

**SECTION 08 33 13  
COILING COUNTER DOORS**

**SPEC WRITER NOTES:**

- 1. Delete text between // // not applicable to project. Edit remaining text to suit project.
- 2. Use overhead coiling counter shutters as closures for pass windows specified in Section 08 56 19, PASS WINDOWS.
- 3. Use fire rated overhead coiling counter shutters in fire rated partitions and to supplement glazed openings such as service window units-bullet resistant openings specified in Section 08 56 59, SERVICE AND TELLER WINDOWS. Ensure unit location closes deal tray openings.

**PART 1 - GENERAL**

**1.1 SUMMARY**

A. Section Includes:

- 1. Coiling counter doors in // fire-rated // smoke-rated // partitions.
- 2. Manual push up operation // and // crank up operation //.

**1.2 RELATED WORK**

SPEC WRITER NOTE: Update and retain references only when specified elsewhere in this section.

- A. Section 08 56 19, PASS WINDOWS: Pass Windows.
- B. Section 08 56 59, SERVICE AND TELLER WINDOWS: Service and Teller Windows.
- C. Section 08 71 00, DOOR HARDWARE: Lock Cylinder and Keying.
- D. Section 09 06 00, SCHEDULE FOR FINISHES: Coiling Counter Door Color.

**1.3 APPLICABLE PUBLICATIONS**

- A. Comply with references to extent specified in this section.
- B. American Welding Society (AWS):
  - D1.1/D1.1M-20.....Structural Welding Code - Steel.
  - D1.2/D1.2M-14.....Structural Welding Code - Aluminum.
  - D1.3/D1.3M-18.....Structural Welding Code - Sheet Steel.
- C. ASTM International (ASTM):
  - A47/A47M-99(2018)e1.....Ferritic Malleable Iron Castings.
  - A48/A48M-03(2016).....Gray Iron Castings.
  - A53/A53M-20.....Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.

- A240/A240M-20.....Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
- A653/A653M-20.....Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- B209-14.....Aluminum and Aluminum-Alloy Sheet and Plate.
- B209M-14.....Aluminum and Aluminum-Alloy Sheet and Plate (Metric).
- B221-14.....Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
- B221M-13.....Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric).
- D1187/D1187M-97(2018)...Asphalt-Base Emulsions for Use as Protective Coatings for Metal.
- F468-16.....Nonferrous Bolts, Hex Cap Screws, Socket Head Cap Screws, and Studs for General Use.
- F468M-06(2018).....Nonferrous Bolts, Hex Cap Screws, Socket Head Cap Screws, and Studs for General Use (Metric).
- F593-17.....Stainless Steel Bolts, Hex Cap Screws, and Studs.
- D. Master Painters Institute (MPI):
- No. 18.....Primer, Zinc Rich, Organic.
- E. National Association of Architectural Metal Manufacturers (NAAMM):
- AMP 500-06.....Metal Finishes Manual.
- F. National Fire Protection Association (NFPA):
- 80-19.....Fire Doors and Other Opening Protectives.
- 105-19.....Smoke Door Assemblies and Other Opening Protectives.
- 252-17.....Fire Tests of Door Assemblies.
- G. UL LLC (UL):
- 1784-15.....Air Leakage Tests of Door Assemblies and Other Opening Protectives.

#### **1.4 SUBMITTALS**

- A. Submittal Procedures: Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Submittal Drawings:
1. Show size, configuration, and fabrication and installation details.

C. Manufacturer's Literature and Data:

1. Description of each product.
2. Installation instructions.

D. Sustainable Construction Submittals:

SPEC WRITER NOTE: Retain sustainable construction submittals appropriate to product.

1. Recycled Content: Identify post-consumer and pre-consumer recycled content percentage by weight.
2. Low Pollutant-Emitting Materials:
  - a. Show volatile organic compound types and quantities.

E. Operation and Maintenance Data:

1. Maintenance, troubleshooting, and emergency instructions for each operational product.

**1.5 QUALITY ASSURANCE**

SPEC WRITER NOTE: Retain standards corresponding to metals specified in this section.

- A. Welders and Welding Procedures Qualifications: // AWS D1.1/D1.1M. // AWS D1.2/D1.2M // AWS D1.3/D1.3M. //.

**1.6 DELIVERY**

- A. Deliver products in manufacturer's original sealed packaging.
- B. Mark packaging, legibly. Indicate manufacturer's name and manufacture date.
- C. Before installation, return or dispose of products within distorted, damaged, or opened packaging.

**1.7 STORAGE AND HANDLING**

- A. Store products indoors in dry, weathertight facility.
- B. Protect products from damage during handling and construction operations.

**1.8 FIELD CONDITIONS**

- A. Field Measurements: Verify field conditions affecting coiling counter door fabrication and installation. Show field measurements on Submittal Drawings.
  1. Coordinate field measurement and fabrication schedule.

**1.9 WARRANTY**

SPEC WRITER NOTE: Always retain construction warranty. FAR includes Contractor's one year labor and material warranty.

- A. Construction Warranty: FAR clause 52.246-21, "Warranty of Construction."

**PART 2 - PRODUCTS**

**2.1 SYSTEM PERFORMANCE**

- A. Design coiling counter doors complying with specified performance:
- B. Operation Cycles: 20,000 minimum.

SPEC WRITER NOTE: At fire rated and smoke control partitions, a drawer or package transfer must be specified instead of a deal tray.

- C. Fire Rated Doors:

- 1. Fire Resistance Rating: As shown in Door Schedule.
- 2. Label: Comply with NFPA 252, labeled by qualified testing and inspection agency showing fire resistance rating.
- 3. Smoke Control: Doors that have been tested according to UL 1784 and are labeled for smoke and draft control.
  - a. Maximum Air Leakage: 0.01524 cubic meter/second/square meter (3.0 cubic foot/minute/square foot) of door opening at 24.9 Pa (0.10 inch water gauge).

**2.2 PRODUCTS - GENERAL**

- A. Basis of Design: Section 09 06 00, SCHEDULE FOR FINISHES.
- B. Provide coiling counter doors from one manufacturer.
- C. Sustainable Construction Requirements:

SPEC WRITER NOTES:

- 1. Specify products containing greatest recycled content practicable to maximize material recovery. See EPA Comprehensive Procurement Guidelines (CPG) for guidance about individual products and available recycled content. Section 01 81 13 sets overall project recycled content requirements.
- 2. Steel recycled content depends upon furnace type. AISC reports industry wide 32 percent for basic oxygen furnace and 93 percent for electric arc furnace.

- 1. Steel Recycled Content: 30 percent total recycled content, minimum.

SPEC WRITER NOTE: Specialty Steel Industry of North America (SSINA) reports average 75 - 85 percent recycled content for stainless steel.

2. Stainless Steel Recycled Content: 70 percent total recycled content, minimum.

SPEC WRITER NOTE: Aluminum Association (AA) reports 2008 industry average 85 percent recycled content for aluminum in building construction industry.

3. Aluminum Recycled Content: 80 total recycled content, minimum.

SPEC WRITER NOTE:

1. Section 01 81 13, SUSTAINABLE CONSTRUCTION REQUIREMENTS includes comprehensive product list setting VOC limits for low-emitting materials.
2. Retain subparagraphs applicable to products specified in this section.

4. Low Pollutant-Emitting Materials: Comply with VOC limits specified in Section 01 81 13, SUSTAINABLE CONSTRUCTION REQUIREMENTS for the following products:

- a. Paints and coatings.

### 2.3 MATERIALS

#### A. Aluminum:

1. Extruded: ASTM B221M (ASTM B221), alloy 6063-T5.
2. Sheet: ASTM B209M (ASTM B209).

#### B. Stainless Steel: ASTM A240/A240M, Type 302 or Type 304.

#### C. Galvanized Steel: ASTM A653/A653M; G40 galvanized coating.

#### D. Steel Pipe: ASTM A53/A53M.

#### E. Casting: ASTM A47/A47M or ASTM A48/A48M.

SPEC WRITER NOTE: Service and teller window units have an integral counter.

### 2.4 COILING COUNTER DOORS

#### A. Fire-Rated Coiling Counter Doors:

1. Door assembly including door, frame, counter, hood, and fascia, // and sloping top // for automatic closing by fusible link.
2. Installation: // Surface mounted on face of wall // Inset within wall opening //.
3. Door and Frame: // Galvanized steel // Stainless steel //.
4. Door:
  - a. Flat slats 32 mm (1-1/4 inches) wide.
    - 1) Galvanized Steel: Minimum 0.71 mm (0.029 inch) thick.
    - 2) Stainless Steel: Minimum 0.8 mm (0.03 inch) thick.

- b. Bottom Bar: Provide recessed flush handles, recessed slide bolt at one end key operated cylinder lock at the other end, and continuous flexible bottom seal. Lock cylinder specified in Section 08 71 00, DOOR HARDWARE.
- 5. Frame: // Steel // Stainless steel // sections formed to include guide slots for door with receiver for bolts and lock and continuous closure angles.
- 6. Counter: Minimum 2 mm (0.0747 inch) thick stainless steel with flush closed ends.
- 7. Hood and Fascia: Sheet metal formed with beads or flanges to prevent deflection. // Sloping top exposed ends, hood, and flush closures fastened according to manufacturer's instructions. //
  - a. Galvanized Steel: Minimum 0.61 mm (0.0239 inch) thick.
  - b. Stainless Steel: Minimum 0.8 mm (0.03 inch) thick.
- 8. Counterbalance Assembly:
  - a. Barrel: Spring barrel or shaft of steel pipe of sufficient strength to ensure deflection not exceeding 1/400 of span.
  - b. Spring: Oil-tempered, helically wound spring rotating on grease-sealed ball bearing or roller bearing units, adjustable from the exterior of the counterbalance assembly.
- 9. Brackets: minimum 3 mm (0.125 inch) thick steel forming end closure supports.
- 10. Automatic Closing: Automatic closing device actuated by fusible link to release coiling counter door at 54 degrees C (130 degrees F). Locate fusible links on both sides of door opening according to NFPA 80.

SPEC WRITER NOTE: Sloping top is a custom fabrication to be specified for exposed hood locations.

- 11. Sloping Top: Minimum 0.6 mm (0.0239 inch) thick steel fastened to hood with sheet metal screws with flush end closures fastened as recommended by manufacturer.
- 12. Operation:
  - a. Manual push-up for openings less than 2130 mm (7 feet) wide.
  - b. Crank for openings over 2130 mm (7 feet) wide.

SPEC WRITER NOTE: Service and teller window units have an integral counter.

B. Non-Fire-Rated Coiling Counter Doors:

1. Door assembly including door, frame, counter, hood and fascia,  
// and sloping top //.
2. Installation: // Surface mounted on face of wall // Inset within  
wall opening //.
3. Door:
  - a. Flat slats 32 mm (1-1/4 inches) wide.
    - 1) Galvanized Steel: Minimum 0.71 mm (0.029 inch) thick.
    - 2) Stainless Steel: Minimum 0.8 mm (0.03 inch) thick.
    - 3) Aluminum Extrusion: Minimum 1.3 mm (0.050 inch) thick.
  - b. Bottom Bar: Provide recessed flush handles, recessed slide bolt  
at one end key operated cylinder lock at the other end, and  
continuous flexible bottom seal. Lock cylinder specified in  
Section 08 71 00, DOOR HARDWARE.
4. Frame: Steel sections formed to include guide slots for door with  
receiver for bolts and lock and continuous closure angles.
  - a. Galvanized Steel: Minimum 0.71 mm (0.029 inch) thick.
  - b. Stainless Steel: Minimum 0.8 mm (0.03 inch) thick.
5. Counter: Minimum 2 mm (0.0747 inch) thick stainless steel with flush  
closed ends.
6. Hood and Fascia: Steel sheet formed with beads or flanges to prevent  
deflection. // Sloping top exposed ends, hood, and flush closures  
fastened according to manufacturer's instructions. //
  - a. Galvanized Steel: Minimum 0.61 mm (0.0239 inch) thick.
  - b. Stainless Steel: Minimum 0.8 mm (0.03 inch) thick.
  - c. Aluminum Sheet: Minimum 1 mm (0.040 inch) thick.
7. Counterbalance Assembly:
  - a. Barrel: Spring barrel or shaft of steel pipe of sufficient  
strength to ensure deflection not exceeding 1/400 of span.
  - b. Spring: Oil-tempered, helically wound spring rotating on  
grease-sealed ball bearing or roller bearing units, adjustable from  
exterior of counterbalance assembly.
8. Brackets: Minimum 3 mm (0.125 inch) thick steel forming end closure  
supports.

SPEC WRITER NOTE: Sloping top is a custom  
fabrication to be specified for exposed  
hood locations.

9. Sloping Top: Minimum 0.6 mm (0.0239 inch) thick steel fastened to hood with sheet metal screws with flush end closures fastened as recommended by manufacturer.
10. Operation:
  - a. Manual push-up for openings less than 2130 mm (7 feet) wide.
  - b. Crank for openings over 2130 mm (7 feet) wide.

## 2.5 FINISHES

- A. Galvanized Steel: Apply phosphate treatment and corrosion inhibitive primer.
- B. Stainless Steel: NAAMM AMP 500; No. 4 polished finish.
- C. Blend welds to match adjacent finish.

SPEC WRITER NOTE: Coordinate with Section 09 06 00, SCHEDULE FOR FINISHES for finish on aluminum. Clear anodic coating is preferred.

- D. Aluminum Anodized Finish: NAAMM AMP 500.
  1. Clear Anodized Finish: AA-C22A31; Class II Architectural, 0.01 mm (0.4 mil) thick.
  2. Color Anodized Finish: AA-C22A32 or AA-C22A34; Class II Architectural, 0.01 mm (0.4 mil) thick.
- E. Aluminum Paint Finish:
  - a. // Fluorocarbon Finish: AAMA 605; 70 percent fluoropolymer resin, 2-coat system. //

## 2.6 ACCESSORIES

- A. Welding Materials: AWS D1.1, type to suit application.
- B. Fasteners: ASTM F468M (ASTM F468) and ASTM F593.
  1. Use stainless steel bolts to secure aluminum and stainless steel components.
  2. Use toggle bolts to secure door to framed walls and hollow masonry.
  3. Use expansion bolts to secure doors to solid masonry and concrete.
- C. Galvanizing Repair Paint: MPI No. 18.
- D. Touch-Up Paint: Match shop finish.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Examine and verify substrate suitability for product installation.
- B. Protect existing construction and completed work from damage.

### 3.2 COILING COUNTER DOOR INSTALLATION

- A. Install products according to manufacturer's instructions and approved submittal drawings.

1. Install fire-rated doors to comply with NFPA 80.
  2. Install smoke-control doors to comply with NFPA 80 and NFPA 105.
  3. When manufacturer's instructions deviate from specifications, submit proposed resolution for Contracting Officer's Representative consideration.
- B. Locate anchors and inserts for guides, brackets, supports, hardware, and other accessories and components accurately.
  - C. Securely attach guides to adjoining construction with minimum 10 mm (3/8 inch) diameter bolts, spaced maximum 600 mm (24 inches) on center.
  - D. Isolate aluminum in contact with dissimilar metal, concrete and masonry by painting with coat of barrier primer.
  - E. Touch up damaged factory finishes.
    1. Repair galvanized surfaces with galvanized repair paint.
    2. Repair painted surfaces with touch up paint.
  - F. Lubricate and adjust units to operate freely.

**3.3 FIELD QUALITY CONTROL**

- A. Field Tests: Test fire-rated coiling counter door closing and reset device after test is successfully completed.

**3.4 CLEANING**

- A. Clean exposed coiling counter door surfaces. Remove contaminants and stains.
- B. Polish exposed stainless steel surfaces.

**3.5 PROTECTION**

- A. Protect coiling counter doors from construction operations.
- B. Remove protective materials immediately before acceptance.
- C. Repair damage.

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