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SECTION 08332

ROLLING COUNTER DOORS

Display hidden notes to specifier by using "Tools"/"Options"/"View"/"Hidden Text".

**** NOTE TO SPECIFIER ** Overhead Door Corporation; Rolling counter door products.**

This section is based on the products of Overhead Door Corporation, which is located at:
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Suite 200
Lewisville, TX 75067
Toll Free: (800) 275-3290
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Overhead Door Corporation pioneered the upward-acting door industry, inventing the first upward-acting door in 1921 and the first electric door opener in 1926. Today, we continue to be the industry leader through the strength of our product innovation, superior craftsmanship and outstanding customer support, underscoring a legacy of quality, expertise and integrity. That's why design and construction professionals specify Overhead Door Corporation products more often than any other brand.

This specification includes aluminum, steel, stainless steel and wood rolling counter doors.

PART 1 GENERAL

1.1 SECTION INCLUDES

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

- A. Rolling Counter Doors, manually operated.
- B. Rolling Counter Doors, power operated.

1.2 RELATED SECTIONS

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

- A. Section 05500 - Metal Fabrications: Support framing and framed opening.
- B. Section 06200 - Finish Carpentry: Wood jamb and head trim.
- C. Section 08333 - Security Grilles.

- D. Section 08710 - Door Hardware: Product Requirements for cylinder core and keys.
- E. Section 09900 - Painting: Field applied finish.
- F. Section 16130 - Raceway and Boxes: Conduit from electric circuit to door operator and from door operator to control station.
- G. Section 16150 - Wiring Connections: Power to disconnect.

1.3 REFERENCES

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

- A. ASTM A 653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- B. ASTM A 666 - Standard Specification for Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
- C. ASTM A 924 - Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process.
- D. ASTM B 221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
- E. ASTM B 221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric).
- F. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum).
- G. NEMA ICS 2 - Industrial Control and Systems: Controllers, Contactors, and Overload Relays, Rated Not More Than 2000 Volts AC or 750 Volts DC.
- H. NEMA MG 1 - Motors and Generators.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Details of construction and fabrication.
 - 4. Installation methods.
- C. Shop Drawings: Include detailed plans, elevations, details of framing members, required clearances, anchors, and accessories. Include relationship with adjacent construction.

**** NOTE TO SPECIFIER ** Delete selection samples if colors have already been selected.**

- D. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- E. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) long, representing actual product, color, and patterns.

- F. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in performing Work of this section with a minimum of five years experience in the fabrication and installation of security closures.
- B. Installer Qualifications: Company specializing in performing Work of this section with minimum three years and approved by manufacturer.

**** NOTE TO SPECIFIER ** Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.**

- C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 1. Install in areas designated by Architect.
 2. Do not proceed with remaining work until workmanship and installation is approved by Architect.
 3. Refinish mock-up area as required to produce acceptable work.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Protect materials from exposure to moisture. Do not deliver until after wet work is complete and dry.
- C. Store materials in a dry, warm, ventilated weathertight location.

1.7 PROJECT CONDITIONS

- A. 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.

1.8 COORDINATION

- A. Coordinate Work with other operations and installation of adjacent finish materials to avoid damage to installed materials.

1.9 WARRANTY

**** NOTE TO SPECIFIER ** Include the following warranty paragraph for Series 640, 641, 650, 651 or 652 rolling counter doors. Delete if not applicable.**

- A. Warranty: Manufacturer's limited door warranty for 2 years for all parts and components.

**** NOTE TO SPECIFIER ** Include one of the following warranty paragraphs for specified finish. Delete if not applicable.**

- B. PowderGuard Finish.
 1. PowderGuard Premium Applied to curtain, guides, bottom bar, headplates: Manufacturer's limited Premium Finish warranty for 2 years.

2. PowderGuard Zinc Base Coat applied to guides, bottom bar, headplates plus PowderGuard Premium applied to curtain and top coat for guides, bottom bar, headplates: Manufacturer's limited Zinc Finish warranty for 4 years.
3. PowderGuard Textured: Applied to curtain, guides, bottom bar, headplates: Manufacturer's limited Textured Finish warranty for 3 years.
4. PowderGuard Zinc Base Coat applied to guides, bottom bar, headplates plus PowderGuard Textured applied to curtain and top coat for guides, bottom bar, headplates: Manufacturer's limited Zinc Finish warranty for 4 years.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Overhead Door Corporation, 2501 S. State Hwy. 121, Suite 200, Lewisville, TX 75067. ASD. Tel. Toll Free: (800) 275-3290. Phone: (469) 549-7100. Fax: (972) 906-1499. Web Site: www.overheaddoor.com. E-mail: info@overheaddoor.com.

**** NOTE TO SPECIFIER ** Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.**

- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 ROLLING STEEL COUNTER DOORS

**** NOTE TO SPECIFIER ** Overhead Door Corporation 650, 651 and 652 Series Overhead Rolling Counter Doors are available up to a standard maximum width of 18 feet 4 inches and a standard maximum height of 8 feet 4 inches. Edit as required to suit project requirements.**

- A. Galvanized Steel Counter Doors: Overhead Door Corporation, 650 Series.
 1. Wall Mounting Condition:

**** NOTE TO SPECIFIER ** Select one of the following two paragraphs and delete the one not required.**

- a. Face-of-wall mounting.
- b. Between jambs mounting.
2. Curtain: Interlocking slats, Type F-158 fabricated of 22 gauge galvanized steel. Endlocks attached to alternate slats to maintain curtain alignment and prevent lateral slat movement.
3. Finish:
 - a. Slats and hood galvanized steel in accordance with ASTM A 653 with rust-inhibitive, roll coating process, including 0.2 mils thick baked-on prime paint, and 0.6 mils thick baked-on polyester (powder coated) top coat.

**** NOTE TO SPECIFIER ** Select one of the following two paragraphs for Polyester top coat or Powder top coat and delete the one not required. Polyester top coat is standard.**

- 1) Polyester Top Coat.
 - (a) Gray polyester.
 - (b) Tan polyester.
- 2) Powder Coat:

**** NOTE TO SPECIFIER ** PowderGuard polyester powder coat available in 197 colors; custom color match options available. PowderGuard Textured Finish available in 11 color options. See PowderGuard Finish brochure for color selection.**

- (a) PowderGuard Premium powder coat, color as selected by the Architect.
- (b) PowderGuard Textured powder coat, color as selected by the Architect.
- b. Non-galvanized exposed ferrous surfaces for guides, bottom bar and head plates shall receive one coat of rust-inhibitive primer.

4. Bottom Bar:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs and delete the one not required.**

- a. Single primed steel angle bottom bar with weatherstrip.
 - b. Steel tubular locking bottom bar with weatherstrip.
5. Guides: Extruded aluminum.
6. Brackets: Steel plate to support counterbalance, curtain and hood.
7. Finish; Bottom Bar, Guides, Brackets:

**** NOTE TO SPECIFIER ** Select one of the following finish paragraphs and delete those not required. Black powder coat is standard. PowderGuard Premium powder coat available in 197 colors; custom color match options available. PowderGuard Textured Finish available in 11 color options. See PowderGuard Finish brochure for color selections.**

- a. Finish: Black powder coat finish.
 - b. Finish: Powder coat, color to match curtain.
 - c. Finish: PowderGuard Premium powder coat, color as selected by the Architect.
 - d. Finish: PowderGuard Zinc base coat, gray with PowderGuard Premium powder coat color as selected by the Architect.
 - e. Finish: PowderGuard Textured powder coat, color as selected by the Architect.
 - f. Finish: PowderGuard Zinc base coat, gray with PowderGuard Textured powder coat, color as selected by the Architect
8. Counterbalance: Helical torsion spring type housed in a steel tube or pipe barrel.
9. Hood: Provided with intermediate support brackets as required and fabricated of:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs and delete the ones not required.**

- a. Galvanized primed steel.
 - b. Aluminum.
 - c. Stainless steel.
10. Operation:

**** NOTE TO SPECIFIER ** Select one of the following operation paragraphs and delete the ones not required.**

- a. Manual push up.
- b. Crank operation.
- c. Electric motor.

**** NOTE TO SPECIFIER ** Include the following paragraph is electric motor operation is required and delete if not required.**

11. Electric Motor Operation: Provide UL listed electric operator, size as recommended by manufacturer to move door in either direction at not less than 2/3 foot nor more than 1 foot per second.
- a. Sensing Edge Protection:

**** NOTE TO SPECIFIER ** Select one of the following two paragraphs and delete the one not required.**

- 1) N/A.
 - 2) Electric sensing edge.
- b. Operator Controls:

**** NOTE TO SPECIFIER ** Select one of the following operation paragraphs and delete the one not required.**

- 1) Push-button operated control stations with open, close, and stop buttons.
- 2) Key operation with open, close, and stop controls.
- 3) Push-button and key operated control stations with open, close, and stop buttons.

**** NOTE TO SPECIFIER ** Select one of the following location paragraphs and delete the one not required.**

- 4) Controls for interior location.
- 5) Controls for exterior location.
- 6) Controls for both interior and exterior location.

**** NOTE TO SPECIFIER ** Select one of the following two paragraphs and delete the one not required.**

- 7) Controls surface mounted.
- 8) Controls flush mounted.

12. Locking:

**** NOTE TO SPECIFIER ** Select one of the following two paragraphs and delete the one not required.**

- a. Slide bolt locks suitable for use with padlock.
 - b. Two point dead locks with mortise cylinder/s.
13. Vision Lites: Provide with 3 inch by 5/8 inch (76 mm by 16 mm) uniformly spaced openings.
- a. Provide open with no cover.
 - b. Provide with Plexiglas covers over openings.

B. Stainless Steel Counter Doors: Overhead Door Corporation, 651 Series.

1. Wall Mounting Condition:

**** NOTE TO SPECIFIER ** Select one of the following two paragraphs and delete the one not required.**

- a. Face-of-wall mounting.
 - b. Between jambs mounting.
2. Curtain: Interlocking slats, Type F-158 fabricated of 22 gauge stainless steel. Endlocks attached to alternate slats to maintain curtain alignment and prevent lateral slat movement.
3. Finish:
- a. Slats and hood stainless steel with a No. 4 stainless steel finish.
 - b. Non-galvanized exposed ferrous surfaces shall receive one coat of rust-inhibitive primer.
4. Bottom Bar: Single stainless steel angle bottom bar.
5. Guides:

**** NOTE TO SPECIFIER ** Select one of the following two paragraphs and delete the one not required.**

- a. Extruded aluminum shapes.
 - b. Stainless steel shapes.
6. Brackets: Steel plate to support counterbalance, curtain and hood.
7. Counterbalance: Helical torsion spring type housed in a steel tube or pipe barrel.
8. Hood: Provided with intermediate support brackets as required and fabricated of:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs and delete the ones not required.**

- a. Aluminum.
 - b. Stainless steel.
 - c. Galvanized primed steel.
9. Operation:

**** NOTE TO SPECIFIER ** Select one of the following operation paragraphs and delete the ones not required.**

- a. Manual push up.
- b. Crank operation.
- c. Electric motor.

**** NOTE TO SPECIFIER ** Include the following paragraph if electric motor operation is required and delete if not required.**

- 10. Electric Motor Operation: Provide UL listed electric operator, size as recommended by manufacturer to move door in either direction at not less than 2/3 foot nor more than 1 foot per second.

- a. Sensing Edge Protection:

**** NOTE TO SPECIFIER ** Select one of the following two paragraphs and delete the one not required.**

- 1) N/A.
- 2) Electric sensing edge.

- b. Operator Controls:

**** NOTE TO SPECIFIER ** Select one of the following operation paragraphs and delete the one not required.**

- 1) Push-button operated control stations with open, close, and stop buttons.
- 2) Key operation with open, close, and stop controls.
- 3) Push-button and key operated control stations with open, close, and stop buttons.

**** NOTE TO SPECIFIER ** Select one of the following location paragraphs and delete the one not required.**

- 4) Controls for interior location.
- 5) Controls for exterior location.
- 6) Controls for both interior and exterior location.

**** NOTE TO SPECIFIER ** Select one of the following two paragraphs and delete the one not required.**

- 7) Controls surface mounted.
- 8) Controls flush mounted.

- 11. Locking:

**** NOTE TO SPECIFIER ** Select one of the following two paragraphs and delete the one not required.**

- a. Slide bolt locks suitable for use with padlock.
- b. Two point dead locks with mortise cylinder/s.

- 12. Vision Lites: Provide with 3 inch by 5/8 inch (76 mm by 16 mm) uniformly spaced openings.

- a. Provide open with no cover.
- b. Provide with Plexiglas covers over openings.

- C. Anodized Aluminum Counter Doors: Overhead Door Corporation 652 Series.

- 1. Wall Mounting Condition:

**** NOTE TO SPECIFIER ** Select one of the following two paragraphs and delete the one not required.**

- a. Face-of-wall mounting.
- b. Between jambs mounting.

- 2. Curtain: Interlocking slats, Type F-158 fabricated of anodized aluminum. Endlocks attached to alternate slats to maintain curtain alignment and prevent lateral slat movement.

- 3. Finish:

**** NOTE TO SPECIFIER ** Select one of the following two finish paragraphs and delete the one not required.**

- a. Anodized Finish:
 - 1) Slats and hood clear anodized aluminum.
 - 2) Slats and hood dark bronze anodized aluminum.

- 3) Non-galvanized exposed ferrous surfaces shall receive one coat of rust-inhibitive primer.
- 4) Powder coat:

**** NOTE TO SPECIFIER ** PowderGuard polyester powder coat available in 197 colors; custom color match options available. PowderGuard Textured Finish available in 11 color options. See PowderGuard Finish brochure for color selection.**

- (a) PowderGuard Premium powder coat, color as selected by the Architect.
 - (b) PowderGuard Textured powder coat, color as selected by the Architect.
4. Bottom Bar: Extruded aluminum tubular shape with astragal.
 5. Guides: Extruded aluminum.
 6. Brackets: Steel plate to support counterbalance, curtain and hood.
 7. Finish; Bottom Bar, Guides, Brackets:

**** NOTE TO SPECIFIER ** Select one of the following finish paragraphs and delete those not required. PowderGuard Premium powder coat available in 197 colors; custom color match options available. PowderGuard Textured Finish available in 11 color options. See PowderGuard Finish brochure for color selections.**

- a. Finish: Black powder coat finish.
 - b. Finish: Powder coat, color to match curtain.
 - c. Finish: PowderGuard Premium powder coat, color as selected by the Architect.
 - d. Finish: PowderGuard Zinc base coat gray with PowderGuard Premium powder coat color as selected by the Architect.
 - e. Finish: PowderGuard Textured powder coat, color as selected by the Architect.
 - f. Finish: PowderGuard Zinc base coat, gray with PowderGuard Textured powder coat, color as selected by the Architect.
8. Counterbalance: Helical torsion spring type housed in a steel tube or pipe barrel.
 9. Hood: Provided with intermediate support brackets as required and fabricated of:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs and delete the ones not required.**

- a. Aluminum.
 - b. Galvanized primed steel.
 - c. Stainless steel.
10. Operation:

**** NOTE TO SPECIFIER ** Select one of the following operation paragraphs and delete the ones not required.**

- a. Manual push up.
- b. Crank operation.
- c. Electric motor.

**** NOTE TO SPECIFIER ** Include the following paragraph is electric motor operation is required and delete if not required.**

11. Electric Motor Operation: Provide UL listed electric operator, size as recommended by manufacturer to move door in either direction at not less than 2/3 foot nor more than 1 foot per second.
- a. Sensing Edge Protection:

**** NOTE TO SPECIFIER ** Select one of the following two paragraphs and delete the one not required.**

- 1) N/A.
 - 2) Electric sensing edge.
- b. Operator Controls:

**** NOTE TO SPECIFIER ** Select one of the following operation paragraphs and delete the one not required.**

- 1) Push-button operated control stations with open, close, and stop buttons.
- 2) Key operation with open, close, and stop controls.
- 3) Push-button and key operated control stations with open, close, and stop buttons.

**** NOTE TO SPECIFIER ** Select one of the following location paragraphs and delete the one not required.**

- 4) Controls for interior location.
- 5) Controls for exterior location.
- 6) Controls for both interior and exterior location.

**** NOTE TO SPECIFIER ** Select one of the following two paragraphs and delete the one not required.**

- 7) Controls surface mounted.
- 8) Controls flush mounted.

12. Locking:

**** NOTE TO SPECIFIER ** Select one of the following two paragraphs and delete the one not required.**

- a. Slide bolt locks suitable for use with padlock.
 - b. Two point dead locks with mortise cylinder/s.
13. Vision Lites: Provide with 3 inch by 5/8 inch (76 mm by 16 mm) uniformly spaced openings.
- a. Provide open with no cover.
 - b. Provide with Plexiglas covers over openings.

2.3 ROLLING METAL COUNTER DOORS WITH INTEGRAL FRAME

**** NOTE TO SPECIFIER ** Overhead Door Corporation 655 and 657 Series Rolling Metal Counter Doors with integral frames are available up to a standard maximum width of 9 feet and a standard maximum height of 4 feet. Series 658 is available up to a standard maximum width of 12 feet 4 inches and a standard maximum height of 6 feet. Edit as required to suit project requirements.**

A. Anodized Aluminum Counter Doors with Integral Frame: Overhead Door Corporation, 655 Series.

1. Curtain: Interlocking roll-formed clear anodized aluminum slats with endlock for curtain alignment. Slats, 0.040 inch (1 mm) thick, and extruded aluminum bottom bar with neoprene astragal.
2. Integral Frame and Sill: Integral stainless steel frame and sill with a #4 finish. Frame consists of 16 gauge jambs and header, with 14 gauge sill.
3. Counterbalance: Helical torsion spring type housed in a steel tube or pipe barrel, supporting the curtain with deflection limited to 0.03 inch (0.8 mm) per foot of span. Counterbalance shall be adjustable by means of an adjusting tension wheel.
4. Hood: Stainless steel with a #4 finish and provided with intermediate support brackets as required.
5. Operation:

**** NOTE TO SPECIFIER ** Select one of the following operation paragraphs and delete the one not required.**

- a. Manual push up.
 - b. Crank operation.
6. Locking:
- a. Padlockable slide bolts on coil side.

**** NOTE TO SPECIFIER ** Cylinder lock is optional. Delete if not required.**

- b. Cylinder lock.
7. Wall Mounting Condition:
- a. Between jambs mounting in an existing opening.

B. Stainless Steel Counter Doors with Integral Frame: Overhead Door Corporation, 657 Series.

1. Curtain: Interlocking roll-formed stainless steel slats with a #4 finish and with endlock for curtain alignment. Slats, 22 gauge stainless steel with stainless steel tubular bottom bar with neoprene astragal.
2. Integral Frame and Sill: Integral stainless steel frame with a #4 finish and a stainless steel sill. Frame consists of 16 gauge jambs and header, with 14 gauge sill.
3. Counterbalance: Helical torsion spring type housed in a steel tube or pipe barrel, supporting the curtain with deflection limited to 0.03 inch (0.8 mm) per foot of span. Counterbalance shall be adjustable by means of an adjusting tension wheel.
4. Hood: Stainless steel with a #4 finish and provided with intermediate support brackets as required.
5. Operation:

**** NOTE TO SPECIFIER ** Select one of the following operation paragraphs and delete the one not required.**

- a. Manual push up.
 - b. Crank operation.
6. Locking:

**** NOTE TO SPECIFIER ** Cylinder lock is optional. Delete if not required.**

- a. Padlockable slide bolts on coil side.
 - b. Cylinder lock.
7. Wall Mounting Condition:

- a. Between jambs mounting installed in an existing opening.

C. Painted Steel Counter Doors with Integral Frame: Overhead Door Corporation, 658 Series.

1. Curtain: Interlocking roll-formed 22 gauge galvanized steel slats with baked-on polyester in gray finish, endlock for curtain alignment and steel double angle bottom bar with neoprene astragal.
2. Integral Frame and Sill: Integral stainless steel frame with a #4 finish and a stainless steel sill. Frame consists of 16 gauge jambs and header, with 14 gauge sill.
3. Counterbalance: Helical torsion spring type housed in a steel tube or pipe barrel, supporting the curtain with deflection limited to 0.03 inch (0.8 mm) per foot of span. Counterbalance shall be adjustable by means of an adjusting tension wheel.
4. Bottom bar:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs and delete the one not required.**

- a. Double angle bottom bar (standard).
 - b. Aluminum extruded tubular bottom bar.
5. Hood: Stainless steel with a #4 finish and provided with intermediate support brackets as required.
 6. Operation:

**** NOTE TO SPECIFIER ** Select one of the following operation paragraphs and delete the one not required.**

- a. Manual push up.
 - b. Crank operation.
7. Locking:

**** NOTE TO SPECIFIER ** Cylinder lock is optional. Delete if not required.**

- a. Padlockable slide bolts on coil side.
- b. Cylinder locks available with aluminum extruded tubular bottom bar.

8. Wall Mounting Condition:
 - a. Between jambs mounting installed in an existing opening.

2.4 ROLLING WOOD COUNTER DOORS

**** NOTE TO SPECIFIER ** Overhead Door Corporation 665 Series Rolling Wood Counter Doors are available up to a standard maximum width of 16 feet and a standard maximum height of 11 feet 8 inches. Edit as required to suit project requirements.**

- A. Wood Counter Doors with Integral Frame: Overhead Door Corporation, Series 665.
 1. Curtain: Interlocking wood slats, 1-5/8 inch (41 mm) high by 1/2 inch (12.5 mm) thick. Bottom bar shall have flush lift handles.
 2. Slat Material and Finish:

**** NOTE TO SPECIFIER ** Select one of the following slat material paragraphs and delete the ones not required.**

- a. Red oak.
- b. Pine.
- c. Birch.
- d. White oak.
- e. Custom _____ wood without finish, to be finished on site by others.
- f. With finish as chosen by the Architect from manufacturer's standard finishes.

3. Guides:

**** NOTE TO SPECIFIER ** Select one of the following two paragraphs and delete the one not required.**

- a. Wood matching slat material.
 - b. Aluminum guides.
4. Brackets: Galvanized steel to support counterbalance, curtain and hood.
 5. Counterbalance: Helical torsion spring type housed in a steel tube or pipe barrel, supporting the curtain with deflection limited to 0.03 inch (0.8 mm) per foot of span. Counterbalance shall be adjustable by means of an adjusting tension wheel.
 6. Hood: Provide intermediate support brackets as required. Hood fabricated of:

**** NOTE TO SPECIFIER ** Select one of the following two paragraphs and delete the one not required.**

- a. Steel prime painted.
- b. Wood matching slats.

7. Operation:

**** NOTE TO SPECIFIER ** Select one of the following operation paragraphs and delete the ones not required.**

- a. Manual push up.
- b. Crank operation.
- c. Electric motor.

**** NOTE TO SPECIFIER ** Include the following paragraph is electric motor operation is required and delete if not required.**

8. Electric Motor Operation: Provide UL listed electric operator, size as recommended by manufacturer to move door in either direction at not less than 2/3 foot nor more than 1 foot per second.
 - a. Sensing Edge Protection:

**** NOTE TO SPECIFIER ** Select one of the following two paragraphs and delete the one not required.**

- 1) N/A.
 - 2) Electric sensing edge.
- b. Operator Controls:

**** NOTE TO SPECIFIER ** Select one of the following operation paragraphs and delete the one not required.**

- 1) Push-button operated control stations with open, close, and stop buttons.
- 2) Key operation with open, close, and stop controls.
- 3) Push-button and key operated control stations with open, close, and stop buttons.

**** NOTE TO SPECIFIER ** Select one of the following location paragraphs and delete the one not required.**

- 4) Controls for interior location.
- 5) Controls for exterior location.
- 6) Controls for both interior and exterior location.

**** NOTE TO SPECIFIER ** Select one of the following two paragraphs and delete the one not required.**

- 7) Controls surface mounted.
- 8) Controls flush mounted.

9. Locking:

**** NOTE TO SPECIFIER ** Select one of the following two paragraphs and delete the one not required.**

- a. Thumb turn locks.
- b. Cylinder locks.

10. Wall Mounting Condition:

**** NOTE TO SPECIFIER ** Select one of the following mounting paragraphs and delete the one not required.**

- a. Between jambs mounting.
- b. Face-of-wall mounting.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify opening sizes, tolerances and conditions are acceptable.
- B. Examine conditions of substrates, supports, and other conditions under which this work is to be performed.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Use anchorage devices to securely fasten assembly to wall construction and building framing without distortion or stress.
- C. Securely and rigidly brace components suspended from structure. Secure guides to structural members only.

- D. Fit and align assembly including hardware; level and plumb, to provide smooth operation.

**** NOTE TO SPECIFIER ** Select the following paragraph for electric operation of counter doors and delete if not required.**

- E. Coordinate installation of electrical service with Section 16150. Complete wiring from disconnect to unit components.
- F. Coordinate installation of sealants and backing materials at frame perimeter as specified in Section 07900.
- G. Install perimeter trim and closures.

3.4 ADJUSTING

- A. Test for proper operation and adjust as necessary to provide proper operation without binding or distortion.
- B. Adjust hardware and operating assemblies for smooth and noiseless operation.

3.5 CLEANING

- A. Clean curtain and components using non-abrasive materials and methods recommended by manufacturer.
- B. Remove labels and visible markings.
- C. Touch-up, repair or replace damaged products before Substantial Completion.

3.6 PROTECTION

- A. Protect installed products until completion of project.

END OF SECTION