SECTION 08330

Coiling Doors and Grilles

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Rolling Steel Grilles
B. Guides and Framing

1.2 RELATED SECTIONS

A. Section 04810 - Unit Masonry Assemblies: Prepared opening in masonry.

B. Section 05500 – Metal Fabrications: - Steel framed door openings.

C. Section 06100 – Rough Carpentry: Wood framing and blocking for door opening.

D. Section 07900 - Joint Sealers: Perimeter sealant and backup materials.

1.3 REFERENCES

A. ASTM A 653/A 653M – Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

1.4 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
1. Preparation instructions and recommendations.
2. Storage and handling requirements and recommendations.
3. Installation methods.
4. Operation and maintenance data.

C. Shop Drawings: Include opening dimensions and required tolerances, connection details, anchorage spacing, hardware locations, and installation details.

1.5 WIND PERFORMANCE REQUIREMENTS

A. Exterior rolling service doors shall be designed to withstand at least a twenty (20) pounds per square foot windload. Windlocks shall be installed on 22 and 20 gauge doors over 8’1” wide and on 18 gauge doors over 14’1” wide.

B. Design doors to withstand positive and negative wind loads as calculated in accordance with applicable governing building codes.

C.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the types of doors specified in this section.

B. Installer Qualifications: Installation to be by qualified dealer in accordance with the manufacturer's installation instructions.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

1.8 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Entrematic; 165 Carriage Court, Winston-Salem, NC 27105. ASD. Tel: (800) 503-3667. Fax: (336) 251-1851. Email:MarketingDept@amarr.com Website: www.amarr.com.

B. Substitutions: Not permitted.

C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 AMARR 4300 OVERHEAD COILING GRILLES

A. Provide each door with curtains, bottom bars, guides, brackets, hoods, operating mechanisms and any special features.

B. Curtain:
1. The grille curtain shall be constructed of solid 5/16" diameter horizontal aluminum rods on 2" centers with 1/8" aluminum hinged vertical connecting links (5/8" deep by 3-3/4" high) 9" on center.
2. The grille curtain shall be constructed of solid 5/16" diameter horizontal aluminum rods on 2" centers with 3/16" aluminum hinged vertical connecting links (5/8" deep by 3-3/4" high) 9" on center with 1/2" diameter tube spacers.

C. Finish Coat:
1. The finish on the rods and links shall be 204-R1 clear anodized.
2. The finish on the rods and links shall be 204-R1 mill finish

D. Bottom Bar:
1. The bottom bar shall consist of an extruded aluminum tube measuring 4" high by 1-3/4" deep and shall include 2 vinyl astragals on the bottom surface of the bar.
   a. The finish on the bottom bar shall be 204-R1 clear anodized.
   b. The finish on the bottom bar shall be the Thermosetting Powder Coating applied with a minimum thickness of 2 mils. The color shall be

selected by the architect and shall be chosen from [standard color chart] [custom color selection].

E. Guide Assembly:
1. The guides shall be constructed of a 1/4” thick continuous aluminum wall angle connected to 1-1/2” by 2-1/2” by 1/8” thick continuous extruded aluminum guide section. Continuous nylon wearstrips shall be inserted on both sides of the guide to eliminate metal-to-metal contact.
   a. The finish on the aluminum wall angle and the aluminum guide shall be 204-R1 clear anodized.
   b. The finish on the guide angles shall be a Thermosetting Powder Coating applied with a minimum thickness of 2 mils. The color shall be selected by the architect and shall be chosen from [standard color chart] [custom color selection].

F. Brackets:
1. The brackets shall be constructed of steel not less than 1/4” thick.
   a. The finish on the brackets shall be one (1) coat of aluminum prime paint.
   b. The finish on the brackets shall be a Thermosetting Powder Coating applied with a minimum thickness of 2 mils. The color shall be selected by the architect and shall be chosen from [standard color chart] [custom color selection].

G. Gears:
1. All gears shall be cast iron with teeth cast from machine cut patterns.
2. The pinion gear shall not be less than a 3” pitch diameter.
3. The gear ratio shall be designed for a maximum effort of not more than 30 pounds.

H. Barrel:
1. The barrel shall be steel tubing of not less than 6” in diameter. Oil tempered torsion springs shall be capable of correctly counter balancing the weight of the curtain. The barrel shall be designed to limit the maximum deflection to .03” per foot of opening width. The springs shall be adjusted by means of an exterior wheel.
   a. The finish on the barrel shall be one (1) coat of bronze rust-inhibiting prime paint.

I. Hood:
1. The hood shall be fabricated from .040 aluminum sheet and shall be formed to fit the curvature of the brackets.
   a. The finish on the hood shall be 204-R1 clear anodized.
   b. The finish on the brackets shall be a Thermosetting Powder Coating finish applied with a minimum thickness of 2 mils. The color shall be selected by the architect and shall be chosen from [standard color chart] [custom color selection].

## 2.3 OPERATION

A. Chain operated doors shall open and close with a maximum of 30 pounds of effort utilizing an endless chain and cast iron reduction gears.

B. Push-up operated grilles shall open and close with a maximum of 30 pounds of effort operated by pulling up or down on the grille itself. This type of operation should not be used for grilles over 160 square feet or grilles over 8 feet in height.

C. Crank operated grilles shall open and close utilizing a removable awning-type handle through shafting and precision cast iron reduction gears. This type of operation should not be used on grilles over 25 feet wide or 9 feet high.

D. Motor: The motor shall be the size required to operate the grille. The motor operator shall include a geared limit switch, and an electrically interlocked emergency chain operator. The motor starter shall be housed in a NEMA 1 housing and include a magnetic reversing starter size 0, a 24 volt control transformer, and complete terminal strip to facilitate field wiring. A three button push-button station in a NEMA 1 enclosure will activate the motor. The motor operator shall be mounted to the grille bracket as shown on drawings. All motor operators shall be U.L. listed. The motor operator shall have the following options:
   1. Belt Drive: The door shall be operated at a speed of 2/3 foot per second by an open drip-proof electric motor with belt drive and roller chain sprocket reducer.
   2. Gear Head: The grille shall be operated at a speed of 2/3 foot per second by an open drip-proof electric motor with gear reducer in oil bath.
   3. The motor shall have the correct voltage and phase needed.
      a. 115 volts single phase.
      b. 230 volts single phase.
      c. 230 volts three phase.
      d. 460 volts three phase.

E. Safety Edge
   1. The safety edge shall be installed on the bottom bar of the door and shall automatically reverse the door if the device detects an obstruction in the downward travel of the door
   2. The safety edge shall consist of a rubber boot attached below the bottom bar with an electrical switch secured to the back of the bottom bar. The safety edge shall operate with air wave technology and shall not rely on pneumatic pressure or electrical strip contacts to operate properly. The safety edge shall create an air wave that shall be detected and reverse the direction of the rolling door.
   3. The operation of the safety edge shall not be subject to interferences by temperature, barometric pressure, water infiltration, or cuts in the rubber boot.
   4. The safety edge shall be connected to the motor operator with a coil cord.

2.4 LOCKING MECHANISM

A. Door shall be secured by means of cylinder locks in the bottom bar, one at each jamb.

B. Door shall be secured by means of cylinder locks in the bottom bar, one at each jamb, operable from both sides of coil.

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. Verify wall openings are ready to receive work and opening dimensions and tolerances are within specified limits.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare opening to permit correct installation of door unit to perimeter air and vapor barrier seal.

3.3 INSTALLATION

A. Install in accordance with manufacturer's instructions.
   1. Doors to be face mounted on a prepared surface.
   2. Doors to be between jamb mounted on a prepared surface.

B. Anchor assembly to wall construction and building framing without distortion.

C. Secure guides to structural members or solid backing only.

D. Fit and align curtain assembly, guides and operating hardware.

E. Adjust door assembly and counter balance to smooth operation.

3.4 CLEANING

A. Clean doors, frames and glass.

B. Remove packing labels and visible markings.

3.5 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION