

SECTION 08 33 23

OVERHEAD COILING GRILLES

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Roll-up (coiling) grilles.
- B. Power operating equipment.

1.02 RELATED SECTIONS

- A. Electrical service conduit and wiring, disconnect switches, and overcurrent protection are included in applicable Electrical Sections.

1.03 MEASUREMENT AND PAYMENT

- A. General: Overhead coiling grilles will not be measured separately for payment but will be paid for as part of the Contract lump sum price for Architectural Work.

1.04 SUBMITTALS

- A. General: Refer to Section 01 33 00 - Submittal Procedures, and Section 01 33 23 - Shop Drawings, Product Data, and Samples, for submittal requirements and procedures.
- B. Shop Drawings and Product Data: Submit detailed Shop Drawings and manufacturer's product data of overhead coiling grilles, including installation details and wiring diagrams.
- C. Operation and Maintenance Data:
 - 1. Submit operation and maintenance data in accordance with requirements of Section 01 78 23 - Operation and Maintenance Data.
 - 2. Submit recommended spare parts list, together with parts' numbers and prices, and photographs or cuts of repair parts.
 - 3. Submit operation and maintenance manual containing printed instructions relative to operation, adjustment, care, and maintenance of the equipment. Include wiring diagrams showing field changes, if any.

1.05 QUALITY ASSURANCE

- A. Provide the services of a manufacturer's representative, experienced in the installation, operation, and maintenance of overhead coiling grilles of the type specified, for technical assistance and advice during installation and testing.

1.06 SPARE PARTS

- A. Provide one set of critical spare parts for each grille, boxed and identified, including installation instructions, wiring diagrams, and other information as necessary to make emergency repairs.

PART 2 - PRODUCTS**2.01 ROLL-UP (COILING) GRILLES**

- A. Type and Manufacture: Roll-up (coiling) grilles shall be motor-operated, 300-Series stainless-steel roll-up type grille, face-mounted or mounted within the opening as indicated. Grilles shall be counter-balanced for smooth and easy operation.
- B. Curtain: Grille curtain shall consist of 5/16-inch diameter horizontal stainless steel rods at 1-1/2 inches on center, connected by 3/16-inch thick by 3/4-inch deep stainless steel links at 6 inches on center, 3 inches on center at high security stations, connected to and between double links in a straight pattern, assembled to prevent horizontal movement of the links. Connect ends of horizontal rods with a continuous link assembly and end locks to prevent lateral movement of the curtain and to retain the horizontal bars in the guides. Bottom Rail: Stainless steel tube, 2 inch by 4 inch by 1/8 inch thick.
- C. Curtain Guides: 300-Series stainless-steel clad aluminum extrusion with retainers for end locks, replaceable wear strips each side of curtain groove, and removable bell mouths.
- D. Mounting Brackets: Rolled steel plate designed to support the weight of the curtain along with its operating devices, resist the thrust of operation, and act as a closure for the hood.
- E. Barrel: Seamless steel pipe, 4 inches or larger in diameter, designed to rotate about the torsion rod on permanently lubricated and sealed, self-aligning, ball-bearing races, with deflection limited to 0.03 inch per foot when fully loaded with weight of curtain. Provide rings about the barrel, shaped to permit nesting of the curtain. Secure these rings to barrel at 4 inches from each edge of the curtain and at not more than 8 feet on center between.
- F. Counterbalance: Oil-tempered, helically-wound springs, stress-relieved after coiling, attached at one end to the barrel through a cast iron anchor and to the torsion rod at its other end by a similar device. Counterbalance shall provide support of curtain as required to permit operation with not more than 50 pounds pull on the operating device.
- G. Torsion Rod: High-tensile, case-hardened carbon steel, sufficiently long to penetrate the balancing springs, anchors, bearings, and torsion adjustment wheel. Adjustment wheel shall be outside the mounting bracket and accessible at all times.
- H. Hood: Manufacturer's standard configuration for face mounting or head mounting within the frame, as indicated, minimum 24 gage galvanized steel. Hood shall be continuous one piece over the full length of overhead grille except at motor. Motor hood shall be a one piece hood connected to the overhead grille hood. Motor hood shall have access panels where necessary.

2.02 POWER OPERATING EQUIPMENT

- A. Roll-up (coiling) grilles shall be motor-operated. All equipment and accessories necessary for the proper operation of grilles shall be furnished and installed. Motors shall be electric hoist type, high starting torque, providing sufficient power to operate grille curtain at approximately one foot per second without shock.
- B. Provide prewired power operator with operating components preconnected to terminal strips within control box to facilitate field connection to power source and operating station.
- C. Provide an operating station for the remote control and operations of each grille curtain at locations indicated. Provide key operated, maintained pressure type, with "Open" and "Close" positions. Switch shall be spring loaded to center "off" position. Provide key cylinder specified in Section 08 71 00 - Door Hardware.
- D. Roll-up (coiling) grilles shall be furnished complete with seal as hereinbefore specified.
- E. Electric operator (motor) shall be fully automatic, furnished complete with key switch controls as hereinbefore specified and limit switch.
- F. All security grilles shall have over-ride manual operating capability. An emergency hand crank operator, that does not affect the timing of the limit switch, shall be provided to operate the grille curtain in case of power failure or removal of motor for inspection or servicing. The motor disengaging shall be accomplished by an eye hook using the hand crank.

PART 3 - EXECUTION**3.01 PREPARATION**

- A. Verify that size and configuration of openings to receive overhead coiling security grilles complies with indicated details and approved Shop Drawings.
- B. Furnish templates and install anchoring devices for coiling grilles in adjacent supporting structure as required.

3.02 INSTALLATION

- A. Roll-up (coiling) grilles shall be installed by the manufacturer or its authorized representative as indicated and in accordance with the approved Shop Drawings and the manufacturer's installation instructions and recommendations, employing only workers and mechanics skilled and experienced in the installation of the type of work involved.
- B. After installation is complete, the Contractor shall demonstrate to the Engineer that the security grilles operate in accordance with the manufacturer's specifications and recommendations.
- C. The Contractor shall instruct District personnel in the operation of the security grilles.

3.03 PERFORMANCE TESTS

- A. Perform electrical and manual operation of the security grille, including activating safety

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interlocks, under the observation of the Engineer, to ensure that grille curtain is free of obstructions and operates smoothly through its full range of travel in both directions.

- B. Verify that operating controls, manual controls, bypass and safety devices are operating properly.

3.04 MAINTENANCE

- A. The Contractor shall provide call-back maintenance service for a period of one year, beginning from the date of acceptance of this work by the District.

END OF SECTION 08 33 23