



**SECTION 083326
UPWARD COILING GRILLES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Overhead coiling metal grilles.
- B. Springless overhead coiling metal grilles.
- C. Advanced performance overhead 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 508A - Industrial Control Panels; Current Edition, Including All Revisions.
- C. UL (DIR) - Online Certifications Directory; Current Edition.

1.04 SUBMITTALS

- A. Product Data: Provide details of general construction component connections<< **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 dimensioning, anchorage methods, hardware locations, and installation details.
- C. Manufacturer's Instructions: Indicate installation sequences and procedures, as well as adjustment and alignment procedures.
- D. Manufacturer's qualification statement.
- E. Installer's qualification statement.
- F. Operation and Maintenance Data: Indicate << **lubrication requirements and frequency; periodic adjustments required; and _____**>>.
- G. Specimen warranty.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum << **3 years; or _____**>> of<< **documented; _____; or None - N/A**>> experience.
- B. Installer Qualifications: Company specializing in performing work of type specified and with minimum << **3 years; or _____**>> of<< **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

- 1. Manufacturer Door-Only Warranty: Provide manufacturer warranty for door assembly for duration indicated under individual doors.
- 2. Manufacturer Door and Operator Warranty: Provide manufacturer's limited warranty for door and operator system free from material and workmanship defects for duration and cycles indicated under individual doors; counterbalance spring and finish not covered by warranty.

PART 2 PRODUCTS

2.01 MANUFACTURER

- A. Wayne Dalton; www.wayne-dalton.com; 1 (800) 827-3667.
- B. Substitutions: Not permitted.

2.02 UPWARD COILING GRILLES

- A. Wayne Dalton; Security Grille Model 600.
 - 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: << **Steel; Stainless steel; or Aluminum**>>.
 - a. Pattern: << **Brick; Straight lattice; Straight lattice with polycarbonate inserts;**
or _____>>.

 - b. Steel Finish: << **Galvanized and primer painted; Powder coat; color: _____;**
or _____>>.

- c. Aluminum Finish: << **Mill finish**; **Clear, anodized**; **Bronze, anodized**; **Powder coat**; **color: _____**; or **_____**>>.
 - d. Stainless Steel Finish: No.4 finish.
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- e. Vertical Spacing Between Rods: << **1-1/2 inches (38 mm)**; **2 inches (51 mm)**; **3 inches (76 mm)**; or **_____ inches (_____ mm)**>> on center.
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- f. Grille Pattern: << **G-6 straight pattern**; **9-inch (229 mm) spacing**; **G-6 straight pattern**; **9-inch (229 mm) spacing with acrylic lites and aluminum curtain**; **G-6 modified straight pattern**; **6-inch (152 mm) spacing**; **G-8 straight pattern**; **4-inch (102 mm) spacing**; **G-3 straight pattern**; **3-inch (76 mm) spacing**; **G-7 straight pattern**; **2-inch (51 mm) spacing**; **G-1 brick pattern**; **9-inch (229 mm) spacing**; **4.5 inch (114 mm) staggered**; **G-1 modified brick pattern**; **9-inch (229 mm) spacing**; **3.125 inch (79 mm) staggered**; or **Centerlock security pattern**>>.
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10. Bottom Bar: << **Galvanized steel**; **6063-T6 aluminum**; **304 stainless steel**; or **_____**>> with nylon end caps and vinyl astragals.
- a. Steel Profile: << **Extruded T**; **Extruded tube**; **Single angle**; **Double angle**; **Sloping**; **Curb cutout**; or **_____**>>.
 - b. Aluminum Profile: << **Extruded T**; **Extruded tube**; **Single angle**; **Double angle**; **Sloping**; **Curb cutout**; or **_____**>>.
 - c. Stainless Steel Profile: << **Extruded T**; **Extruded tube**; **Single angle**; **Double angle**; **Sloping**; **Curb cutout**; or **_____**>>.
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- d. Steel Finish: << **Hot-dip galvanized**; **Powder coat to match black anodized**; **Powder coat to match bronze anodized**; **Powder coat to match clear anodized**; or **Powder coat**; **color: _____**>>.
 - e. Aluminum Finish: << **Black, anodized**; **Bronze, anodized**; **Clear, anodized**; **Mill finish**; or **Powder coat**; **color: _____**>>.
 - f. Stainless Steel Finish: << **No.2B mill**; **No.4 satin**; or **_____**>>.
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11. Locking Options to Include: << **Best cylinder.**; **Best cylinder with thumb turn.**; **Cylinder.**; **Cylinder with thumb turn.**; **Slide lock.**; **EZ-LOK with emergency egress.**; **_____**; 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: << **Steel; Aluminum; 304 stainless steel; or _____**>>.
- b. Steel Finish: << **Black, anodized; Bronze, anodized; Clear, anodized; Hot-dip galvanized; Mill finish; No.2B mill; No.4 satin; Powder coat to match black anodized; Powder coat to match bronze anodized; Powder coat to match clear anodized; Powder coat; color: _____; or _____**>>.
- c. Aluminum Finish: << **Black, anodized; Bronze, anodized; Clear, anodized; Mill finish; or Powder coat; color: _____**>>.
- d. Stainless Steel Finish: << **No.2B mill; No.4 satin; or _____**>>.
14. Brackets: << **Stainless steel; Steel; or _____**>> to support counterbalance and curtain. Include sealed ball bearings to support counterbalance assembly and brackets to form enclosures and support of hood.
- a. Thickness: << **1/16 inch (1.5 mm)**>> minimum.
- b. Steel Finish: << **Hot-dip galvanized; Powder coat; color: _____; or _____**>>.
- c. Stainless Steel Finish: << **No.2B mill; No.4 satin; 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; Steel; 304 stainless steel; Not required; or _____**>>.
- a. Provide intermediate hood supports over << **16 feet (4.9 meters)**>> opening width.
- b. Finish: << **Black, anodized; Bronze, anodized; Clear, anodized; Galvanized, G90 (Z275); Match curtain; Mill finish; No.4 satin; Powder coat to match clear anodized; Powder coat to match bronze anodized; Powder coat to match black anodized; Powder coat; color: _____; or _____**>>.
17. Manual Operation: << **Chain hoist; Awning crank; Wall 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 _____>>.
- j. Emergency Egress: 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 unavailable.

2.03 SPRINGLESS OVERHEAD COILING METAL GRILLES

A. Wayne Dalton, Model 600 HC.

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 or 300,000 cycles, whichever comes first.
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; Powder coat to match black anodized; Powder coat to match bronze anodized; Powder coat to match clear anodized; Powder coat; color: _____; or _____>>.**
 - c. Grille Links: << **Aluminum; Stainless steel; Steel; or _____>>.**
- 1) Finish: << **Galvanized; Mill finish; No.2B mill; No.4 satin; Powder coat to match black anodized; Powder coat to match bronze anodized; Powder coat to match clear anodized; 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; Powder coat to match black anodized; Powder coat to match bronze anodized; Powder coat to match clear anodized; Powder coat; color: _____; 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; Powder coat; color: black; Powder coat to match black anodized; Powder coat to match bronze anodized; Powder coat to match clear anodized; Powder coat; color: _____; Textured powder coat; color: _____; Zinc-enriched powder coat; color: _____; or _____>>.**
 13. Brackets: Steel to support counterbalance and curtain.
 - a. Finish: << **Hot-dip galvanized; Powder coat; color: black; Powder coat to match black anodized; Powder coat to match bronze anodized; Powder coat to match clear anodized; Powder coat; color: _____; Textured powder coat; color: _____; 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 greasable 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; Powder coat to match black anodized; Powder coat to match bronze anodized; Powder coat to match clear anodized; Powder coat; color: _____; 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 preassembled and provided with 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 non-resettable 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 non-resettable cycle counter. Enclosure is IP54-rated, NEMA 3 equivalent.

2.04 ADVANCED PERFORMANCE OVERHEAD COILING METAL GRILLES

- A. Wayne Dalton, Model 600 ADV.
 - 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 or 300,000 cycles, whichever comes first.
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; Powder coat to match clear anodized; Powder coat to match bronze anodized; Powder coat to match black anodized; Powder coat; color: _____; or _____**>>.
 - c. Grille Links: << **Aluminum; Stainless steel; Steel; or _____**>>.
 - 1) Finish: << **Galvanized; Mill finish; No.4 satin; Powder coat to match black anodized; Powder coat to match bronze anodized; Powder coat to match clear anodized; 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; Powder coat to match black anodized; Powder coat to match bronze anodized; Powder coat to match clear anodized; Powder coat; color: _____; 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; Powder coat; color: black; Powder coat to match black anodized; Powder coat to match bronze anodized; Powder coat to match clear anodized; Powder coat; color: _____; Textured powder coat; color: _____; Zinc-enriched powder coat; color: _____; or _____**>>.
13. Brackets: Galvanized steel to support counterbalance and curtain.

- a. Finish: << **Hot-dip galvanized; Powder coat; color: black; Powder coat to match clear anodized; Powder coat to match bronze anodized; Powder coat to match black anodized; Powder coat; color: _____; Textured powder coat; color: _____; 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 greasable sealed bearings. Counterbalance device not required.
- 15. Hood: << **Aluminum; Galvanized steel; Stainless steel; Not required; or _____**>>.
- a. Finish: << **Black, primed; Galvanized, G90 (Z275); Match curtain; Powder coat to match clear anodized; Powder coat to match black anodized; Powder coat to match bronze anodized; Powder coat; color: _____; 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 preassembled and provided with 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 non-resettable 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 non-resettable 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