

The Genuine. The Original.



**SECTION 083326
UPWARD COILING GRILLES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Upward coiling metal grilles.
- B. Springless upward coiling metal grilles.
- C. Advanced performance upward coiling metal grilles.

1.02 RELATED REQUIREMENTS

- A. Section << **055000 - Metal Fabrications**>>: << **Support framing; Framed opening; or _____**>>.
- B. Section << **062000 - Finish Carpentry**>>: Wood casings and moldings.
- C. Section << **083323 - Overhead Coiling Doors**>>.
- D. Section << **087100 - Door Hardware**>>: Cylinder cores and keys.
- E. Section << **260533.13 - Conduit for Electrical Systems**>>: Conduit from electric circuit to operator and from operator to control station.
- F. Section << **260583 - Wiring Connections**>>: Power to disconnect.

1.03 REFERENCE STANDARDS

- A. ITS (DIR) - Directory of Listed Products; Current Edition.
- B. UL (DIR) - Online Certifications Directory; Current Edition.
- C. UL 508A - Industrial Control Panels; Current Edition, Including All Revisions.

1.04 SUBMITTALS

- A. Product Data: Provide general construction component connections and details << **and electrical equipment; _____; or None - N/A**>>.
 - 1. Provide documentation showing electrical components are listed and classified for purpose specified by <<ITS (DIR)>>, <<UL (DIR)>>, or testing firm acceptable to authorities having jurisdiction.
- B. Shop Drawings: Indicate rough and actual opening dimensions, anchorage methods, hardware locations, and installation details.
- C. Manufacturer's Instructions: Indicate installation sequence and installation, adjustment, and alignment procedures.
- D. Manufacturer's qualification statement.
- E. Installer's qualification statement.
- F. Operation and Maintenance Data: Indicate modes of operation, lubrication requirements and frequency, and periodic adjustments required.

- G. Specimen warranty.
- H. Project Record Documents: Include as-built electrical diagrams for electrical operation and connection to fire alarm system.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum << **three**; or _____>> years of << **documented**; _____; or **None - N/A**>> experience.
- B. Installer Qualifications: Company specializing in performing work of type specified and with minimum << **three**; or _____>> years<< **documented**; _____; or **None - N/A**>> experience<< **and approved by manufacturer**; or **None - N/A**>>.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Protect materials from exposure to moisture.
- C. Store materials in dry, warm, ventilated, weathertight location.

1.07 WARRANTY

- A. Manufacturer Door-Only Warranty: Provide manufacturer warranty for counterbalance shaft assembly for years indicated under individual doors. Complete forms in <<Owner>>'s name and register with manufacturer.
- B. Manufacturer Door and Operator Warranty: Manufacturer's limited warranty for door and operator system, except counterbalance spring and finish, free from defects in material and workmanship for years and cycles indicated under individual doors.

PART 2 PRODUCTS

2.01 MANUFACTURER

- A. Overhead Door Corporation; www.overheaddoor.com; 1 (800) 929-3667.
- B. Substitutions: Not permitted.

2.02 UPWARD COILING METAL GRILLES

- A. Overhead Door™ Brand; Model 670 Aluminum Security Grille.
 1. Grille: Horizontal bar curtain, coiling on overhead counterbalanced shaft.
 2. Width: << _____>>.
 3. Height: << _____>>.
 4. Mounting: << **Surface-mounted on side indicated on drawings; or Between jamb**>>.
 5. Opening Speed: Door to operate at variable speed of << **6 to 12 inches (152 to 305 mm)**>> per second.
 6. Closing Speed: Door to operate at variable speed << **6 to 12 inches (152 to 305 mm)**>> per second.
 7. Operation Cycles: Capable of operating for 20,000 cycles, minimum. One operation cycle is complete when grille is opened from closed position to fully open position and returned to closed position.

8. Available Warranty:
 - a. Door-Only Warranty: One year.
9. Grille Material: Aluminum.
 - a. Pattern: << **Brick**; **Straight lattice**; **Straight lattice with polycarbonate inserts**; or _____>>.
 - b. Finish: << **Black, anodized**; **Bronze, anodized**; **Clear, anodized**; **Mill finish**; **PowderGuard Premium powder coat to match black anodized**; **PowderGuard Premium powder coat to match bronze anodized**; **PowderGuard Premium powder coat to match clear anodized**; **PowderGuard Premium powder coat**; color: _____; or _____>>.
 - c. Vertical Rod Spacing: << **1-1/2 inches (38 mm)**; **2 inches (51 mm)**; **3 inches (76 mm)**; or _____ inches (_____ mm)>> on center.
 - d. Horizontal Link Spacing: << **3 inches (76 mm)**; **6 inches (152 mm)**; **9 inches (228 mm)**; **12 inches (305 mm)**; or _____ inches (_____ mm)>> on center.
10. Bottom Bar: << **304 Stainless steel**; **6063-T6 aluminum**; **Galvanized steel**; or _____>>.
 - a. Profile: << **Extruded T**; **Extruded tube**; **Single angle**; **Double angle**; or _____>>.
 - b. Finish: << **Black, anodized**; **Bronze, anodized**; **Clear, anodized**; **Hot-dip galvanized**; **Mill finish**; **No.2B mill**; **No.4 satin**; **PowderGuard Premium powder coat to match black anodized**; **PowderGuard Premium powder coat to match bronze anodized**; **PowderGuard Premium powder coat to match clear anodized**; **PowderGuard Premium powder coat**; color: _____; **PowderGuard Zinc-Enriched powder coat**; color: _____; or _____>>.

11. Locking options to include: << **Best cylinder.;** **Best cylinder with thumb turn.;** **Cylinder.;** **Cylinder with thumb turn.;** **Slide lock.;** _____; or **None - N/A**>>
- a. Lock Locations: << **Both jambs;** **Center;** **Left only;** **Right only;** or _____>>.
- b. Lock Access: << **Both sides;** **Coil side;** **Opposite coil side;** or _____>>.
12. Seals:
- a. Bottom Seal Astragal: << **Not required;** **Required;** or _____>>.
13. Side Guides, Channels: Constructed with members fully bolted together.
- a. Material: << **Aluminum;** **Steel;** **304 Stainless steel;** or _____>>.
- b. Finish: << **Black, anodized;** **Bronze, anodized;** **Clear, anodized;** **Hot-dip galvanized;** **Mill finish;** **No.2B mill;** **No.4 satin;** **PowderGuard Premium powder coat to match black anodized;** **PowderGuard Premium powder coat to match bronze anodized;** **PowderGuard Premium powder coat to match clear anodized;** **PowderGuard Premium powder coat;** **color: _____;** **PowderGuard Textured powder coat;** **color: _____;** **PowderGuard Zinc-Enriched powder coat;** **color: _____;** or _____>>.
14. Brackets: << **Stainless steel;** **Steel;** or _____>> to support counterbalance and curtain.
- a. Finish: << **Hot-dip galvanized;** **PowderGuard Premium powder coat;** **color: black;** **PowderGuard Premium powder coat to match clear anodized;** **PowderGuard Premium powder coat to match bronze anodized;** **PowderGuard Premium powder coat to match black anodized;** **PowderGuard Premium powder coat;** **color: _____;** **PowderGuard Textured powder coat;** **color: _____;** **PowderGuard Zinc-Enriched powder coat;** **color: _____;** or _____>>.
15. Counterbalance: Helical torsion spring type, housed in steel tube or pipe barrel and supporting curtain with deflection limited to << **0.03 inch per foot (2.5 mm per m)**>> of span. Adjustable spring tension required.
16. Hood: << **Aluminum;** **Not required;** **Steel;** **304 Stainless steel;** or _____>>.

- a. Finish: << **Black, anodized; Bronze, anodized; Clear, anodized; Galvanized, G90 (Z275); Match curtain; Mill finish; No.4 satin; PowderGuard Premium powder coat to match clear anodized; PowderGuard Premium powder coat to match bronze anodized; PowderGuard Premium powder coat to match black anodized; PowderGuard Premium powder coat; color: _____; PowderGuard Textured powder coat; color: _____; or _____>>.**
17. Manual Operation: << **Chain hoist; Crank; Push-up; or _____>>.**
18. Motor Operation: << **Not required; Provide manufacturer's recommended electric operator; or _____>>.**
- a. Operator: << **UL-listed; and _____>>.**
- b. Size: As recommended by manufacturer to move door at opening and closing speeds indicated above.
- c. Manual Override: << **Hoist; Hoist and jackshaft release; Jackshaft release; or _____>>.**
- d. Timer to Close: << **Automatic closing, controlled by adjustable, hold-open time delay; Not required; or _____>>.**
- e. Operation Supply Voltage: << **220V, 1-phase, 50Hz; 220V, 3-phase, 50Hz; 400V, 3-phase, 50Hz; 115/208/230V, 1-phase, 60Hz; 208/230/460V, 3-phase, 60Hz; 575V, 3-phase, 60Hz; or _____>>.**
- f. Signaling Device: << **Horn and strobe combination; Traffic warning light; or _____>>.**
- g. Actuation Device: Provide << **push button; key switch; pull cord; loop detector; motion detector; treadle switch; radio control; and _____>>.**
- h. Motor Mounting: << **Bench mount; Front of hood; Through wall; Top of hood; Wall-mounted; or _____>>, << **right-hand side; left-hand side; or _____>>.****
- i. Obstruction Safety Detection:
- 1) Constant Contact Button: << **No entrapment; Not required; Required; or _____>>.**
 - 2) Photo Eyes: << **NEMA 4X.; Reflective.; Standard.; _____.; or None - N/A>>**
 - 3) Light Curtain: << **3 feet (0.9 m); 6 feet (1.8 m); or _____ feet (_____ m)>>.**
 - 4) Sensing Edge: << **Two-wire reversing; Wireless reversing; or _____>>.**

B. Overhead Door™ Brand; Model 670 Aluminum Security Grille with Emergency Egress Motorized System.

1. Grille: Horizontal bar curtain, coiling on overhead counterbalanced shaft.

2. Width: << _____ **feet (_____ mm)**>>.

3. Height: << _____ **feet (_____ mm)**>>.
4. Mounting: << **Between jamb; Surface-mounted on side indicated on drawings; or _____**>>.
5. Opening Speed: Door to operate at variable speed of << **8 inches (203 mm)**>> per second.
6. Closing Speed: Door to operate at variable speed of << **12 inches (305 mm)**>> per second.
7. Operation Cycles: Capable of operating for 20,000 cycles, minimum. One operation cycle is complete when grille is opened from closed position to fully open position and returned to closed position.
8. Available Warranty:
 - a. Door Only: One year.
9. Grille Material: Aluminum.
 - a. Pattern: Straight lattice.
 - b. Finish: << **Black, anodized; Bronze, anodized; Clear, anodized; Mill finish; PowderGuard Premium powder coat to match black anodized; PowderGuard Premium powder coat to match bronze anodized; PowderGuard Premium powder coat to match clear anodized; PowderGuard Premium powder coat; color: _____; or _____**>>.
 - c. Vertical Rod Spacing: << **2 inches (51 mm)**>> on center.
 - d. Horizontal Link Spacing: << **3 inches (76 mm); 6 inches (152 mm); 9 inches (228 mm); or _____ inches (_____ mm)**>> on center.
10. Bottom Bar: 6063-T6 aluminum.
 - a. Profile: Extruded tube.

- b. Finish: << **Black, anodized; Bronze, anodized; Clear, anodized; Mill finish; PowderGuard Premium powder coat to match clear anodized; PowderGuard Premium powder coat to match bronze anodized; PowderGuard Premium powder coat to match black anodized; PowderGuard Premium powder coat; color: _____; or _____>>.**
11. Seals:
- a. Bottom Seal Astragal: << **Not required; Required; or _____>>.**
12. Side Guides, Channels: Constructed of aluminum with members fully bolted together.
- a. Finish: << **Black, anodized; Bronze, anodized; Clear, anodized; Mill finish; PowderGuard Premium powder coat to match clear anodized; PowderGuard Premium powder coat to match bronze anodized; PowderGuard Premium powder coat to match black anodized; PowderGuard Premium powder coat; color: _____; PowderGuard Textured powder coat; color: _____; or _____>>.**
13. Brackets: << **Stainless steel; Steel; or _____>> to support counterbalance and curtain.**
- a. Finish: << **Hot-dip galvanized; PowderGuard Premium powder coat; color: black; PowderGuard Zinc-Enriched base powder coat; PowderGuard Premium powder coat to match clear anodized; PowderGuard Premium powder coat to match bronze anodized; PowderGuard Premium powder coat to match black anodized; PowderGuard Premium powder coat; color: _____; PowderGuard Textured powder coat; color: _____; or _____>>.**
14. Counterbalance: Helical torsion spring type, housed in steel tube or pipe barrel and supporting curtain with deflection limited to << **0.03 inch per foot (2.5 mm per m)**>> of span. Adjustable spring tension required.
15. Hood: << **Aluminum; Not required; Steel; 304 Stainless steel; or _____>>.**
- a. Finish: << **Black, anodized; Bronze, anodized; Clear, anodized; Galvanized, G90 (Z275); Mill finish; Match curtain; PowderGuard Premium powder coat to match clear anodized; PowderGuard Premium powder coat to match bronze anodized; PowderGuard Premium powder coat to match black anodized; PowderGuard Premium powder coat; color: _____; PowderGuard Textured powder coat; color: _____; or _____>>.**

6. Closing Speed: Door to operate at variable speed of << **12 inches (305 mm)**>> per second.
7. Operation Cycles: Capable of operating for 20,000 cycles, minimum. One operation cycle is complete when grille is opened from closed position to fully open position and returned to closed position.
8. Available Warranty:
 - a. Door-Only Warranty: One year.
9. Grille Material: << **Stainless steel; Steel; or _____**>>.
 - a. Pattern: << **Brick; Straight lattice; Straight lattice with polycarbonate inserts; or _____**>>.
 - b. Finish: << **Galvanized; No.2 mill finish; No.4 satin finish; PowderGuard Premium powder coat; color: _____; or _____**>>.
- c. Vertical Rod Spacing: << **1-1/2 inches (38 mm); 2 inches (51 mm); 3 inches (76 mm); or _____ inches (_____ mm)**>> on center.
- d. Horizontal Link Spacing: << **3 inches (76 mm); 6 inches (152 mm); 9 inches (228 mm); 12 inches (305 mm); or _____ inch (_____ mm)**>> on center.
10. Bottom Bar: << **304 Stainless steel; 6063-T6 aluminum; Galvanized steel; or _____**>>.
 - a. Profile: << **Extruded T; Extruded tube; Single angle; Double angle; or _____**>>.
 - b. Finish: << **Black, anodized; Bronze, anodized; Clear, anodized; Hot-dip galvanized; Mill finish; No.2B mill; No.4 satin; PowderGuard Premium powder coat to match black anodized; PowderGuard Premium powder coat to match bronze anodized; PowderGuard Premium powder coat to match clear anodized; PowderGuard Premium powder coat; color: _____; PowderGuard Zinc-Enriched powder coat; color: _____; or _____**>>.

11. Locking options to include: << **Best cylinder.;** **Best cylinder with thumb turn.;** **Cylinder.;** **Cylinder with thumb turn.;** **Slide lock.;** _____ .; or **None - N/A**>>
- a. Lock Locations: << **Both jambs;** **Center;** **Left only;** **Right only;**
or _____>>.
- b. Lock Access: << **Both sides;** **Coil side;** **Opposite coil side;**
or _____>>.
12. Seals:
- a. Bottom Seal Astragal: << **Not required;** **Required;** or _____>>.
13. Side Guides, Channels: Constructed with members fully bolted together.
- a. Material: << **Aluminum;** **Steel;** **304 Stainless steel;** or _____>>.
- b. Finish: << **Black, anodized;** **Bronze, anodized;** **Clear, anodized;** **Hot-dip galvanized;** **Mill finish;** **No.2B mill;** **No.4 satin;** **PowderGuard Premium powder coat to match black anodized;** **PowderGuard Premium powder coat to match bronze anodized;** **PowderGuard Premium powder coat to match clear anodized;** **PowderGuard Premium powder coat;**
color: **black;** **PowderGuard Premium powder coat;**
color: _____; **PowderGuard Textured powder coat;**
color: _____; **PowderGuard Zinc-Enriched powder coat;** color: _____;
or _____>>.
14. Brackets: << **Stainless steel;** **Steel;** or _____>> to support counterbalance and curtain.
- a. Finish: << **Hot-dip galvanized;** **PowderGuard Premium powder coat;**
color: **black;** **PowderGuard Premium powder coat to match clear anodized;** **PowderGuard Premium powder coat to match bronze anodized;** **PowderGuard Premium powder coat to match black anodized;** **PowderGuard Premium powder coat;**
color: _____; **PowderGuard Textured powder coat;**
color: _____; **PowderGuard Zinc-Enriched powder coat;**
color: _____; or _____>>.
15. Counterbalance: Helical torsion spring type, housed in steel tube or pipe barrel and supporting curtain with deflection limited to << **0.03 inch per foot (2.5 mm per m)**>> of span. Adjustable spring tension required.

16. Hood: << **Aluminum; Not required; Steel; 304 Stainless steel;**
or _____>>.
- a. Finish: << **Black, anodized; Black, primed; Bronze, anodized; Clear, anodized; Galvanized, G90 (Z275); Match curtain; Mill finish; No.4 satin; PowderGuard Premium powder coat to match black anodized; PowderGuard Premium powder coat to match bronze anodized; PowderGuard Premium powder coat to match clear anodized; PowderGuard Premium powder coat; color: _____; PowderGuard Textured powder coat; color: _____; or _____>>.**
17. Manual Operation: << **Chain hoist; Crank; Push-up; or _____>>.**
18. Motor Operation: << **Not required; Provide manufacturer's recommended electric operator; or _____>>.**
- a. Operator: << **UL-listed; and _____>>.**
- b. Size: As recommended by manufacturer to move door at opening and closing speeds indicated above.
- c. Manual Override: << **Hoist; Hoist and jackshaft release; Jackshaft release; or _____>>.**
- d. Timer to Close: << **Automatic closing, controlled by adjustable hold-open time delay; Not required; or _____>>.**
- e. Operation Supply Voltage: << **115/208/230V, 1-phase, 60Hz; 208/230/460V, 3-phase, 60Hz; 575V, 3-phase, 60Hz; 220V, 1-phase, 50Hz; 220V, 3-phase, 50Hz; 400V, 3-phase, 50Hz; or _____>>.**
- f. Signaling Device: << **Horn and strobe combination; Traffic warning light; or _____>>.**
- g. Actuation Device: Provide << **push button; key switch; pull cord; loop detector; motion detector; treadle switch; radio control; and _____>>.**
- h. Motor Mounting: << **Bench mount; Front of hood; Through wall; Top of hood; Wall-mounted; or _____>>, << **right-hand side; left-hand side; or _____>>.****
- i. Obstruction Safety Detection:
- 1) Constant Contact Button: << **No entrapment; Not required; Required; or _____>>.**
 - 2) Photo Eyes: << **NEMA 4X.; Reflective.; Standard.; _____.; or None - N/A>>**
 - 3) Light Curtain: << **3 feet (0.9 m); 6 feet (1.8 m); or _____ feet (_____ m)>>.**

- 4) Sensing Edge: << **Two-wire reversing; Wireless reversing;**
or _____>>.
- D. Overhead Door™ Brand; Model 671 Steel Security Grille with Emergency Egress Motorized System.
1. Grille: Horizontal bar curtain, coiling on overhead counterbalanced shaft.

 2. Width: << _____ **feet (_____ mm)**>>.

 3. Height: << _____ **feet (_____ mm)**>>.
 4. Mounting: << **Between jamb; Surface-mounted on side indicated on drawings; or _____**>>.
 5. Opening Speed: Door to operate at variable speed of << **8 inches (203 mm)**>> per second.
 6. Closing Speed: Door to operate at variable speed << **12 inches (305 mm)**>> per second.
 7. Operation Cycles: Capable of operating for 20,000 cycles, minimum. One operation cycle is complete when grille is opened from closed position to fully open position and returned to closed position.
 8. Available Warranty:
 - a. Door-Only Warranty: One year.
 9. Grille Material: << **Stainless steel; Steel; or _____**>>.
 - a. Pattern: Straight lattice.
 - b. Finish: << **Galvanized; No.2 mill finish; No.4 satin finish; PowderGuard Premium powder coat; color: _____; or _____**>>.
 - c. Vertical Rod Spacing: << **2 inches (51 mm)**>> on center.
 - d. Horizontal Link Spacing: << **3 inches (76 mm); 6 inches (152 mm); 9 inches (228 mm); or _____ inch (_____ mm)**>> on center.
 10. Bottom Bar: 6063-T6 aluminum.
 - a. Profile: Extruded tube.
 - b. Finish: << **Black, anodized; Bronze, anodized; Clear, anodized; Hot-dip galvanized; Mill finish; No.2B mill; No.4 satin; PowderGuard Premium powder coat to match clear anodized; PowderGuard Premium powder coat to match bronze anodized; PowderGuard Premium powder coat to match black anodized; PowderGuard Premium powder coat; color: _____; PowderGuard Zinc-Enriched powder coat; color: _____; or _____**>>.
 11. Seals:

- a. Bottom Seal Astragal: << **Required**; **Not required**; or _____>>.
- 12. Side Guides, Channels: Constructed of aluminum with members fully bolted together.
 - a. Finish: << **Black, anodized**; **Bronze, anodized**; **Clear, anodized**; **Mill finish**; **PowderGuard Premium powder coat to match black anodized**; **PowderGuard Premium powder coat to match bronze anodized**; **PowderGuard Premium powder coat to match clear anodized**; **PowderGuard Premium powder coat**; color: _____; **PowderGuard Textured powder coat**; color: _____; or _____>>.
- 13. Brackets: << **Stainless steel**; **Steel**; or _____>> to support counterbalance and curtain.
 - a. Finish: << **Hot-dip galvanized**; **PowderGuard Premium powder coat**; color: **black**; **PowderGuard Premium powder coat to match black anodized**; **PowderGuard Premium powder coat to match bronze anodized**; **PowderGuard Premium powder coat to match clear anodized**; **PowderGuard Premium powder coat**; color: _____; **PowderGuard Textured powder coat**; color: _____; **PowderGuard Zinc-Enriched powder coat**; color: _____; or _____>>.
- 14. Counterbalance: Helical torsion spring type, housed in steel tube or pipe barrel and supporting curtain with deflection limited to << **0.03 inch per foot (2.5 mm per m)**>> of span. Adjustable spring tension required.
- 15. Hood: << **Aluminum**; **Not required**; **Steel**; **304 Stainless steel**; or _____>>.
 - a. Finish: << **Black, anodized**; **Bronze, anodized**; **Clear, anodized**; **Galvanized, G90 (Z275)**; **Match curtain**; **Mill finish**; **No.4 satin**; **PowderGuard Premium powder coat to match black anodized**; **PowderGuard Premium powder coat to match bronze anodized**; **PowderGuard Premium powder coat to match clear anodized**; **PowderGuard Premium powder coat**; color: _____; **PowderGuard Textured powder coat**; color: _____; or _____>>.
- 16. Emergency Egress: Required.

17. Motor Operation: Provide UL-listed electric operator; size as recommended by manufacturer to move door in either direction, minimum << **8 inches (203 mm)**>> and maximum << **12 inches (305 mm)**>> per second.
 - a. Manual Override: Jackshaft release.
 - b. Timer to Close: << **Automatic closing controlled by adjustable hold open time delay; Not required; or _____**>>.
 - c. Operation Supply Voltage: << **115/208/230V, 1-phase, 60Hz; 208/230/460V, 3-phase, 60Hz; 575V, 3-phase, 60Hz; or _____**>>.
 - d. Signaling Device: << **Horn and strobe combination; Traffic warning light; or _____**>>.
 - e. Actuation Device: Provide << **push button; key switch; pull cord; loop detector; motion detector; treadle switch; radio control; and _____**>>.
 - f. Motor Mounting: << **Bench mount; Front of hood; Top of hood; Wall-mounted; or _____**>>, << **right-hand side; left-hand side; or _____**>>.
 - g. Motor Enclosure: << **NEMA 4-12 watertight and oiltight; NEMA 4X corrosion-resistant; Not required; Totally enclosed, fan-cooled motor; Totally enclosed, non-ventilated; or _____**>>.
 - h. Obstruction Safety Detection:
 - 1) Constant Contact Button: << **No entrapment; Not required; Required; or _____**>>.
 - 2) Photo Eyes: << **NEMA 4X; Reflective; Standard; _____; or None - N/A**>>.
 - 3) Light Curtain: << **3 feet (0.9 m); 6 feet (1.8 m); or _____ feet (_____ m)**>>.
 - 4) Sensing Edge: << **Two-wire reversing; Wireless reversing; or _____**>>.
- E. Overhead Door™ Brand; Model 674 Perforated Aluminum Panel Security Grille.
 1. Grille: Horizontal bar curtain, coiling on overhead counterbalanced shaft.
 2. Width: << **_____ feet (_____ mm)**>>.
 3. Height: << **_____ feet (_____ mm)**>>.
 4. Mounting: << **Between jamb; Surface-mounted on side indicated on drawings; or _____**>>.
 5. Opening Speed: Door to operate at variable speed of << **6 to 12 inches (152 to 305 mm)**>> per second.

6. Closing Speed: Door to operate at variable speed << **6 to 12 inches (152 to 305 mm)**>> per second.
7. Operation Cycles: Capable of operating for 20,000 cycles, minimum. One operation cycle is complete when grille is opened from closed position to fully open position and returned to closed position.
8. Available Warranty:
 - a. Door-Only Warranty: One year.
9. Grille Material: << **Aluminum**; or _____>>.
 - a. Pattern: Perforated panel.
 - b. Finish: << **Clear anodized**; **PowderGuard Premium powder coat**; **color: _____**; or _____>>.
10. Bottom Bar: 6063-T6 aluminum.
 - a. Profile: Extruded tube.
 - b. Finish: Clear anodized.

11. Locking options to include: << **Best cylinder.**; **Best cylinder with thumb turn.**; **Cylinder.**; **Cylinder with thumb turn.**; **Slide lock.**; _____.; or **None - N/A**>>
 - a. Lock Locations: << **Both jambs**; **Center**; **Left only**; **Right only**; or _____>>.
 - b. Lock Access: << **Both sides**; **Coil side**; **Opposite coil side**; or _____>>.
12. Seals:
 - a. Bottom Seal Astragal: << **Not required**; **Required**; or _____>>.
13. Side Guides, Channels: Constructed of aluminum with members fully bolted together.
 - a. Finish: << **Black, anodized**; **Bronze, anodized**; **Clear, anodized**; **Mill finish**; **PowderGuard Premium powder coat to match black anodized**; **PowderGuard Premium powder coat to match bronze anodized**; **PowderGuard Premium powder coat to match clear anodized**; **PowderGuard Premium powder coat**; **color: _____**; **PowderGuard Textured powder coat**; **color: _____**; or _____>>.
14. Brackets: Galvanized steel to support counterbalance and curtain.

- a. Finish: << **Galvanized; PowderGuard Premium powder coat; color: _____; or _____**>>.
15. Counterbalance: Helical torsion spring type, housed in steel tube or pipe barrel and supporting curtain with deflection limited to << **0.03 inch per foot (2.5 mm per m)**>> of span. Adjustable spring tension required.
16. Hood: << **Aluminum; Not required; Steel; or _____**>>.
- a. Finish: << **Black, anodized; Bronze, anodized; Clear, anodized; Match curtain; Mill finish; PowderGuard Premium powder coat to match black anodized; PowderGuard Premium powder coat to match bronze anodized; PowderGuard Premium powder coat to match clear anodized; PowderGuard Premium powder coat; color: _____; PowderGuard Textured powder coat; color: _____; or _____**>>.
17. Manual Operation: << **Chain hoist; Crank; Push-up; or _____**>>.
18. Motor Operation: << **Not required; Provide manufacturer's recommended electric operator; or _____**>>.
- a. Operator: << **UL-listed; and _____**>>.
- b. Size: As recommended by manufacturer to move door at opening and closing speeds indicated above.
- c. Manual Override: << **Hoist; Hoist and jackshaft release; Jackshaft release; or _____**>>.
- d. Timer to Close: << **Automatic closing controlled by adjustable hold open time delay; Not required; or _____**>>.
- e. Operation Supply Voltage: << **115/208/230V, 1-phase, 60Hz; 208/230/460V, 3-phase, 60Hz; 575V, 3-phase, 60Hz; 220V, 1-phase, 50Hz; 220V, 3-phase, 50Hz; 400V, 3-phase, 50Hz; or _____**>>.
- f. Signaling Device: << **Horn and strobe combination; Traffic warning light; or _____**>>.
- g. Actuation Device: Provide << **push button; key switch; pull cord; loop detector; motion detector; treadle switch; radio control; and _____**>>.
- h. Motor Mounting: << **Bench mount; Front of hood; Through wall; Top of hood; Wall-mounted; or _____**>>, << **right-hand side; left-hand side; or _____**>>.
- i. Obstruction Safety Detection:
- 1) Constant Contact Button: << **No entrapment; Not required; Required; or _____**>>.
 - 2) Photo Eyes: << **NEMA 4X.; Reflective.; Standard.; _____; or None - N/A**>>

- 3) Light Curtain: << **3 feet (0.9 m); 6 feet (1.8 m); or _____ feet (_____ m)>>**.
- 4) Sensing Edge: << **Two-wire reversing; Wireless reversing; or _____>>**.

2.03 SPRINGLESS UPWARD COILING METAL GRILLES

A. Overhead Door™ Brand; Model 671S.

1. Grille: Horizontal bar curtain, coiling on overhead counterbalanced shaft.

2. Width: << **_____ feet (_____ mm)>>**.

3. Height: << **_____ feet (_____ mm)>>**.
4. Mounting: Surface-mounted on side indicated on drawings.
5. Opening Speed: Door to operate at variable speed of << **8 inches (203 mm)>>** per second.
6. Closing Speed: Door to operate at variable speed << **12 inches (305 mm)>>** per second.
7. Operation Cycles: Capable of operating for 300,000 cycles, minimum. One operation cycle is complete when grille is opened from closed position to fully open position and returned to closed position.
8. Available Warranty:
 - a. Limited Warranty: Two years.
9. Grille Material:
 - a. Grille Rod: << **Stainless steel; Steel; or _____>>**.
 - b. Grille Spacer Tubes: << **Aluminum; 304 Stainless steel; or _____>>**.
 - 1) Finish: << **Black, anodized; Bronze, anodized; Clear, anodized; Mill finish; No.2B mill; No.4 satin; PowderGuard Premium powder coat to match black anodized; PowderGuard Premium powder coat to match bronze anodized; PowderGuard Premium powder coat to match clear anodized; PowderGuard Premium powder coat; color: _____; or _____>>**.
 - c. Grille Links: << **Aluminum; Stainless steel; Steel; or _____>>**.
 - 1) Finish: << **Galvanized; Mill finish; No.2B mill; No.4 satin; PowderGuard Premium powder coat to match black anodized; PowderGuard Premium powder coat to match bronze anodized; PowderGuard Premium powder coat to match clear anodized; PowderGuard Premium powder coat; color: _____; or _____>>**.
 - d. Pattern: << **Brick; Straight lattice; or _____>>**.
 - e. Vertical Rod Spacing: << **2 inches (51 mm)>>**.
 - f. Horizontal Link Spacing: << **9 inches (229 mm)>>**.
10. Bottom Bar: << **6063-T6 aluminum; Galvanized steel; or _____>>**.

- a. Profile: << **Double angle; Extruded tube; or _____>>.**
 - b. Finish: << **Black anodized; Bronze anodized; Clear anodized; Hot-dip galvanized; Mill finish; PowderGuard Premium powder coat to match black anodized; PowderGuard Premium powder coat to match bronze anodized; PowderGuard Premium powder coat to match clear anodized; PowderGuard Premium powder coat; color: _____; PowderGuard Zinc-Enriched powder coat; color: _____; or _____>>.**
11. Seals:
- a. Bottom Seal Astragal: << **Required; Not required; or _____>>.**
12. Side Guides, Channels: Constructed of steel with members fully bolted together. Three-angle structural steel high usage guide.
- a. Finish: << **Hot-dip galvanized; PowderGuard Premium powder coat; color: black; PowderGuard Premium powder coat to match black anodized; PowderGuard Premium powder coat to match bronze anodized; PowderGuard Premium powder coat to match clear anodized; PowderGuard Premium powder coat; color: _____; PowderGuard Textured powder coat; color: _____; PowderGuard Zinc-Enriched powder coat; color: _____; or _____>>.**
13. Brackets: Steel to support counterbalance and curtain.
- a. Finish: << **Hot-dip galvanized; PowderGuard Premium powder coat; color: black; PowderGuard Premium powder coat to match black anodized; PowderGuard Premium powder coat to match bronze anodized; PowderGuard Premium powder coat to match clear anodized; PowderGuard Premium powder coat; color: _____; PowderGuard Textured powder coat; color: _____; PowderGuard Zinc-Enriched powder coat; color: _____; or _____>>.**
14. Door Roll: Directly driven, steel, springless roll with integral shafts, keyed on drive end and supported by self-aligning greaseable sealed bearings. Counterbalance device not required.
15. Hood: << **Aluminum; Not required; Galvanized steel; Stainless steel; or _____>>.**

- a. Finish: << **Black, primed; Galvanized, G90 (Z275); Match curtain; PowderGuard Premium powder coat to match black anodized; PowderGuard Premium powder coat to match bronze anodized; PowderGuard Premium powder coat to match clear anodized; PowderGuard Premium powder coat; color: _____; PowderGuard Textured powder coat; color: _____; or _____>>.**
16. Motor Operation: Direct drive, integrated gear motor and brake assembly, sized as recommended by manufacturer to move door in either direction, minimum << **8 inches (203 mm)**>> and maximum << **12 inches (305 mm)**>> per second. Operator and drive assembly is factory pre-assembled and provided with all wiring harnesses needed direct from factory.
- a. Manual Override: << **Hoist; Hoist and jackshaft release; Jackshaft release; or _____>>.**
 - b. Timer to Close: Time delay self-close timer and nonresettable cycle counter.
 - c. Operation Supply Voltage: << **115/208/230V, 1-phase, 60Hz; 208/230/460V, 3-phase, 60Hz; 575V, 3-phase, 60Hz; 220V, 1-phase, 50Hz; 220V, 3-phase, 50Hz; 400V, 3-phase, 50Hz; or _____>>.**
 - d. Signaling Device: << **Horn and strobe combination; Traffic warning light; or _____>>.**
 - e. Actuation Device: Provide << **push button; key switch; pull cord; loop detector; motion detector; treadle switch; radio control; and _____>>.**
 - f. Motor Mounting: << **Front of hood; Wall-mounted; or _____>>, << **right-hand side; left-hand side; or _____>>.****
 - g. Obstruction Safety Detection:
 - 1) Primary, Monitored: << **Dual photo eyes; Reflective photo eyes; Thru-beam photo eyes; Two-wire reversing safety edge; or _____>>.**
 - 2) Secondary, Unmonitored: << **Dual photo eyes; Reflective photo eyes; Thru-beam photo eyes; Two-wire reversing safety edge; or _____>>.**
 - h. Control Panel: Electronic controller with microprocessor self-diagnostics. Digital readout indicates door action, alarm conditions, and fault conditions. Includes time delay self-close timer and nonresettable cycle counter. Enclosure is IP54-rated, NEMA 3 equivalent.

2.04 ADVANCED PERFORMANCE UPWARD COILING METAL GRILLES

- A. Overhead Door™ Brand; Model 676.
 - 1. Grille: Horizontal bar curtain, coiling on overhead counterbalanced shaft.
 - 2. Width: << _____ **feet (_____ mm)**>>.
 - 3. Height: << _____ **feet (_____ mm)**>>.
 - 4. Mounting: Surface-mounted on side indicated on drawings.

5. Opening Speed: Door to operate at variable speed of << **24 inches per second (610 mm per second)**>>.
6. Closing Speed: Door to operate at variable speed of << **12 inches per second (305 mm per second)**>>.
7. Operation Cycles: Capable of operating for 300,000 cycles, minimum. One operation cycle is complete when grille is opened from closed position to fully open position and returned to closed position.
8. Available Warranty:
 - a. Limited Warranty: Two years.
9. Grille Material:
 - a. Grille Rod: << **Stainless steel; Steel; or _____**>>.
 - b. Grille Spacer Tubes: << **Aluminum; 304 Stainless steel; or _____**>>.
 - 1) Finish: << **Black anodized; Bronze anodized; Clear anodized; Mill finish; No.2B mill; No.4 satin; PowderGuard Premium powder coat to match clear anodized; PowderGuard Premium powder coat to match bronze anodized; PowderGuard Premium powder coat to match black anodized; PowderGuard Premium powder coat; color: _____; or _____**>>.
 - c. Grille Links: << **Aluminum; Stainless steel; Steel; or _____**>>.
 - 1) Finish: << **Galvanized; Mill finish; No.4 satin; PowderGuard Premium powder coat to match black anodized; PowderGuard Premium powder coat to match bronze anodized; PowderGuard Premium powder coat to match clear anodized; PowderGuard Premium powder coat; color: _____; or _____**>>.
 - d. Pattern: << **Brick; Straight lattice; or _____**>>.
 - e. Vertical Rod Spacing: << **2 inches (51 mm)**>>.
 - f. Horizontal Link Spacing: << **9 inches (229 mm)**>>.
10. Bottom Bar: << **6063-T6 aluminum; Galvanized steel; or _____**>>.
 - a. Profile: << **Extruded tube; Double angle; or _____**>>.
 - b. Finish: << **Black anodized; Bronze anodized; Clear anodized; Hot-dip galvanized; Mill finish; PowderGuard Premium powder coat to match black anodized; PowderGuard Premium powder coat to match bronze anodized; PowderGuard Premium powder coat to match clear anodized; PowderGuard Premium powder coat; color: _____; PowderGuard Zinc-Enriched powder coat; color: _____; or _____**>>.
11. Seals:
 - a. Bottom Seal Astragal: << **Required; Not required; or _____**>>.
12. Side Guides, Channels: Constructed of steel with members fully bolted together. Three-angle structural steel high usage guide.

- a. Finish: << **Hot-dip galvanized**; PowderGuard Premium powder coat; color: black; PowderGuard Premium powder coat to match black anodized; PowderGuard Premium powder coat to match bronze anodized; PowderGuard Premium powder coat to match clear anodized; PowderGuard Premium powder coat; color: _____; PowderGuard Textured powder coat; color: _____; PowderGuard Zinc-Enriched powder coat; color: _____; or _____>>.
13. Brackets: Galvanized steel to support counterbalance and curtain.
- a. Finish: << **Hot-dip galvanized**; PowderGuard Premium powder coat; color: black; PowderGuard Premium powder coat to match clear anodized; PowderGuard Premium powder coat to match bronze anodized; PowderGuard Premium powder coat to match black anodized; PowderGuard Premium powder coat; color: _____; PowderGuard Textured powder coat; color: _____; PowderGuard Zinc-Enriched powder coat; color: _____; or _____>>.
14. Door Roll: Directly driven, steel, springless roll with integral shafts, keyed on drive end and supported by self-aligning greaseable sealed bearings. Counterbalance device not required.
15. Hood: << **Aluminum**; **Not required**; Galvanized steel; Stainless steel; or _____>>.
- a. Finish: << **Black, primed**; Galvanized, G90 (Z275); **Match curtain**; PowderGuard Premium powder coat to match clear anodized; PowderGuard Premium powder coat to match black anodized; PowderGuard Premium powder coat to match bronze anodized; PowderGuard Premium powder coat; color: _____; PowderGuard Textured powder coat; color: _____; or _____>>.
16. Motor Operation: Direct drive, integrated gear motor and brake assembly, sized as recommended by manufacturer to move door in either direction, minimum << **8 inches (203 mm)**>> and maximum << **12 inches (305 mm)**>> per second. Operator and drive assembly is factory pre-assembled and provided with all wiring harnesses needed direct from factory.
- a. Manual Override: Hoist or crank, determined by motor recommended by manufacturer.
 - b. Timer to Close: Time delay self-close timer and nonresettable cycle counter.
 - c. Operation Supply Voltage: << **208V, 1-phase, 60Hz**; **208V, 3-phase, 60Hz**; **575V, 3-phase, 60Hz**; **220-240V, 1-phase, 50Hz**; **220V, 3-phase, 50Hz**; **440-480V, 3-phase, 50Hz**; or _____>>.
 - d. Signaling Device: << **Horn and strobe combination**; Traffic warning light; or _____>>.
 - e. Actuation Device: Provide << **push button**; **key switch**; **pull cord**; **loop detector**; **motion detector**; **treadle switch**; **radio control**; and _____>>.
 - f. Motor Mounting: << **Front of hood**; **Wall-mounted**; or _____>>, << **right-hand side**; **left-hand side**; or _____>>.
 - g. Obstruction Safety Detection:
 - 1) Primary, Monitored: Wireless reversing safety edge.

- 2) Secondary, Unmonitored: << **Dual photo eyes; Dual thru-beam photo eyes; Reflective photo eyes; Thru-beam photo eyes; or _____**>>.
- h. Control Panel: Variable frequency drive controller with microprocessor self-diagnostics. LCD readout indicates door action, alarm conditions, and fault conditions. Includes timer to close programming options and nonresettable cycle counter. Enclosure is NEMA 4X-rated. Control system in accordance with <<**UL 508A**>>. Junction box is IP67-rated.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify adjacent construction is suitable for grille installation.
- B. Verify electrical services are installed and accessible.
- C. Verify grille opening is plumb, header is level, and dimensions are correct.
- D. Notify <<**Architect**>> of unacceptable conditions or varying dimensions.
- E. Commencing installation indicates acceptance of substrate and grille opening conditions.

3.02 INSTALLATION

- A. Install grille unit assembly in accordance with manufacturer's instructions.
- B. Securely fasten assembly to wall construction using anchorage devices and building framing without distortion or stress.
- C. Securely and rigidly brace components suspended from structure.<< **Secure guides to structural members only; _____ ; or None - N/A**>>
- D. Fit and align assembly including hardware, level and plumb, to provide smooth operation.
- E. See Section << **260583**>> to coordinate installation of electrical service.
- F. Complete wiring from disconnect to unit components.
- G. Install enclosure and perimeter trim.

3.03 TOLERANCES

- A. Maintain dimensional tolerances and alignment with adjacent work.
- B. Maximum Variation From Plumb: << **1/16 inch (1.5 mm); or ___ inch (___ mm)**>>.
- C. Maximum Variation From Level: << **1/16 inch (1.5 mm); or ___ inch (___ mm)**>>.
- D. Longitudinal or Diagonal Warp: Plus or minus << **1/8 inch per 10 feet (3 mm per 3 m); or _____ inch per 10 feet (___ mm per 3 m)**>> straight edge.

3.04 ADJUSTING

- A. Adjust grille, hardware, and operating assemblies for smooth and noiseless operation.

3.05 CLEANING

- A. See Section << **017000 - Execution and Closeout Requirements**>> for additional requirements.
- B. Clean grille and components.
- C. Remove labels and visible markings.

END OF SECTION