SECTION 083302 - ROLLING GRILLES – OPEN DESIGN

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Electric operated overhead rolling grilles.

B. Related Sections:
1. 055000 Metal Fabrications. Door opening jamb and head members.
2. 061000 Rough Carpentry. Door opening jamb and head members.
3. 083100 Access Doors and Panels. Access doors.
4. 087000 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 To be supplied, but are not Installed under this Section:
1. Control station.
2. Manual release pull handle.

1.2 SYSTEM DESCRIPTION

A. Design Requirements:
1. Cycle Life:
a. Design grilles of standard construction for normal use of up to 5 cycles per day maximum, and an overall maximum of 50,000 operating cycles for the life of the grille.
a. Design grilles of special construction for high cycle use. Expected cycles of up to 10 per day.
2. Safety:
a. Chain operated doors shall be designed so that the door immediately stops upward or downward travel and is maintained in a stationary position when the hand chain is released by user.

1.3 SUBMITTALS

A. Reference Section 013300 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 9001:2015 registration.
b. Provide proof of manufacturer and installer qualifications.
c. Provide manufacturer's installation instructions.
4. Closeout Submittals:
a. Operation and Maintenance Manual.
b. Certificate stating that installed materials comply with this specification.

1.4 QUALITY ASSURANCE

A. Qualifications:
1. Manufacturer Qualifications: ISO 9001:2015 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 66 00 Product Storage and Handling Requirements.

B. Follow manufacturer's instructions.

1.6 WARRANTY

A. Standard Warranty: Two years from date of shipment against defects in material and workmanship.

B. Maintenance: Submit for owner’s consideration and acceptance of a maintenance service agreement for installed products.

1.7 COORDINATION

A. Conduct a pre-installation meeting for coordination of Masonry, Rough Carpentry, Acoustical Ceiling installation, Painting, Electrical service, controls and tie-ins to fire alarm systems.

B. Coordinate with installation of Overhead Coiling Doors.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. Basis of Design**:** Cookson; VisionAire®, ESG1. Other acceptable manufacturers are:

1. Cornell
2. Amarr
3. Clopay

2.2 MATERIALS

A. Curtain:

1. ESG10 Straight Pattern
a. Horizontal Rods: Solid 5/16 inch (8 mm) diameter, 5056 H32 aluminum alloy.
1.) Vertical Spacing: 2 inches (50.8 mm) on center.

b. Vertical Chains: Grommeted aluminum links, 3/4 inch (19 mm) wide, positioned by E-rings on 6 inch (152.4 mm) centers. Provide double E-

rings on horizontal bars on both sides of end chains to retain curtain in guides.

2. Bottom Bar: 2 x 3-1/2 inch (50.8 x 88.9 mm) extruded aluminum tubular section.

3. Finish:
   a. Aluminum Curtain and Bottom Bar:
      1.) Curtain: Clear anodized.
      2.) Bottom Bar: Clear anodized.

B. Guides, Tube Mounted**:** Heavy duty extruded aluminum sections with snap-on cover to conceal fasteners and polypropylene pile runners on both sides of curtain. Provide aluminum tubes, floor saddles and hardware as recommended by manufacturer to support grille.
   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 grille 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. Finish:
      a. Zirconium treatment followed by a light gray baked-on polyester powder coat; minimum 2.5 mils (0.065 mm) cured film thickness.

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.

2.4 OPERATION

A. Supply Model MG Electric Motor Operator, industrial duty - rated for a maximum of 20 cycles per hour, cULus listed, Totally Enclosed Non Ventilated gear head operator(s) rated (1/3) (1/2) or (3/4) hp as recommended by door manufacture for size and type of door, 115 Volts, 1 Phase. Provide complete with electric motor and factory pre-wired motor control terminals, maintenance free solenoid actuated brake, emergency manual chain hoist and control station(s). Motor shall be high starting torque, industrial type, protected against overload with an auto-reset thermal sensing device. Primary speed reduction shall be heavy-duty, lubricated gears with mechanical braking to hold the door

in any position. Operator shall be equipped with an emergency manual chain hoist assembly that safely cuts operator power when engaged. A disconnect chain shall not be required to engage or release the manual chain hoist. Operator drive and door driven sprockets shall be provided with #50 roller chain. Provide an integral Motor Mounted Interlock system to prevent damage to door and operator when mechanical door locking devices are provided. Operator shall be capable of driving the door at a speed of 6 to 9 inches per second (15 to 23 cm/sec). Fully adjustable, driven linear screw type cam limit switch mechanism shall synchronize the operator with the door. 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. Entrapment Protection: Provide the following primary entrapment protection device to enable momentary contact close operation.

1. Provide a 2-wire, E.L.R. electric sensing/weather edge seal extending full width of grille bottom bar. Contact before grille fully closes shall cause grille to immediately stop downward travel and reverse direction to the fully opened position. Provide a self-coiling cable connection to control circuit.

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 083302

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