SECTION 08 33 26
OVERHEAD COILING GRILLES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Overhead coiling metal grilles and operating hardware; electrically or manually operated.
B. Wiring from electric circuit disconnect to operator and to control station.

1.2 RELATED REQUIREMENTS

A. Section 05 12 00 - Structural Steel Framing: Support framing.
B. Section 26 05 33.13 - Conduit for Electrical Systems: Conduit from electric circuit to operator and from operator to control station.
C. Section 26 05 83 - Wiring Connections: Power to disconnect.
D. Section 28 10 00 - Access Control: Electronic access.

1.3 REFERENCE STANDARDS

A. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2022.
B. ASTM A 924 - Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process.
C. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar 2015.
D. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes 2021.
E. ITS (DIR) - Directory of Listed Products Current Edition.
F. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum) 2020.
G. NEMA ICS 2 - Industrial Control and Systems Controllers, Contactors and Overload Relays Rated 600 Volts 2008 (Reaffirmed 2020).
H. NEMA MG 1 - Motors and Generators 2021.
I. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.4 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
B. Product Data: Provide general construction component connections and details, and electrical equipment.
C. Shop Drawings: Indicate pertinent dimensioning, anchorage methods, hardware locations, and installation details.
D. Manufacturer's Installation Instructions: Indicate installation sequences and procedures, adjustment and alignment procedures.
E. Manufacturer's Qualification Statement.
F. Maintenance Data: Indicate lubrication requirements and frequency and periodic adjustments required.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum five years of documented experience.
B. Installer Qualifications: Company specializing in performing work of type specified and with at least five years documented experience.
C. Products Requiring Electrical Connection: Listed and classified by ITS (DIR), UL (DIR), or testing firm acceptable to authorities having jurisdiction as suitable for purpose specified.

1.6 WARRANTY

A. See Section 01 78 00 - Closeout Submittals for warranty requirements.
B. Correct defective Work within a one year period after Date of Substantial Completion.
C. Warranty: Include coverage for electric motor and transmission.
D. Provide five year manufacturer warranty for electric operating equipment.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Basis of Design Overhead Coiling Grilles: Overhead Door Corporation Model No. 671; www.overheaddoor.com or comparable products meeting project requirements by one of the following:
   1. Cornell Iron Works, Inc: www.cornelliron.com/#sle.
   2. The Cookson Company: www.cooksondoor.com/#sle.

2.2 GRILLES AND COMPONENTS

A. Grille: Galvanized steel; horizontal bar curtain, coiling on overhead counterbalanced shaft.
   1. Finish: Galvanized.
   2. Electric operation.
   3. Mounting: Face of wall mounted.
B. Curtain: Round horizontal bars connected with vertical links.
   1. Horizontal bars: 5/16 inch diameter.
   2. Bar spacing: 1-1/2 inch on center.
   3. Grille pattern: Brick pattern.
   4. Horizontal link spacing: 4-1/2 inch on center.
   5. Bar Ends: Provide with nylon runners for quiet operation.
   6. Bottom Bar: Back-to-back angles with tubular resilient cushion.
C. Steel Tube Jamb: Galvanized, 3 inch x 3 inch x 3/16 inch HHS.
D. Guides: Extruded aluminum angles, of profile to retain grille in place with snap-on trim, mounting brackets of same metal.
E. Hood Enclosure and Trim: Sheet metal; completely covering operating mechanisms; internally reinforced to maintain rigidity and shape.
   1. Material: Same metal as grille.
   2. Sheet Metal Thickness: 24 gauge, 0.0276 inch.
   3. Finish: Galvanized.
F. Roller Shaft Counterbalance: Steel pipe and helical steel spring system, capable of producing torque sufficient to ensure smooth operation of curtain from any position and capable of holding position at mid-travel; with adjustable spring tension; requiring 25 lb nominal force to operate.

2.3 MATERIALS

A. Aluminum: ASTM B221 (ASTM B221M).
B. Galvanized Steel Bars: Galvanized to minimum coating thickness grade in accordance with ASTM A123/A123M.
C. Galvanized Steel Sheet: ASTM A653/A653M, galvanized to minimum G90/Z275 coating.
D. Stainless Steel: ASTM A666 Type 304, with rollable temper.

2.4 ELECTRIC OPERATION

A. Operator, Controls, Actuators, and Safeties: Comply with UL 325; provide products listed by ITS (DIR), UL (DIR), or testing agency acceptable to authorities having jurisdiction.
   1. Provide interlock switches on motor operated units.
B. Electric Operators:
   1. Operator: To be supplied by door manufacturer, Basis of Design Model J (jackshaft) RHX Commercial Heavy Duty Door Operator by LiftMaster.
   2. Mounting: Side mounted, front of hood. Location of motor shall be coordinated with all contractors. Contractor to field verify clearance required for mounting specified prior to ordering.
   3. Motor Enclosure:
      a. Interior Coiling Grilles: NEMA MG 1, Type 1; open drip proof.
   4. Motor Rating: 1/2 hp; continuous duty.
   5. Motor Voltage: 208 volts, three phase, 60 Hz.
   6. Motor Controller: NEMA ICS 2, full voltage, reversing magnetic motor starter.
   7. Controller Enclosure: NEMA 250 Type 1.
   8. Opening Speed: 12 inches per second.
   9. Brake: Adjustable friction clutch type, activated by motor controller.
   10. Manual override in case of power failure.
   11. 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.
   12. Refer to Section 26 05 83 for electrical connections.
C. Wiring Terminations: Provide terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated; enclose terminal lugs in terminal box sized to comply with NFPA 70.
D. Control Station: Provide standard three button (Open-Close-Stop) momentary-contact control device for each operator complying with UL 325.
   1. 24 volt circuit.
   2. Surface mounted, at interior door jamb.
   3. Entrapment Protection Devices: Provide sensing devices and safety mechanisms complying with UL 325.
      a. Primary Device: Provide electric sensing edge as required with momentary-contact control device.
E. Safety Edge: Located at bottom of coiling grill, full width, electro-mechanical sensitized type, wired to stop and reverse grill direction upon striking object, hollow neoprene covered.
F. Provide interconnection to security system.
G. Coordination: Provide materials required for and coordination with respective contractors for electronic access control of coiling grille.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that opening sizes, tolerances and conditions are acceptable.

3.2 INSTALLATION

A. Install grille unit assembly 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.
E. Coordinate installation of electrical service with Section 26 05 83.
F. Complete wiring from disconnect to unit components.
G. Install enclosure and perimeter trim.

3.3 TOLERANCES

A. Maintain dimensional tolerances and alignment with adjacent work.
B. Maximum Variation From Plumb: 1/16 inch.
C. Maximum Variation From Level: 1/16 inch.
D. Longitudinal or Diagonal Warp: Plus or minus 1/8 inch per 10 ft straight edge.

3.4 ADJUSTING

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

3.5 CLEANING

A. Clean grille and components.
B. Remove labels and visible markings.

END OF SECTION 08 33 26