

SECTION 08337

OVERHEAD COILING FIRE SHUTTERS

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 or stainless steel overhead coiling counter fire shutters. 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 08335 - Overhead Coiling Fire Doors.

Section 08336 - Overhead Coiling 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 operated [steel] [stainless steel] overhead coiling counter fire shutters.
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 shutters.

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):
 - 1. A480/A480M-04 - Standard Specification for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet, and Strip.
 - 2. A653/A653M-03 - Standard Specification for Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - 3. A666-00 - Standard Specification for Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
- 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, 10,000 cycles is standard.

- A. Design shutters to withstand cycle life of [10,000] [20,000] [50,000] [___] cycles.
- B. Door Operation:
 - 1. [Manual push up] [Awning crank] operated, relying on partial spring tension release to initiate closure.
 - 2. Emergency closure achieved by means of gravity from fusible link separation.
 - 3. 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.

- 4. Release initiated by fusible link [and fail safe, time delay release [with 72 hour battery backup to prevent nuisance drops]].
- 5. 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 Model 7500 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.]

**** OR ****

- B. Stainless Steel Sheet: ASTM A480/A480M or ASTM A666; Type 304 or 316, rollable temper.

2.3 COMPONENTS

- A. Curtain:
 1. Material: [22 gage galvanized steel.] [22 gage stainless steel.]
 2. Profile: Flat, 1-1/2 inches x 1/2 inch deep.
 3. End locks: Galvanized malleable iron, attached to every other slat to act as wearing surface and prevent lateral movement.

In the following paragraph, select bottom bar material to match slat material.

4. Bottom bar: [Galvanized steel] [Stainless steel] angle.

In the following paragraph, select hood material to coordinate with slat material.

- B. Hood: Minimum 24 gage galvanized steel sheet, rectangular.

In the following paragraph, select guide material to coordinate with slat material.

- C. Guides: Two formed [steel] [stainless steel] shapes 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 shutters.

- G. Locking: [[Interior] [Exterior] mounted plated steel slide bolt locks with padlock provisions.] [Removable crank handle.] [Master keyable cylinder operable from [coil] [fascia] [each] side of bottom bar.]
- 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 steel shutters.

- I. 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.]]

**** OR ****

Include the following paragraph for stainless steel shutters.

- J. Finish: No. 4 satin.

PART 3 - EXECUTION

3.1 INSTALLATION

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

3.2 ADJUSTING

- A. Adjust shutter 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