



SECTION 08 33 00

SECURITY GRILLES

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**** NOTE TO SPECIFIER ** Overhead Door Corp.; operating security grille and closure products.**

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 side folding and upward coiling security grille closures of aluminum, galvanized steel and stainless steel.

PART 1 GENERAL

1.1 SECTION INCLUDES

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

- A. Side Folding Security Grilles, manually operated.
- B. Upcoiling Security Grilles, manually operated.
- C. Upcoiling Security Grilles, power operated.
- D. Advanced Performance Overhead Coiling Grille.

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 08332 - Overhead Coiling Counter Doors.
- D. Section 08710 - Door Hardware: Product Requirements for cylinder core and keys.

- E. Section 16130 - Raceway and Boxes: Conduit from electric circuit to grille operator and from grille operator to control station.
- F. 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. Installation methods.
- C. Shop Drawings: Include detailed plans, elevations, details of framing members, required clearances, anchors, and accessories. Include relationship with adjacent materials.

**** 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, 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 COORDINATION

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

1.8 WARRANTY

*** NOTE TO SPECIFIER ** The following paragraph applies to RapidGrille AP Model 676 only. Delete if not applicable .**

- A. RapidGrille AP Model 676: Motor 5 year limited warranty; other components 2 year or 300,000 cycle limited warranty.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Overhead Door Corp., 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.overhaddoor.com. E-mail: info@overhaddoor.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 SIDE FOLDING SECURITY GRILLES

- A. Side-Folding Metal Vision Panel Grilles: Overhead Door Corporation Model 675.
1. Curtain: Aluminum 18 gauge (1.27 mm) with 3/16 inch (4.8 mm) perforated steel panels that allow 51 percent visibility.

**** NOTE TO SPECIFIER ** Select the panel width required from the following two paragraphs and delete the paragraph not required.**

- a. Panel Width: Standard 7 inch (178 mm).
- b. Panel Width: Wide-body 11-1/4 inch (286 mm).
- c. Frame: Truss like aluminum frame, minimum 4 inch (102 mm) high bottom and 5-1/4 inch (133 mm) high top plates.

2. Finish:

**** NOTE TO SPECIFIER ** Select the aluminum finish required from the following two paragraphs and delete the paragraph not required. Delete both if a painted finish is required.**

- a. Aluminum clear anodized.
- b. Aluminum color anodized. Color as selected by Architect.
- c. Duracron acrylic or powder coat paint. Color as selected by Architect.

3. Track:

- a. Trolley assemblies shall be 1-1/8 inch (29 mm) and adjustable 1 inch (25 mm) upward or downward without the removal of the curtain.
- b. Track shall be heavy extruded aluminum 1-3/8 inch (35 mm) wide by 1 5/8 inch (41 mm) high.

**** NOTE TO SPECIFIER ** Include the following paragraphs if curves are required. Edit to identify the curve and the radius. Delete the paragraphs not required. Delete entirely if curves are not required. Consult factory for special curves.**

- c. Curves:
 - 1) 90 degrees.
 - 2) 120 degrees.
 - 3) 135 degrees.
 - 4) 150 degrees.
 - 5) Radius: 14 inch (356 mm) for standard models.
 - 6) Radius: 22 inch (559 mm) radius for Wide-Body models.

4. Locking:

- a. Provide lead post with a concealed a hook bolt lock activated by a keyed cylinder or thumb turn that engages a full height wall channel. Where required, provide a top and bottom spring loaded locking post with interior thumb turn and protection or keyed cylinder and dustproof floor sockets for all drop bolts. Provide rubber bumper at the edge of locking post.
- b. Intermediate posts:

**** NOTE TO SPECIFIER ** Select the mount(s) required from the following two paragraphs and delete the paragraph not required.**

- 1) Floor mounted provide intermediate posts a maximum of 10 feet (3048 mm) of curtain length.
 - 2) For counter mounts and at each curve provide intermediate posts a maximum of 6 feet (1828 mm).
 - 3) Intermediate posts contain an adjustable concealed spring loaded drop bolt with cylinder locks keyed alike. Provide with dustproof floor sockets for all drop bolts.
- c. Traveling end post shall have an attached full height protection plate and shall be self locking into a steel V-stop. End post are fixable to a wall when stacked in the opening using top and bottom locking posts.

- B. Side-Folding Polycarbonate Vision Panel Grilles: Overhead Door Corporation Model 677. Polycarbonate panels shall be cushioned with specially designed vinyl compression gaskets at top and bottom of glazing.

1. Curtain: Aluminum 18 gauge (1.27 mm) with 1/8 inch (3 mm) thick self-extinguishing polycarbonate viewable area.

**** NOTE TO SPECIFIER ** Select the panel width required from the following two paragraphs and delete the paragraph not required.**

- a. Panel Width: Standard 7 inch (178 mm) with a 4-3/4 inch (121 mm) viewable area.
- b. Panel Width: Wide-body 11-1/4 inch (286 mm) with a 8-7/8 inch (226 mm) viewable area.
- c. Frame: Truss like aluminum frame, minimum 4 inch (102 mm) high bottom and 5-1/4 inch (133 mm) high top plates.

2. Finish:

**** NOTE TO SPECIFIER ** Select the aluminum finish required from the following two paragraphs and delete the paragraph not required. Delete both if a painted finish is required.**

- a. Aluminum clear anodized.
- b. Aluminum color anodized. Color as selected by Architect.
- c. Duracron acrylic or powder coat paint. Color as selected by Architect.

3. Track:

- a. Trolley assemblies shall be 1-1/8 inch (29 mm) and adjustable 1 inch (25 mm) upward or downward without the removal of the curtain.
- b. Track shall be heavy extruded aluminum 1-3/8 inch (35 mm) wide by 1 5/8 inch (41 mm) high.

**** NOTE TO SPECIFIER ** Include the following paragraphs if curves are required. Edit to identify the curve and the radius. Delete the paragraphs not required. Delete entirely if curves are not required. Consult factory for special curves.**

- c. Curves:

- 1) 90 degrees.
- 2) 120 degrees.
- 3) 135 degrees.
- 4) 150 degrees.
- 5) Radius: 14 inch (356 mm) for standard models.
- 6) Radius: 22 inch (559 mm) radius for Wide-Body models.

4. Locking:

- a. Provide lead post with a concealed hook bolt lock activated by a keyed cylinder or thumb turn that engages a full height wall channel. Where required, provide a top and bottom spring loaded locking post with interior thumb turn and protection or keyed cylinder and dustproof floor sockets for all drop bolts. Provide rubber bumper at the edge of locking post.
- b. Intermediate posts:

**** NOTE TO SPECIFIER ** Select the mount(s) required from the following two paragraphs and delete the paragraph not required.**

- 1) Floor mounted provide intermediate posts a maximum of 10 feet (3048 mm) of curtain length.
- 2) For counter mounts and at each curve provide intermediate posts a maximum of 6 feet (1828 mm).
- 3) Intermediate posts contain an adjustable concealed spring loaded drop bolt with cylinder locks keyed alike. Provide with dustproof floor sockets for all drop bolts.
- c. Traveling end post shall have an attached full height protection plate and shall be self locking into a steel V-stop. End post are fixable to a wall when stacked in the opening using top and bottom locking posts.

- C. Side-Folding Glass Vision Panel Grilles: Overhead Door Corporation Model 678. Glass panels shall be cushioned with specially designed vinyl compression gaskets at top and bottom of glazing.
1. Curtain: Aluminum 18 gauge (1.27 mm) with 1/8 inch (3 mm) thick tempered glass viewable area.

**** NOTE TO SPECIFIER ** Select the panel width required from the following two paragraphs and delete the paragraph not required.**

- a. Panel Width: Standard 7 inch (178 mm) with a 4-3/4 inch (121 mm) viewable area.
- b. Panel Width: Wide-body 11-1/4 inch (286 mm) with a 8-7/8 inch (226 mm) viewable area.
- c. Frame: Truss like aluminum frame, minimum 4 inch (102 mm) high bottom and 5-1/4 inch (133 mm) high top plates.

2. Finish:

**** NOTE TO SPECIFIER ** Select the aluminum finish required from the following two paragraphs and delete the paragraph not required. Delete both if a painted finish is required.**

- a. Aluminum clear anodized.
- b. Aluminum color anodized. Color as selected by Architect.
- c. Duracron acrylic or powder coat paint. Color as selected by Architect.

3. Track:

- a. Trolley assemblies shall be 1-1/8 inch (29 mm) and adjustable 1 inch (25 mm) upward or downward without the removal of the curtain.
- b. Track shall be heavy extruded aluminum 1-3/8 inch (35 mm) wide by 1 5/8 inch (41 mm) high.

**** NOTE TO SPECIFIER ** Include the following paragraphs if curves are required. Edit to identify the curve and the radius. Delete the paragraphs not required. Delete entirely if curves are not required. Consult factory for special curves.**

- c. Curves:

- 1) 90 degrees.
- 2) 120 degrees.
- 3) 135 degrees.
- 4) 150 degrees.
- 5) Radius: 14 inch (356 mm) for standard models.
- 6) Radius: 22 inch (559 mm) radius for Wide-Body models.

4. Locking:

- a. Provide lead post with a concealed a hook bolt lock activated by a keyed cylinder or thumb turn that engages a full height wall channel. Where required, provide a top and bottom spring loaded locking post with interior thumb turn and protection or keyed cylinder and dustproof floor sockets for all drop bolts. Provide rubber bumper at the edge of locking post.
- b. Intermediate posts:

**** NOTE TO SPECIFIER ** Select the mount(s) required from the following two paragraphs and delete the paragraph not required.**

- 1) Floor mounted provide intermediate posts a maximum of 10 feet (3048 mm) of curtain length.
 - 2) For counter mounts and at each curve provide intermediate posts a maximum of 6 feet (1828 mm).
 - 3) Intermediate posts contain an adjustable concealed spring loaded drop bolt with cylinder locks keyed alike. Provide with dustproof floor sockets for all drop bolts.
- c. Traveling end post shall have an attached full height protection plate and shall be self locking into a steel V-stop. End post are fixable to a wall when stacked in the opening using top and bottom locking posts.

- D. Side-Folding Aluminum Panel Grilles: Overhead Door Corporation Model 679.
1. Curtain: Aluminum 18 gauge (1.27 mm), full height, panels.

**** NOTE TO SPECIFIER ** Select the panel width required from the following two paragraphs and delete the paragraph not required.**

- a. Panel Width: Standard 7 inch (178 mm).
- b. Panel Width: Wide-body 11-1/4 inch (286 mm).
- c. Frame: Truss like aluminum frame, minimum 4 inch (102 mm) high bottom and 5-1/4 inch (133 mm) high top plates.

2. Finish:

**** NOTE TO SPECIFIER ** Select the aluminum finish required from the following two paragraphs and delete the paragraph not required. Delete both if a painted finish is required.**

- a. Aluminum clear anodized.
- b. Aluminum color anodized. Color as selected by Architect.
- c. Duracron acrylic or powder coat paint. Color as selected by Architect.

3. Track:

- a. Trolley assemblies shall be 1-1/8 inch (29 mm) and adjustable 1 inch (25 mm) upward or downward without the removal of the curtain.
- b. Track shall be heavy extruded aluminum 1-3/8 inch (35 mm) wide by 1-5/8 inch (41 mm) high.

**** NOTE TO SPECIFIER ** Include the following paragraphs if curves are required. Edit to identify the curve and the radius. Delete the paragraphs not required. Delete entirely if curves are not required. Consult factory for special curves.**

- c. Curves:

- 1) 90 degrees.
- 2) 120 degrees.
- 3) 135 degrees.
- 4) 150 degrees.
- 5) Radius: 14 inch (356 mm) for standard models.
- 6) Radius: 22 inch (559 mm) radius for Wide-Body models.

4. Locking:

- a. Provide lead post with a concealed a hook bolt lock activated by a keyed cylinder or thumb turn that engages a full height wall channel. Where required, provide a top and bottom spring loaded locking post with interior thumb turn and protection or keyed cylinder and dustproof floor sockets for all drop bolts. Provide rubber bumper at the edge of locking post.
- b. Intermediate posts:

**** NOTE TO SPECIFIER ** Select the mount(s) required from the following two paragraphs and delete the paragraph not required.**

- 1) Floor mounted provide intermediate posts a maximum of 10 feet (3048 mm) of curtain length.
 - 2) For counter mounts and at each curve provide intermediate posts a maximum of 6 feet (1828 mm).
 - 3) Intermediate posts contain an adjustable concealed spring loaded drop bolt with cylinder locks keyed alike. Provide with dustproof floor sockets for all drop bolts.
- c. Traveling end post shall have an attached full height protection plate and shall be self locking into a steel V-stop. End post are fixable to a wall when stacked in the opening using top and bottom locking posts.

- E. Side-Folding Open Aluminum Grilles: Overhead Door Corporation Model 681.

1. Curtain: Constructed of 1 inch (25 mm) aluminum plates spaced at 12 inch (307 mm) horizontal intervals incorporating three vertical rods spaced 1-7/8 inch (49 mm) and covered with aluminum tubes. Aluminum plates shall fit into one piece vertical aluminum tubular hinges.

- a. Panel Width: Wide-body 11-1/4 inch (286 mm).
- b. Frame: Truss like aluminum frame, minimum 2 inch (51 mm) high bottom and 5-1/4 inch (133 mm) high top plates.

2. Finish:

**** NOTE TO SPECIFIER ** Select the aluminum finish required from the following two paragraphs and delete the paragraph not required. Delete both if a painted finish is required.**

- a. Aluminum clear anodized.
- b. Aluminum color anodized. Color as selected by Architect.
- c. Duracron acrylic or powder coat paint. Color as selected by Architect.

3. Track:

- a. Trolley assemblies shall be 1-1/8 inch (29 mm) and adjustable 1 inch (25 mm) upward or downward without the removal of the curtain.
- b. Track shall be heavy extruded aluminum 1-3/8 inch (35 mm) wide by 1 5/8 inch (41 mm) high.

**** NOTE TO SPECIFIER ** Include the following paragraphs if curves are required. Edit to identify the curve and the radius. Delete the paragraphs not required. Delete entirely if curves are not required. Consult factory for special curves.**

c. Curves:

- 1) 90 degrees.
- 2) 120 degrees.
- 3) 135 degrees.
- 4) 150 degrees.
- 5) Radius: 14 inch (356 mm) radius.
- 6) Radius: 22 inch (559 mm) radius.

4. Locking:

- a. Provide lead post with a concealed a hook bolt lock activated by a keyed cylinder or thumb turn that engages a full height wall channel. Where required, provide a top and bottom spring loaded locking post with interior thumb turn and protection or keyed cylinder and dustproof floor sockets for all drop bolts. Provide rubber bumper at the edge of locking post.
- b. Intermediate posts:

**** NOTE TO SPECIFIER ** Select the mount(s) required from the following two paragraphs and delete the paragraph not required.**

- 1) Floor mounted provide intermediate posts a maximum of 10 feet (3048 mm) of curtain length.
- 2) For counter mounts and at each curve provide intermediate posts a maximum of 6 feet (1828 mm).
- 3) Intermediate posts contain an adjustable concealed spring loaded drop bolt with cylinder locks keyed alike. Provide with dustproof floor sockets for all drop bolts.
- c. Traveling end post shall have an attached full height protection plate and shall be self locking into a steel V-stop. End post are fixable to a wall when stacked in the opening using top and bottom locking posts.

F. Side-Folding Open Aluminum Grilles: Overhead Door Corporation Model 683.

- 1. Curtain: Constructed of 1/8 inch (3 mm) by 5/8 inch (17 mm) by 6 inch (152 mm) horizontal clear anodized aluminum links that slide into 5/16 inch (8 mm) vertical rods. Links held in place by 1/2 inch (16 mm) clear anodized aluminum (S-126) spacer tubes on alternate rods.
 - a. Panel Width: 6-5/16 inch (160 mm).

2. Finish:

**** NOTE TO SPECIFIER ** Select the aluminum finish required from the following two paragraphs and delete the paragraph not required.**

- a. Aluminum clear anodized.

- b. Aluminum color anodized. Color as selected by Architect.
- 3. Track:
 - a. Trolley assemblies shall be 1-1/8 inch (29 mm) and adjustable 1 inch (25 mm) upward or downward without the removal of the curtain.
 - b. Track shall be heavy extruded aluminum 1-3/8 inch (35 mm) wide by 1 5/8 inch (41 mm) high.

**** NOTE TO SPECIFIER ** Include the following paragraphs if curves are required. Edit to identify the curve. Delete the paragraphs not required. Delete entirely if curves are not required. Consult factory for special curves.**

- c. Curves:
 - 1) 90 degrees.
 - 2) 120 degrees.
 - 3) 135 degrees.
 - 4) 150 degrees.
 - 5) Radius: 14 inch (356 mm) radius.
- 4. Locking:
 - a. Provide lead post with a concealed a hook bolt lock activated by a keyed cylinder or thumb turn that engages a full height wall channel. Where required, provide a top and bottom spring loaded locking post with interior thumb turn and protection or keyed cylinder and dustproof floor sockets for all drop bolts. Provide rubber bumper at the edge of locking post.
 - b. Intermediate posts:

**** NOTE TO SPECIFIER ** Select the mount(s) required from the following two paragraphs and delete the paragraph not required.**

- 1) Floor mounted provide intermediate posts a maximum of 10 feet (3048 mm) of curtain length.
- 2) For counter mounts and at each curve provide intermediate posts a maximum of 6 feet (1828 mm).
- 3) Intermediate posts contain an adjustable concealed spring loaded drop bolt with cylinder locks keyed alike. Provide with dustproof floor sockets for all drop bolts.
- c. Traveling end post shall have an attached full height protection plate and shall be self locking into a steel V-stop. End post are fixable to a wall when stacked in the opening using top and bottom locking posts.

2.3 UNCOILING SECURITY GRILLES

**** NOTE TO SPECIFIER ** Model 670 specified in the following two paragraphs are available with Manual or Automatic emergency release devices for power operated doors. Select the paragraph for the release device required and delete the one not required.**

- A. Overhead Coiling Aluminum Grilles: Overhead Door Corporation Model 670 with an option for Manual Emergency Release for power operated doors.
 - 1. Curtain: Horizontal 5/16 inch (7.8 mm) diameter rods with network of vertically interlocking links to form a pattern. Bottom bar extruded aluminum tubular shape.
 - a. Material: Aluminum.
 - b. Vertical Rod Spacing:

**** NOTE TO SPECIFIER ** Select the spacing required from the following paragraphs and delete the paragraph not required.**

- 1) 2 inches (51 mm) on center.
- 2) 1-1/2 inches (38 mm) on center.
- c. Pattern:

**** NOTE TO SPECIFIER ** Select the pattern required from the following paragraphs and delete the paragraphs not required.**

- 1) Straight lattice; horizontal spacing 3 inches (76 mm) on center.
- 2) Straight lattice; horizontal spacing 6 inches (152 mm) on center.
- 3) Straight lattice; horizontal spacing 9 inches (228 mm) on center.
- 4) Brick pattern; horizontal spacing 4-1/2 inches (114 mm) on center.
- 5) Infill Panels: Lexan panel in straight lattice pattern 12 inches on center.

2. Finish:

**** NOTE TO SPECIFIER ** Select the aluminum finish required from the following two paragraphs and delete the paragraph not required. Mill finish is standard. Delete entirely if a painted finish is required.**

- a. Aluminum mill finish.
- b. Aluminum clear anodized.
- c. Aluminum bronze anodized.
- d. Aluminum black anodized.
- e. Aluminum color as selected by Architect.
- f. Prime all non-galvanized, exposed ferrous surfaces with black powder coat finish.

3. Bottom Bar:

- a. Tubular extruded aluminum, mill finish.
- b. Tubular extruded aluminum, clear anodized.
- c. Tubular extruded aluminum, bronze anodized.
- d. Tubular extruded aluminum, black anodized.

4. Guides:

- a. Extruded aluminum shapes with retainer grooves and continuous silicone treated wool-pile strips or PVC inserts to reduce noise and assist operation.

**** NOTE TO SPECIFIER ** Select the guides mounting required from the following paragraphs and delete the paragraph not required.**

- b. Guides face mounted on adjacent construction.
- c. Guides free standing with tubular steel support frames supplied with grilles.

5. Brackets: Minimum 3/16 inch (4.8 mm) steel to support barrel, counterbalance and hood as applicable.

6. Counterbalance: Helical torsion spring type housed in a steel tube or pipe barrel, supporting the curtain with maximum deflection of 0.03 inches per foot of span. Counterbalance adjustable by means of an adjusting tension wheel.

**** NOTE TO SPECIFIER ** Select the hood type required from the following paragraphs and delete the paragraphs not required. Delete if not required for installation above ceiling.**

7. Hood:

- a. Aluminum, mill finish with intermediate supports as required.
- b. Aluminum, clear anodized with intermediate supports as required.
- c. Aluminum, bronze anodized with intermediate supports as required.
- d. Aluminum, black anodized with intermediate supports as required.

**** NOTE TO SPECIFIER ** Select manual or electric operation as required from the following paragraphs and delete the paragraphs not required.**

8. Manual Operation:

**** NOTE TO SPECIFIER ** Select the manual operation required from the following paragraphs and delete the paragraphs not required.**

- a. Push up.
- b. Chain hoist.
- c. Crank.

9. 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.

**** NOTE TO SPECIFIER ** Select the edge protection required from the following paragraphs and delete the paragraph not required.**

- a. Sensing Edge Protection:
 - 1) Pneumatic sensing edge.
 - 2) Electric sensing edge.
- b. Operator Controls: Control stations with open, close, and stop functions.

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

- 1) Push-button operation.
- 2) Key operation.
- 3) Push-button and key operation.

**** NOTE TO SPECIFIER ** Select the control mounting type required from the following paragraphs and delete the paragraph not required.**

- 4) Surface mounting.
- 5) Flush mounting.

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

- 6) For interior location.
- 7) For exterior location.
- 8) For both interior and exterior location.

**** NOTE TO SPECIFIER ** Electric operated doors are available with Electric Motor Operation or Electric Motor with Manual Egress lever. Select the emergency egress device from the following paragraph and delete if not required.**

- c. Emergency Egress: Provide code compliant emergency egress system that automatically unlocks and manually releases grille part way to permit passage, even if power is not available.

**** NOTE TO SPECIFIER ** Select the special operation type required from the following paragraphs and delete the paragraphs not required. Delete entirely if special operation is not required. Note that only Photocell Operation and Radio Control Operation are available with Emergency Egress (EEG) option above.**

- d. Special Operation:
 - 1) Photocell operation.
 - 2) Radio control operation.
 - 3) Vehicle detector operation.
 - 4) Card reader control.
 - 5) Door timer operation.
 - 6) Commercial light package.
 - 7) Explosion and dust ignition proof control wiring.

10. Locking:

**** NOTE TO SPECIFIER ** Select the locking type required from the following paragraphs and delete the paragraphs not required.**

- a. Cremone lock.
- b. Chain keeper locks for chain hoist operation.
- c. Cylinder lock for electric operation with interlock switch.
- d. Thumb turns.

B. Overhead Coiling Aluminum Grilles: Overhead Door Corporation Model 670 with an Automatic Release for power operated doors.

1. Curtain: Horizontal 5/16 inch (7.8 mm) diameter rods with network of vertically interlocking links to form a pattern. Bottom bar extruded aluminum tubular shape.
 - a. Material: Aluminum.
 - b. Vertical Rod Spacing:
 - 1) 2 inches (51 mm) on center.
 - c. Pattern:

**** NOTE TO SPECIFIER ** Select the pattern required from the following paragraphs and delete the paragraphs not required.**

- 1) Straight lattice; horizontal spacing 3 inches (76 mm) on center.
- 2) Straight lattice; horizontal spacing 6 inches (152 mm) on center.
- 3) Straight lattice; horizontal spacing 9 inches (228 mm) on center.

2. Finish:

**** NOTE TO SPECIFIER ** Select the aluminum finish required from the following two paragraphs and delete the paragraph not required. Mill finish is standard. Delete entirely if a painted finish is required.**

- a. Aluminum mill finish.
- b. Aluminum clear anodized.
- c. Aluminum bronze anodized.
- d. Aluminum black anodized.
- e. Aluminum color as selected by Architect.
- f. Prime all non-galvanized, exposed ferrous surfaces with black powder coat finish.

3. Bottom Bar:

- a. Tubular extruded aluminum, mill finish.
- b. Tubular extruded aluminum, clear anodized.
- c. Tubular extruded aluminum, bronze anodized.
- d. Tubular extruded aluminum, black anodized.

4. Guides:

- a. Extruded aluminum shapes with retainer grooves and continuous silicone treated wool-pile strips or PVC inserts to reduce noise and assist operation.

**** NOTE TO SPECIFIER ** Select the guides mounting required from the following paragraphs and delete the paragraph not required.**

- b. Guides face mounted on adjacent construction.
- c. Guides free standing with tubular steel support frames supplied with grilles.

5. Brackets: Minimum 3/16 inch (4.8 mm) steel to support barrel, counterbalance and hood as applicable.

6. Counterbalance: Helical torsion spring type housed in a steel tube or pipe barrel, supporting the curtain with maximum deflection of 0.03 inches per foot of span. Counterbalance adjustable by means of an adjusting tension wheel.

**** NOTE TO SPECIFIER ** Select the hood type required from the following paragraphs and delete the paragraphs not required. Delete if not required for installation above ceiling.**

7. Hood:

- a. Aluminum, mill finish with intermediate supports as required.
- b. Aluminum, clear anodized with intermediate supports as required.
- c. Aluminum, bronze anodized with intermediate supports as required.
- d. Aluminum, black anodized with intermediate supports as required.

8. Electric Motor with Emergency Egress: Provide code compliant emergency egress operator system with self-locking mechanism that automatically unlocks, automatically releases, and opens grille fully to permit passage if power is not available. 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.

**** NOTE TO SPECIFIER ** Consult manufacturer's Operator Selection Charts for door models, weights and sizes suitable for rated horsepower specified. Select ratings required and delete those not required.**

- a. 1/2 horsepower single phase.
 - 1) 115 V
 - 2) 230 V
- b. 1 horsepower three phase.
 - 1) 230 V.

- 2) 460 V.
- 9. Mounting:
 - a. Front of hood.
 - b. Mounting Left Hand or Right Hand.
- 10. Release: Push/Pull Emergency Release Button.
 - a. Surface mount.
 - b. Flush mount.

**** NOTE TO SPECIFIER ** Overhead Door Corporation recommends the installation of an external reversing device for all electrically operated commercial doors. If a sensing edge or some other reversing device is not installed, a constant contact control switch must be used to close the door. We recommend a Fail Safe electric sensing edge that will not allow the door to close if the sensing edge is damaged or not working properly.**

- 11. Entrapment Protection:
 - a. 2 wire electric sensing edge
 - b. Photo cell operation.
- 12. Control accessories: Control Panel is to be supplied at same voltage as operator selected.
- 13. Locking: Model 670 egress grille self-locking mechanism to prevent forced opening of a closed grille that does not interfere with normal electric operation but fail safe for emergency operation.

**** NOTE TO SPECIFIER ** Model 671 specified in the following two paragraphs are available with Manual or Automatic emergency release devices for power operated doors. Select the paragraph for the release device required and delete the one not required.**

- C. Overhead Coiling Metal Grilles: Overhead Door Corporation Model 671 with an option for Manual Emergency Release for power operated doors.
 - 1. Curtain: Horizontal 5/16 inch (7.8 mm) diameter rods with network of vertically interlocking links to form a pattern. Bottom bar extruded aluminum tubular shape.

- a. Material:

**** NOTE TO SPECIFIER ** Select the material required from the following paragraphs and delete the paragraph not required.**

- 1) Galvanized Steel.
- 2) Stainless Steel.

- b. Vertical Rod Spacing:

**** NOTE TO SPECIFIER ** Select the spacing required from the following paragraphs and delete the paragraph not required.**

- 1) 2 inches (51 mm) on center.
- 2) 1-1/2 inches (38 mm) on center.

- c. Pattern:

**** NOTE TO SPECIFIER ** Select the pattern required from the following paragraphs and delete the paragraphs not required.**

- 1) Straight lattice; horizontal spacing 3 inches (76 mm) on center.
- 2) Straight lattice; horizontal spacing 6 inches (152 mm) on center.
- 3) Straight lattice; horizontal spacing 9 inches (228 mm) on center.
- 4) Brick pattern; horizontal spacing 4-1/2 inches (114 mm) on center.
- 5) Infill Panels: Lexan panel in straight lattice pattern 12 inches on center.

- 2. Finish:

**** NOTE TO SPECIFIER ** Select the finish required from the following paragraphs and delete the paragraph not required.**

- a. Stainless Steel: No. #4 finish.
- b. Stainless Steel: No. #2B finish.
- c. Galvanized Steel: Rust inhibitive primer.

- d. Prime all non-galvanized, exposed ferrous surfaces with black powder coat finish.
- 3. Bottom Bar:
 - a. Double angle steel bottom bar.
 - b. Double angle stainless steel bottom bar.
- 4. Guides:
 - a. Extruded aluminum shapes with retainer grooves and continuous silicone treated wool-pile strips or PVC inserts to reduce noise and assist operation.

**** NOTE TO SPECIFIER ** Select the guides mounting required from the following paragraphs and delete the paragraph not required.**

- b. Guides face mounted on adjacent construction.
- c. Guides free standing with tubular steel support frames supplied with grilles.
- 5. Brackets: Minimum 3/16 inch (4.8 mm) steel to support barrel, counterbalance and hood as applicable.
- 6. Counterbalance: Helical torsion spring type housed in a steel tube or pipe barrel, supporting the curtain with maximum deflection of 0.03 inches per foot of span. Counterbalance adjustable by means of an adjusting tension wheel.

**** NOTE TO SPECIFIER ** Select the hood type required from the following paragraphs and delete the paragraphs not required. Delete if not required for installation above ceiling.**

- 7. Hood:
 - a. Galvanized steel, 24 gauge (6 mm).
 - b. Primed steel, 24 gauge (6 mm).
 - c. Stainless Steel: No. #4 finish.
 - d. Stainless Steel: No. #2B finish.

**** NOTE TO SPECIFIER ** Select manual or electric operation as required from the following paragraphs and delete the paragraphs not required.**

- 8. Manual Operation:

**** NOTE TO SPECIFIER ** Select the manual operation required from the following paragraphs and delete the paragraphs not required.**

- a. Push up.
- b. Chain hoist.
- c. Crank.
- 9. 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.

**** NOTE TO SPECIFIER ** Select the edge protection required from the following paragraphs and delete the paragraph not required.**

- a. Sensing Edge Protection:
 - 1) Pneumatic sensing edge.
 - 2) Electric sensing edge.
- b. Operator Controls: Control stations with open, close, and stop functions.

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

- 1) Push-button operation.
- 2) Key operation.
- 3) Push-button and key operation.

**** NOTE TO SPECIFIER ** Select the control mounting type required from the following paragraphs and delete the paragraph not required.**

- 4) Surface mounting.
- 5) Flush mounting.

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

- 6) For interior location.

- 7) For exterior location.
- 8) For both interior and exterior location.

**** NOTE TO SPECIFIER ** Electric operated doors are available with Electric Motor Operation or Electric Motor with Manual Egress lever. Select the emergency egress device from the following paragraph and delete if not required.**

- c. Emergency Egress: Provide code compliant emergency egress system that automatically unlocks and manually releases grille part way to permit passage, even if power is not available.

**** NOTE TO SPECIFIER ** Select the special operation type required from the following paragraphs and delete the paragraphs not required. Delete entirely if special operation is not required. Note that only Photocell Operation and Radio Control Operation are available with Emergency Egress (EEG) option above.**

- d. Special Operation:
 - 1) Photocell operation.
 - 2) Radio control operation.
 - 3) Vehicle detector operation.
 - 4) Card reader control.
 - 5) Door timer operation.
 - 6) Commercial light package.
 - 7) Explosion and dust ignition proof control wiring.

10. Locking:

**** NOTE TO SPECIFIER ** Select the locking type required from the following paragraphs and delete the paragraphs not required.**

- a. Cremone lock.
- b. Chain keeper locks for chain hoist operation.
- c. Cylinder lock for electric operation with interlock switch.
- d. Thumb turns.

D. Overhead Coiling Metal Grilles: Overhead Door Corporation Model 671 with an Automatic Release for power operated doors.

- 1. Curtain: Horizontal 5/16 inch (7.8 mm) diameter rods with network of vertically interlocking links to form a pattern. Bottom bar extruded aluminum tubular shape.

- a. Material:

**** NOTE TO SPECIFIER ** Select the material required from the following paragraphs and delete the paragraph not required.**

- 1) Galvanized Steel.
- 2) Stainless Steel.

- b. Vertical Rod Spacing:

**** NOTE TO SPECIFIER ** Select the spacing required from the following paragraphs and delete the paragraph not required.**

- 1) 2 inches (51 mm) on center.

- c. Pattern:

**** NOTE TO SPECIFIER ** Select the pattern required from the following paragraphs and delete the paragraphs not required.**

- 1) Straight lattice; horizontal spacing 3 inches (76 mm) on center.
- 2) Straight lattice; horizontal spacing 6 inches (152 mm) on center.
- 3) Straight lattice; horizontal spacing 9 inches (228 mm) on center.

- 2. Finish:

**** NOTE TO SPECIFIER ** Select the finish required from the following two paragraphs and delete the paragraph not required.**

- a. Stainless Steel: No. #4 finish.
- b. Galvanized Steel: Rust inhibitive primer.
- c. Prime all non-galvanized, exposed ferrous surfaces with black powder coat finish.

- 3. Bottom Bar:

- a. Double angle steel bottom bar.
- b. Double angle stainless steel bottom bar.
- 4. Guides:
 - a. Extruded aluminum shapes with retainer grooves and continuous silicone treated wool-pile strips or PVC inserts to reduce noise and assist operation.

**** NOTE TO SPECIFIER ** Select the guides mounting required from the following paragraphs and delete the paragraph not required.**

- b. Guides face mounted on adjacent construction.
- c. Guides free standing with tubular steel support frames supplied with grilles.
- 5. Brackets: Minimum 3/16 inch (4.8 mm) steel to support barrel, counterbalance and hood as applicable.
- 6. Counterbalance: Helical torsion spring type housed in a steel tube or pipe barrel, supporting the curtain with maximum deflection of 0.03 inches per foot of span. Counterbalance adjustable by means of an adjusting tension wheel.

**** NOTE TO SPECIFIER ** Select the hood type required from the following paragraphs and delete the paragraphs not required. Delete if not required for installation above ceiling.**

- 7. Hood:
 - a. Galvanized steel, 24 gauge (6 mm).
 - b. Primed steel, 24 gauge (6 mm).
 - c. Stainless Steel: No. #4 finish.
 - d. Stainless Steel: No. #2B finish.
- 8. Electric Motor with Emergency Egress: Provide code compliant emergency egress operator system with self-locking mechanism that automatically unlocks, automatically releases, and opens grille fully to permit passage if power is not available. 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.

**** NOTE TO SPECIFIER ** Consult manufacturer's Operator Selection Charts for door models, weights and sizes suitable for rated horsepower specified. Select ratings required and delete those not required.**

- a. 1/2 horsepower single phase.
 - 1) 115 V
 - 2) 230 V
- b. 1 horsepower three phase.
 - 1) 230 V.
 - 2) 460 V.
- 9. Mounting:
 - a. Front of hood.
 - b. Mounting Left Hand or Right Hand.
- 10. Release: Push/Pull Emergency Release Button.
 - a. Surface mount.
 - b. Flush mount.

**** NOTE TO SPECIFIER ** Overhead Door Corporation recommends the installation of an external reversing device for all electrically operated commercial doors. If a sensing edge or some other reversing device is not installed, a constant contact control switch must be used to close the door. We recommend a Fail Safe electric sensing edge that will not allow the door to close if the sensing edge is damaged or not working properly.**

- 11. Entrapment Protection:
 - a. 2 wire electric sensing edge.
 - b. Photo cell operation.
- 12. Control accessories: Control Panel is to be supplied at same voltage as operator selected.

13. Locking: Model 670 egress grille self-locking mechanism to prevent forced opening of a closed grille that does not interfere with normal electric operation but fail safe for emergency operation.

E. Overhead Coiling Aluminum Grilles: Overhead Door Corporation Model 674 for interior applications only.

1. Curtain: Aluminum frame surrounding and capturing .062" (1.57 mm) thick perforated aluminum panels. Perforations shall be 3/16" (4.76 mm) diameter; holes are spaced 7/32" (5.56 mm) apart.

- a. Material: Aluminum.

2. Finish:

**** NOTE TO SPECIFIER ** Select the finish required from the following two paragraphs and delete the paragraphs not required. Clear Anodized is standard.**

- a. Aluminum clear anodized.

- b. PowderGuard Premium: Weather resistant polyester powder coat color as selected by the Architect.

- c. Prime all non-galvanized, exposed ferrous surfaces with black powder coat finish.

3. Bottom Bar:

- a. Extruded aluminum, clear anodized.

4. Guides:

- a. Extruded aluminum shapes with retainer grooves and continuous silicone treated wool-pile strips or PVC inserts to reduce noise and assist operation.

**** NOTE TO SPECIFIER ** Select the guides mounting required from the following paragraphs and delete the paragraph not required.**

- b. Guides face mounted on adjacent construction.

- c. Guides free standing with tubular steel support frames supplied with grilles.

5. Brackets: Minimum 3/16 inch (4.8 mm) steel to support barrel, counterbalance and hood as applicable.

6. Counterbalance: Helical torsion spring type housed in a steel tube or pipe barrel, supporting the curtain with maximum deflection of 0.03 inches per foot of span. Counterbalance adjustable by means of an adjusting tension wheel.

**** NOTE TO SPECIFIER ** Select the hood type required from the following paragraphs and delete the paragraphs not required. Delete if not required for installation above ceiling.**

7. Hood:

- a. Galvanized steel, 24 gauge (6 mm) .

- b. Primed steel, 24 gauge (6 mm) .

- c. Aluminum with intermediate supports as required.

**** NOTE TO SPECIFIER ** Select manual or electric operation as required from the following paragraphs and delete the paragraphs not required.**

8. Manual Operation:

**** NOTE TO SPECIFIER ** Select the manual operation required from the following paragraphs and delete the paragraphs not required.**

- a. Push up.

- b. Chain hoist.

- c. Crank.

9. 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.

**** NOTE TO SPECIFIER ** Select the edge protection required from the following paragraphs and delete the paragraph not required.**

- a. Sensing Edge Protection:

- 1) Electric sensing edge.

- b. Operator Controls: Control stations with open, close, and stop functions.

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

- 1) Push-button operation.
- 2) Key operation.
- 3) Push-button and key operation.

**** NOTE TO SPECIFIER ** Select the control mounting type required from the following paragraphs and delete the paragraph not required.**

- 4) Surface mounting.
- 5) Flush mounting.

**** NOTE TO SPECIFIER ** Select the special operation type required from the following paragraphs and delete the paragraphs not required. Delete entirely if special operation is not required.**

- c. Special Operation:
 - 1) Vehicle detector operation.
 - 2) Radio control operation.
 - 3) Card reader control.
 - 4) Photocell operation.
 - 5) Door timer operation.
 - 6) Commercial light package.
 - 7) Explosion and dust ignition proof control wiring.

10. Locking:

**** NOTE TO SPECIFIER ** Select the locking type required from the following paragraphs and delete the paragraphs not required.**

- a. Center locking bottom bar, secures grille with 1/2" diameter steel throw rods.
 - 1) Cylinder locks both sides.
 - 2) Thumb turn on secured side.
- b. Cylinder lock for electric operation with interlock switch.
- c. Small format interchangeable core.

2.4 ADVANCED PERFORMANCE OVERHEAD COILING GRILLE

A. RapidGrille AP Model 676 by Overhead Door Corporation.

- 1. Curtain: Horizontal 5/16 inch (7.8 mm) diameter rods with network of vertically interlocking links to form a pattern. Vertical rod 2 inch (51 mm) on center spacing. Bottom bar extruded aluminum tubular shape.

- a. Material:

**** NOTE TO SPECIFIER ** Select the material required from the following paragraphs and delete the paragraph not required.**

- 1) Stainless Steel Link, Rod, and Spacer: No. 4 finish.
- 2) Stainless Steel Link, Rod, and Spacer: No. 2B finish.
- 3) Galvanized w/ Rust Inhibitor Steel Link, Rod, and Mill Aluminum Spacer.
- 4) Mill Aluminum Link, Rod, and Spacer
- 5) Clear Anodized Aluminum Link, Rod, and Spacer

- b. Pattern:

**** NOTE TO SPECIFIER ** Select the pattern required from the following paragraphs and delete the paragraphs not required.**

- 1) Straight lattice; horizontal spacing 9 inches (228 mm) on center.
- 2) Brick pattern; horizontal spacing 4-1/2 inches (114 mm) on center.

- 2. Performance:

- a. Opening speed of no less than 20 inches/second
- b. Closing speed of no higher than 12 inches/second

- c. Springless direct drive mechanism without chain and sprocket connecting the drive mechanism to the door.
- d. System cycle of no less than 300,000 cycles.

3. Finish:

**** NOTE TO SPECIFIER ** Select the finish required from the following two paragraphs and delete the paragraph not required.**

- a. Prime all non-galvanized, exposed ferrous surfaces with one coat of rust-inhibitive primer
- b. Powder coat: PowderGuard
 - 1) PowderGuard Premium: Weather resistant polyester powder coat color as selected by the Architect.

4. Guides: Three angle structural steel high usage guide.

**** NOTE TO SPECIFIER ** Select the finish required from the following paragraphs and delete the paragraphs not required.**

- a. Finish: PowderGuard Premium powder coated steel in black color.
- b. Finish: PowderGuard Weathered finish with iron/black powder.
- c. Finish: PowderGuard Premium Powder coated steel, color as selected by the Architect.
- d. Finish: PowderGuard Zinc Finish: Industrial textured powder coat scratch resistant coat for added protection.

5. Bottom Bar:

- a. Tubular extruded aluminum
 - 1) Finish: Mill finish aluminum
- b. Double structure steel angle

**** NOTE TO SPECIFIER ** Select the finish required from the following paragraphs and delete the paragraphs not required.**

- 1) Finish: PowderGuard Premium Powder coated steel in black color.
- 2) Finish: PowderGuard Premium Powder coated steel, color as selected by Architect.
- 3) Finish: PowderGuard Zinc Finish: Zinc enriched polyester powder coat, color as selected by the Architect.
- 4) Finish: Stainless steel.

6. Motor: Direct drive, hypoid gear motor/brake assembly sized for openings. Provide with a manual hand crank for operation during power outages. Operator and drive assembly is factory pre-assembled and provided with low voltage factory wiring with quick connect wiring harnesses where applicable.

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

- a. Electrical Characteristics: 208/230V AC, three phase per motor/drive.
- b. Electrical Characteristics: 460V AC, 3 phase per motor/drive.

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

- c. Left hand mount.
- d. Right hand mount.

7. Control Panel: Provide electronic Variable Frequency drive controller with microprocessor self-diagnostics. LCD readout indicates door action, alarm conditions, and fault conditions. Timer to close programming options and non-resettable cycle counter are included. Enclosure is NEMA 4X rated. Control system is UL508A certified. The junction box is IP67 rated.

8. Door Roll: Directly driven, springless roll shall be steel tube with integral shafts, keyed on the Drive End and supported by self-aligning grease-able sealed bearings. Door shall not require any counterbalance device.

9. Hood: Protecting drive motor, barrel, chain, stop lock brake and sprocket from dirt and debris and extending between the support brackets. Fabricated of:

**** NOTE TO SPECIFIER ** Select one of the following hood material paragraphs; and delete the ones not required. Standard hood assembly is 24 gauge black painted steel.**

- a. Steel 24 gauge black painted.
- b. Steel 24 gauge PowderGuard Premium Powder coated, color as selected by Architect.
- c. Stainless Steel with brush finish.
- d. Aluminum: Clear anodized.
- e. Aluminum: PowderGuard Premium Powder coated, color as selected by Architect.

**** NOTE TO SPECIFIER ** Select the following paragraph for exterior mounted doors; and delete if not required.**

- f. Provide with sloped top for exterior mounting.
10. Brackets: Provide metal brackets to support motor, curtain, and hood and fabricated of:

**** NOTE TO SPECIFIER ** Select one of the following bracket material paragraphs; and delete the ones not required. Standard is black painted steel.**

- a. Steel PowderGuard Premium Powder coated in black color.
 - b. Steel PowderGuard Premium Powder coated, color as selected by Architect.
 - c. Finish: PowderGuard Zinc Finish: Zinc enriched polyester powder coat, color as selected by the Architect.
11. Safety Devices: Provide door with following safety devices:
- a. Photoelectric sensors that cast an invisible beam across the door opening and reverses the downward motion of the door when an object enters the path of the beam.
 - b. Self-monitoring 2-wire, electric fail-safe sensing edge reverses downward motion upon impact.
 - c. Drop stop device eliminates uncontrolled curtain travel independent of other safeties.
12. Actuators:
- a. One Open/Close/Stop push button station incorporated into Control Panel.

**** NOTE TO SPECIFIER ** Complete the following paragraph for optional equipment as required; and delete if not required. Specify optional push buttons, loop detectors, radio control, motion detectors, or any combination thereof as required. Considerable thought should be given to the choice of actuators based on the type of traffic and traffic flow through the opening. Contact the manufacturer for additional information.**

- b. Loop detectors.
- c. Radio control.
- d. Interior Push buttons.
- e. Exterior Push buttons.
- f. Interior Key switch.
- g. Exterior Key switch.
- h. Motion detectors.
- i. Warning light.
- j. Horns and/or strobes.
- k. Second set of photoelectric sensors.

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 grilles 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 security grilles 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