ****

Include the following for Model 7321 Guardian Motor Simple Test doors. An electric safety edge is required to reverse door from obstructions when under power. Smoke detectors and alarms should only be wired to an optional fail safe release device.

- C. Door Operation:
 - 1. Motor operated, utilizing gear reduced, continuous duty operating system, not relying on spring tension release to initiate closure.
 - 2. Emergency closure achieved by disengaging operator drive from any position to gravity close from fusible link separation.
 - 3. Speed governing achieved by centrifugal brake at 6 to 12 inches per second.

In the following paragraph, a fusible link is standard; a fail safe release is optional.

4. Release initiated by [fusible link.] [fail safe, time delay release [with 72 hour battery backup to prevent nuisance drops].]
5. Drop testing performed from floor level by means of lockable, resettable test handle without use of ladders or tools.

**** OR ****

Include the following for Model 7301 Guardian Chain Operator Simple Test doors. Model 7301 may be field retrofitted with Guardian 7331 or 7321 operator systems.

- D. Door Operation:
1. Chain hoist operated, utilizing enclosed gear reduction operating system, not relying on spring tension release to initiate closure.
 2. Emergency closure achieved by means of gravity from fusible link separation.
 3. Speed governing achieved by centrifugal brake at 6 to 12 inches per second.

In the following paragraph, a fusible link is standard; a fail safe release is optional.

4. Release initiated by [fusible link.] [fail safe, time delay release [with 72 hour battery backup to prevent nuisance drops]].
5. Drop testing performed from floor level by means of lockable, resettable test handle without use of ladders or tools.

**** OR ****

Include the following for Model 7311 Guardian Manual Push-Up doors. These doors are available up to 10 x 10 feet, and are designed for fire protection in areas requiring infrequent use.

- E. Door Operation:
1. Manual push-up operated, relying on partial spring tension release to initiate closure.
 2. Equipped with lift handles and pull-down pole.
 3. Emergency closure achieved by means of gravity from fusible link separation.
 4. Speed governing achieved by viscous governor at 6 to 24 inches per second.

In the following paragraph, a fusible link is standard; a fail safe release is optional.

5. Release initiated by [fusible link.] [fail safe, time delay release [with 72 hour battery backup to prevent nuisance drops]].
6. Drop testing requires counterbalance release and governor systems to be reset by qualified personnel.

1.4 SUBMITTALS

- A. Submittals for Review:
1. Shop Drawings: Indicate opening dimensions and required tolerances, jamb connection details, anchorage spacing, hardware locations, installation details, and special conditions.
 2. Product Data: Provide information on components, application, hardware, and accessories.
- B. Closeout Submittals:
1. Operation and Maintenance Data.
 2. Test Records: Drop test results.

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. fabrication facility.

- C. Sustainable Design Submittals:

1. Recycled products: Indicate percentage of recycled material used in manufacture of products, and percentage classified as post consumer.
2. Regional products: Indicate location of product manufacturer and distance from manufacturer to project site.

1.5 QUALITY ASSURANCE

- A. Fire Door Construction: Conform to UL 10B.
- B. Installed Fire Door Assembly: Conform to NFPA 80.

1.6 WARRANTIES

- A. Provide manufacturer's five year warranty against defects in materials and workmanship.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Contract Documents are based on Series 7000 by C.H.I. Overhead Doors.

Include one of the following two paragraphs as applicable. Coordinate with Division 1 requirements.

- B. Substitutions: Under provisions of [Section [____].] [Division 1.]

**** OR ****

- C. Substitutions: Not permitted.

2.2 MATERIALS

- A. Galvanized Steel Sheet:
 1. ASTM A653/A653M, Structural Quality, G90 coating class.

Include the following paragraph for projects requiring LEED certification.

2. Recycled content: Minimum [75] [____] percent, with minimum [40] [____] percent classified as post consumer.]

2.3 COMPONENTS

Edit the following paragraphs to suit project requirements; coordinate with product type listed above.

- A. Curtain:
 1. Material: Galvanized steel.

In the following paragraph, it is recommend that selection of slat gage be left up to the manufacturer, to suit opening width and cycling requirements specified under "System Description" above.

2. Gage: [Per design requirements.] [18.] [20.] [22.]

In the following paragraph, select slat profile.

3. Profile: [Flat, non-insulated, 2-1/2 inches high x 3/4 inch deep.] [Curved, non-insulated, 2-5/8 inches high x 7/8 inch deep.]
 4. End locks: Galvanized malleable iron, attached to every other slat to act as wearing surface and prevent lateral movement.
 5. Bottom bar: Two galvanized steel angles bolted back-to-back.
- B. Hood: Minimum 24 gage steel.

- C. Guides: Three minimum 3/16 inch thick steel angles bolted together to form guide channel and mounting surface.
- D. Head Plate: Rectangular steel plate, with precision sealed ball bearings supporting drive side axle.
- E. Barrel Assembly: Steel pipe sized for maximum deflection under loading of 0.03 inch per foot of span, with threaded rings or lugs welded to barrel assembly for curtain attachment.
- F. Springs: Curtain weight counterbalanced by oil-tempered, helically wound torsion springs, grease packed and mounted on steel torsion shaft, designed for minimum 20,000 cycles.

In the following paragraph, select type of locking desired. Select interlock switches for electrically operated doors.

- G. Locking: [[Interior] [Exterior] mounted plated steel slide bolt locks with padlock provisions.] [Chain keeper with padlock provisions.] [Master keyable cylinder operable from [coil] [fascia] [each] side of bottom bar.] [Interlock switches.]
- H. Detection Devices: Three [165] [] degree F fusible links [and] [smoke detectors.] [heat rise detectors.] [connection to building fire alarm and detection system.]

Include the following paragraph for electrically operated doors.

- I. Electric Operator:
 1. Gear reduced type of sufficient power to operate door at average speed of 12 inches per second.
 2. Power supply: [115 VAC, single phase.] [220 VAC, [single] [three] phase.] [440-480 VAC, three phase.]
 3. Disconnect for [manual lift up] [chain hoist] operation in case of power failure.

In the following paragraph, select type of control station. Three-position push button is standard.

- 4. Control station: [24 VDC;] [115 VAC;] [push button] [keyed switch] station marked [OPEN and CLOSE.] [OPEN, CLOSE, and STOP.] [Furnish [four] [] keys per station.]

Include the following paragraph for doors having exterior-mounted operators.

- 5. Exterior operator cover: Cover exposed operator parts to provide weather and pest resistance for operator; finish to match hood.

Include the following paragraph for a safety device to prevent damage to doors due to obstructions in door path.

- J. Safety Device: [Photoelectric sensor; detect obstruction and reverse door without requiring door to contact obstruction.] [Electric edge, two wire; detect obstruction and reverse door upon contact with electric strips in vinyl housing.] [Air wave edge; detect obstruction and reverse door upon disruption of bottom edge.] [Electric edge, four wire; fail-safe, self monitoring; detect obstruction and reverse door upon contact with electric strips in vinyl housing.]

Verify available colors with manufacturer.

- K. Finish:
 1. Curtain: [Epoxy primer and polyester finish coat,] [Powder coat,] [] color [to be selected from manufacturer's standards].
 2. Guides and head plates: [Rust inhibiting primer.] [Powder coat, [] color [to be selected from manufacturer's standards.]]
 3. Hood: [Epoxy primer and polyester finish coat.] [Powder coat, [] color [to be selected from manufacturer's standards.]]

In the following paragraph, galvanized is standard.

4. Bottom bar: [Galvanized.] [Painted to match guides.] [Powder coat, [_____] color [to be selected from manufacturer's standards.]]

PART 3 - EXECUTION

3.1 INSTALLATION

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

[Include the following paragraph for electrically operated doors.](#)

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

3.2 ADJUSTING

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

3.3 TESTING

- A. Perform field drop testing in presence of Owner.

3.4 DEMONSTRATION

- A. Demonstrate proper operation to Owner.

END OF SECTION