SECTION 08336

OVERHEAD COILING 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, stainless steel, or aluminum overhead coiling counter 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 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] [stainless steel] [aluminum] overhead coiling counter 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.

Include the following paragraph for electrically operated shutters.

   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. American Architectural Manufacturers Association (AAMA) (www.aamanet.org) 611 - Voluntary Specification for Anodized Architectural Aluminum.

B. 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.
   4. B209-04 - Standard Specification for Aluminum-Alloy Sheet and Plate.
   5. B221-02 - Standard Specification for Aluminum-Alloy Extruded Bars, Rods, Wires, Shapes and Tubes.

1.3 SYSTEM DESCRIPTION

A. Design shutters to withstand:

Include the following paragraph for exterior shutters.

   1. Positive and negative design wind loads [in accordance with Building Code.] [of [__] PSF.]

In the following paragraph, 10,000 cycles is standard.

   2. Cycle life of [10,000] [20,000] [50,000] [__] cycles.

B. Operation: [Manual push up.] [Awning crank.] [Electric.]

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.

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 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 6500 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.

**** OR ****

C. Aluminum:
1. Extrusions: ASTM B221, alloy and temper best suited to application.
2. Sheet: ASTM B209, alloy and temper best suited to application.

Include the following paragraph for projects requiring LEED certification.

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

2.3 COMPONENTS

A. Curtain:
1. Material: [22 gage galvanized steel.] [22 gage stainless steel.] [0.050 inch thick extruded aluminum.]
2. Profile: Flat, 1-1/2 inches x 1/2 inch deep.
3. End locks: Nylon, 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. Extruded aluminum is standard.

4. Bottom bar: [Extruded aluminum, box-shaped.] [[Galvanized steel] [Stainless steel] angle.]

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

B. Hood: Minimum 24 gage [galvanized steel] [aluminum] sheet, rectangular.

In the following paragraph, aluminum is standard.

C. Guides: [Extruded aluminum, two piece, box-shaped], [Two piece formed [steel,] [stainless steel,] bolted together to form guide channel and mounting surface] with soft brush guide runners full height to prevent metal-to-metal contact.

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.] [Interlock switches.]

Include the following paragraph for electrically operated shutters.

H. Electric Operator:

Include the following paragraph for shutters using an internal operator concealed in the barrel. Internal operator is standard.

1. Type: Internally mounted in barrel.

**** OR ****

Include the following paragraph for shutters using an external operator.

2. Type: Externally mounted on drive side of shutter.
3. Power supply: [115 VAC, single phase.] [220 VAC, [single] [three] phase.] [440-480 VAC, three phase.]
4. Sufficient power to operate shutter at average speed of 12 inches per second.
5. Disconnect for [manual lift up] [awning crank] operation in case of power failure.

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

6. Control station: 24 VDC; [push button] [keyed switch] station marked [OPEN and CLOSE.] [OPEN, CLOSE, and STOP.] [Furnish [four] [__] keys per station.]

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

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

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, aluminum is standard.

4. Bottom bar: [Clear anodized aluminum.] [Painted steel to match guides.] [Powder coated steel, [____] color [to be selected from manufacturer's standards.]] {No. 4 satin finish stainless steel.]

**** OR ****

Include the following paragraph for stainless steel shutters.

J. Finish: No. 4 satin.

**** OR ****

Include the following paragraph for aluminum shutters. Class I is suitable for interior use; Class II is recommended for exterior use.

K. Finish: AAMA 611, Class [I] [II] clear anodized.

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.

Include the following paragraph for electrically operated shutters.

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

3.2 ADJUSTING

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

3.3 DEMONSTRATION

A. Demonstrate proper operation to Owner.

END OF SECTION