

SECTION 08 33 00
ROLLING SECURITY GRILLES

PART 1 – GENERAL

1.1 SUMMARY

- A. Section Includes: electric operated rolling security grilles.
- B. Related Sections:
 - 1. 05 50 00 Metal Fabrications. Door opening jamb and head members.
 - 2. 06 10 00 Rough Carpentry. Door opening jamb and head members.
 - 3. 08 31 00 Access Doors and Panels. Access doors.
 - 4. 08 70 00 Hardware. Masterkeyed cylinders.
 - 5. Division 26. Electrical wiring and conduit, fuses, disconnect switches, connection of operator to power supply, and installation of control station and wiring.
- C. Products That May Be Supplied, But Are Not Installed Under This Section:
 - 1. Control station.
 - 2. Manual release pull handle.

1.2 SYSTEM DESCRIPTION

- A. Design Requirements: (High Cycle)
 - 1. Cycle Life:
 - a. Design grilles of special construction for high cycle use. Expected cycles of up to 300 per day.

1.3 SUBMITTALS

- A. Reference Section 01 33 00 Submittal Procedures; submit the following items:
 - 1. Product Data.
 - 2. Shop Drawings: Include special conditions not detailed in Product Data. Show interface with adjacent work.
 - 3. Quality Assurance/Control Submittals:
 - a. Provide proof of manufacturer ISO 9001:2000 registration.
 - b. Provide proof of manufacturer and installer qualifications – see 1.3 below.
 - c. Provide manufacturer's installation instructions.
 - 4. Closeout Submittals:
 - a. Operation and Maintenance Manual.
 - b. Certificate stating that installed materials complies with this specification.

1.4 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Manufacturer Qualifications: ISO 9001:2000 registered and a minimum of five years experience in producing grilles of the type specified.
 - 2. Installer Qualifications: Manufacturer's approval.

1.5 DELIVERY STORAGE AND HANDLING

- A. Reference Section 01 00 00 Product Storage and Handling Requirements.
- B. Follow manufacturer's instructions.

1.6 WARRANTY

- A. Warranty: Two years from date of substantial completion against defects in material and workmanship.
- B. Maintenance: Submit for owner's consideration and acceptance of a maintenance service agreement for installed products.

PART 2 – PRODUCTS

2.1 MANUFACTURER

- A. Manufacturer: Cornell Iron Works, Inc., Crestwood Industrial Park, Mountaintop, PA 18707. Telephone: (800) 233-8366, Fax: (800) 526-0841. Underwriters Laboratories, Inc. (UL), ISO 9001:2000 Registered.
- B. Model: ESG12
- C. Substitutions: Permitted subject to compliance with requirements. Reference Section 01 00 00 Product Substitution Procedures.

2.2 MATERIALS

- A. Curtain:
 - 1. Curtain to be fabricated from high strength injection molded components arranged in a "brick" style pattern. Color to be white matte finish. Assembled panels to create an open pattern curtain with slots having a clear aperture of 7" (177.8 mm) x 1-1/2" (38.1 mm). Finished curtains offer security along with visibility and airflow with a minimum 65% open curtain design. Panels to be interconnected using continuous horizontal aluminum rods, 5/16 inch (7.94 mm) diameter, 5056 H32 aluminum alloy, spaced 2" (50.8 mm) on center and locked in guides with steel retention rings. Continuous end chains assures smooth entry of curtain into guides. Curtain assembly shall be completely smooth and free of sharp edges. Curtain to be attached to shaft using minimum 22 gauge galvanized steel fastening sections, each 4" (101.6 mm) in length.
 - 2. Bottom Bar: 2 x 3-1/2 inch (50.8 x 88.9 mm) extruded aluminum tubular section reinforced with 3 x 2 x 3/16 inch (76.2 x 50.8 x 4.76 mm) aluminum angle(s).
 - 3. Bottom Bar Finish:
 - a. Aluminum: Clear anodized.
- B. Guides, Wall Mounted: Heavy duty extruded aluminum sections with snap-on cover to conceal fasteners and polypropylene pile runners on both sides of curtain. Provide aluminum mounting angle as required for face of wall installation.
 - 1. Finish, Aluminum Guide Components:
 - a. Clear anodized.
- C. Counterbalance Shaft Assembly:

1. Barrel: Steel pipe capable of supporting curtain load with maximum deflection of 0.03 inches per foot (2.5 mm per meter) of width.
 2. Spring Balance: Oil-tempered, heat-treated steel helical torsion spring assembly designed for proper balance of door to ensure that maximum effort to operate will not exceed 25 lbs (110 N). Provide wheel for applying and adjusting spring torque.
- D. Brackets: Fabricate from minimum 3/16 inch (4.76 mm) steel plate with permanently lubricated ball or roller bearings at rotating support points to support counterbalance shaft assembly and form end closures.
1. ASTM A 123, Grade 85 zinc coating, hot-dip galvanized after fabrication.
- E. Hood and Fascia: 24 gauge galvanized steel with reinforced top and bottom edges. Provide minimum 1/4 inch (6.35 mm) steel intermediate support brackets as required to prevent excessive sag.
1. Finish:
 - a. GalvaNex™ Coating System to include an ASTM A 653 galvanized base coating treated with dual process rinsing agents in preparation of a chemical bonding, light gray baked-on polyester base coat and a light gray baked-on polyester finish coat. The scientific organic material composition and chemical bonding process of GalvaNex™ produces a superior finish against corrosion and abrasion. GalvaNex™ components include a limited two year finish warranty.

2.3 ACCESSORIES

- A. Locking:
1. Motor Operated: Keyed cylinder locking into both jambs operable from both sides of curtain with motor interlock cutout switches.
- B. Emergency Egress System: Provide wall mounted manual release system pull handle to disengage motor operator and automatically open grille for emergency egress without the use of electrical power. Release of pull handle will reset grille to normal motor operation.
- C. Operator and Bracket Mechanism Cover: Provide 24 gauge galvanized steel sheet metal cover to provide weather resistance and to enclose exposed moving operating components at coil area of unit. Finish to match door hood.

2.4 OPERATION

- A. Supply Model GH, heavy duty, UL listed, gearhead hoist type operator(s) rated ¾ H.P., 230 Volts, Single Phase. Provide UL listed electric door operator assembly of size and capacity recommended by door manufacturer; complete with electric motor and factory pre-wired motor controls, worm-gear reduction unit, solenoid operated brake and control station(s). Motor shall be high starting torque, continuous duty, industrial type, protected against overload by a current sensing or thermal overload device. Speed reduction shall be worm-gear-in-oil-bath gear reducer with synthetic "All Climate" oil. Shall provide 45:1 speed reduction. Door drive shall utilize minimum #50 roller chain and sprockets. Operator shall be equipped with an electrically interlocked floor level disconnect and chain hoist for manual operation and an electric solenoid-actuated brake to stop the motor and hold the door in position. Operator shall be capable of driving the door at a speed of 8 to 9 inches per second (20 to 23 cm/sec). Fully adjustable, driven linear type limit switch mechanism shall synchronize the operator with the door. Low friction nylon limit nuts fitted on threaded steel shaft, rotating on oilite self-lubricating bronze bushings. The

motor shall be removable without affecting the limit switch settings. The electrical contractor shall mount the control station(s) and supply the appropriate disconnect switch, all conduit and wiring per the overhead door wiring instructions.

1. Control Station: Flush mounted, "Open/Close" key switch with "Stop" push button; NEMA 1B.
- B. Sensing Edge: Provide automatic reversing control by an automatic sensing switch within neoprene or rubber astragal extending full width of grille bottom bar.
 1. Provide an electric sensing edge device. Contact before door fully closes shall cause door to immediately stop downward travel and reverse direction to the fully opened position. Provide a self-monitoring wireless sensing edge connection to motor operator eliminating the need for a physical traveling electric cord connection between bottom bar sensing edge device and motor operator. Supervised system alters normal door operation preventing damage, injury or death due to an inoperable sensing edge system.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Examine substrates upon which work will be installed and verify conditions are in accordance with approved shop drawings.
- B. Coordinate with responsible entity to perform corrective work on unsatisfactory substrates.
- C. Commencement of work by installer is acceptance of substrate.

3.2 INSTALLATION

- A. General: Install grille and operating equipment with necessary hardware, anchors, inserts, hangers and supports.
- B. Follow manufacturer's installation instructions.

3.3 ADJUSTING

- A. Following completion of installation, including related work by others, lubricate, test, and adjust grilles for ease of operation, free from warp, twist, or distortion.

3.4 CLEANING

- A. Clean surfaces soiled by work as recommended by manufacturer.
- B. Remove surplus materials and debris from the site.

3.5 DEMONSTRATION

- A. Demonstrate proper operation to Owner's Representative.
- B. Instruct Owner's Representative in maintenance procedures.

...END OF SECTION 08 33 00