

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. Section 08 71 00, Door Hardware.

1.03 MEASUREMENT AND PAYMENT

- A. General: Separate measurement or payment will not be made for the work required under this Section. All costs in connection with the Work specified herein will be considered to be included or incidental to the Work of this Contract.

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, Type 316 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. All components visible by patrons shall be three hundred and sixteen stainless steel.
- B. Curtain: Grille curtain shall consist of 5/16 inch diameter horizontal Type 316 stainless steel rods at 1-1/2 inches on center, connected by 3/16 inch thick by 5/8 inch deep stainless steel links at no more than six inches on center 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, two inch deep by four inch tall by 1/8 inch thick.
- C. Curtain Guides: Curtain guides shall be a minimum of 3/16 inch thick, grade Type 316 stainless steel and shall not protrude more than 2 inches from finished wall. Curtain guides shall have retainers for end locks, replaceable wear strips made of high density polyethylene, minimum 1/4" thick, fastened to each side of curtain guide with removable SS screws, 12" O.C. and removable bell mouths. Curtain guides shall have mechanical stop bars on both sides of grille which engage with tabs on bottom bar to prevent bottom bar from pulling out of guide. Mechanical stop bars and tabs shall be strong enough to stop a moving bottom bar against full motor operator torque plus rotational inertia of the spinning motor operator.
- 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, four 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 eight 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 gauge, Type 316 stainless steel. Exposed hoods shall be Type 316 stainless steel. Overhead Grill Hood shall be divided into sections not exceeding 6 feet in length. Sections shall be removable without tools, hood shall cover entire grille. Motor hood shall be a one piece hood connected to the overhead grille hood. Motor hood shall have access panels removable without using tools.

2.02 POWER OPERATING EQUIPMENT

- A. Roll-up (coiling) grilles shall be motor-operated, using Micanan model Pro-GHC or equal motor operator, equipped with external output shaft. Motor operator shall be securely mounted with diagonal braces to prevent movement of more than 1/8 inch in any direction during operation. Bearings in addition to gearbox output shaft bearings, model BHC 80 worm gear reducer with 1.375" minimum diameter steel output shaft motor operator, or equal. Motor operator shall be securely mounted with diagonal braces to prevent movement of more than 1/8" in any direction during operation. Motor operator output sprocket shall be ANSI No. 60, 24 tooth minimum size, machined of aluminum alloy, 6061-T6 or equal, designated for ANSI No. 60 minimum size, pre lubricate roller drive chain. All equipment and accessories necessary for the proper operation of grilles shall be provided. Motors shall provide sufficient power and correct gear ratio to move grille curtain at 9 – 12 inches per second.
- 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 key operated, maintained pressure type, with "Open" and "Close" positions. Door movement shall stop if key is released. Switch shall be spring loaded to center "off" position. Provide Falcon 7 bit, G keyway, O-bitted, standard core lock cylinder with two anti-rotation screws drilled and tapped into the cylinder. Key operators shall be located 40-48 inches above grade.
- 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. An emergency pull chain operator, which does not affect the timing of the limit switch, shall be provided as specified to operate the grille curtain in case of power failure or removal of motor for inspection or servicing. Hand crank rods are not acceptable.

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 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