SECTION 08 33 00

CrossingGard with ThreatProtect® Emergency Response Door

**GENERAL NOTES TO SPECIFIER:**

This specification section has been prepared to assist design professionals in the preparation of project or office master specifications. It follows guidelines established by the construction specifications institute, and therefore may be used with most master specification systems with minor editing.

Edit carefully to suit project requirements. Modify as necessary and delete items that are not applicable. Verify that referenced section numbers and titles are correct. (Numbers and titles referenced are based on MasterFormat®, 2018 edition).

This section assumes the project manual will contain complete Division 01 documents including sections 01 33 00 Submittal Procedures, 01 62 00 Product Options, 01 25 13 Product Substitution Procedures, 01 66 00 Product Storage and Handling Requirements, 01 77 00 Closeout Procedures, and 01 78 00 Closeout Submittals. If the project manual does not contain these sections, additional information should be included under the appropriate articles.

This is an open proprietary specification allowing users the option of approving other manufacturers which comply with the criteria specified herein.

**\*\* NOTES TO SPECIFIER \*\*** are highlighted in red text and should be deleted from final copy.

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Optional items requiring selection by specifier are enclosed within brackets, e.g.: [35] [40] [45]. In cases where one of the optional items is a standard feature of the door model, it is listed in the first position. Make appropriate selection and delete others.

Items requiring additional information are underlined and highlighted, e.g.: \_\_\_\_\_\_\_\_\_\_\_\_.

**PART 1** GENERAL

1.1 SUMMARY

1. **Section Includes:** Electric operated overhead rolling doors.

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. Padlocks. Masterkeyed cylinder

5. 09 91 00 Painting. Field painting

6. 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

1.2 SYSTEM DESCRIPTION

A. **Design Requirements:**

1. **Emergency Response:** Automatic alarm response to open or close the grille

depending on alarm signal type.

2. **Wind Loading:**

a. Doors to withstand up to [\_\_] PSF design wind load

**\*\* NOTE TO SPECIFIER \*\*** Please select from one of the following. If life cycle expectancy desired exceeds 100,000, select a door from the High Performance product line. Contact the Architectural Design Support Team at (800) 233-8366 Ext. 4551 for options.

3. **Cycle Life:**

a. Standard construction for normal use of up to 20 cycles per day maximum, and a life cycle expectancy of up to 50,000

\*\*NOTE TO SPECIFIER\*\* If your project does not involve a custom layout or custom product modifications, please delete 3 and 4. If you are unsure, please contact Architectural Design Support at 833-958-1273.

4. **Custom Layout:**

a. Product has been reconfigured for a custom layout, refer to drawings by CornellCookson.

5. **Customized Product:**

a. This product has custom modifications designed by CornellCookson. Contact Manufacturer for details.

1.3 SUBMITTALS

A. Reference Section 01 33 00 Submittal Procedures; submit the following items:

1. **Product Data**

2. **Shop Drawings**

3. **Quality Assurance/Control Submittals:**

a. Provide proof of manufacturer ISO 9001:2015 registration

b. Provide proof of manufacturer and installer qualifications - see 1.4 below

c. Provide manufacturer's installation instructions

d. Provide manufacturer’s Health Product Declaration (HPD) for each

product

4. **If it is not the specified product, supply certificate of compliance to specification**

5. **Closeout Submittals:**

a. Operation and Maintenance Manual

b. Document stating that installed materials comply with this specification

c. Warranty documentation

1.4 QUALITY ASSURANCE

A. **Qualifications:**

1. **Manufacturer Qualifications:** ISO 9001:2015 registered and a minimum of five years’ experience in producing doors of the type specified

2. **Installer Qualifications:** Manufacturer's approval

1.5 DELIVERY STORAGE AND HANDLING

1. Reference Section 01 66 00 Product Storage and Handling Requirements

B. Follow manufacturer's instructions

1.6 WARRANTY

1. **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.

**PART 2** PRODUCTS

2.1 MANUFACTURER

A. **Manufacturer:**

**Cornell:** 24 Elmwood Avenue, Mountain Top, PA 18707 Telephone: (800) 233-8366

 B. **Alternates:**

1. **Cookson**

2. **Clopay Building Products**

2.2 PRODUCT INFORMATION

A. **Model:** ERD10T Service Door

2.3 MATERIALS

A. **Curtain:**

**\*\*NOTE TO SPECIFIER\*\*** Please select from one of the following.

1. **Slats:**

a. **Galvanized Steel:** No. 5F (prefinished with GalvaNex™ Coating System), Grade 40 steel, ASTM A 653 galvanized steel zinc coating. Gauge as required to meet performance requirements.

b. **Galvanized Steel** **Perforated:** No. 5P, 20 gauge, Grade 40 steel, ASTM A 653 galvanized steel zinc coating perforated with 0.062 inch (1.6 mm) diameter openings at 0.094 inch (2.4 mm) staggered centers, and approximately 22 percent free area.

c. **Aluminum:** No. 5F, 16 gauge (0.050 mm) aluminum.

d.  **Aluminum** **Perforated:** No. 5P, 16 gauge (0.050) aluminum perforated with 0.095 inch (2.4 mm) diameter openings at 0.156 inch (4.0 mm) staggered centers, approximately 25 percent free area.

e. **Stainless Steel:** No. 5F, 20 gauge (0.035 mm) AISI type 304 series stainless steel.

**\*\*NOTE TO SPECIFIER\*\*** Please select from one of the following.

2. **Finish:**

a. **GalvaNex™** Coating System (Stock Color):

1) **GalvaNex™** - ASTM A 653 galvanized base coating treated with dual process rinsing agents in preparation for chemical bonding baked-on base coat and [gray] [tan] [white] [brown] baked-on polyester enamel finish coat

2) **GalvaNex™Ultra**- Ultra Powder Coat to be applied as a protective top coat over GalvaNex finish. Top coat is a polyester based structured wear resistant clear powder coat of 2.5-3.5 mils cured film thickness. ASTM D-3363 pencil hardness: 2H or better. Tested per ASTM B117. Base coating of GalvaNex to be ASTM A 653 galvanized base coating treated with dual process rising agents in preparation for chemical bonding baked-on base coat and [gray] [tan] [white] [brown] baked-on polyester enamel finish coat.

a. **Powder Coat:**

1) Zirconium pre-treatment followed by baked-on polyester powder coat. minimum 2.5 mils (0.065 mm) cured film thickness; ASTM D-3363 pencil hardness: H or better.

a) **SpectraShield** color as selected by Architect from manufacturer's color range, more than 180 colors

b) **SpectraShield Ultra** – Ultra Powder Coat to be applied as a protective top coat over SpectraShield finish. Top coat is a polyester based structured wear resistant clear powder coat of 2.5-3.5 mils cured film thickness. ASTM D-3363 pencil hardness: 2H or better. Tested per ASTM B117. Base coating of SpectraShield color as selected by Architect from manufacturer’s color range, more than 180 colors.

c) **Custom color** as selected by Architect

d) **AtmoShield** textured environmental coating; color as selected by Architect, [Weathered iron] [Weathered brown] [Earth] [Weathered bronze] [Terra cotta] [Stucco] [Platinum] [Olde copper] [Rust] [Dark roast] [Weathered copper]

a. **Stainless Steel:** #4 type 304 finish

a. **Aluminum:** [Mill] [Clear anodized] [Medium bronze anodized] [Dark bronze anodized] [Black anodized]

**\*\* NOTE TO SPECIFIER \*\*** Nylon endlocks are recommended whenever possible to minimize operating noise.

B. **Endlocks:**

Alternate slats each secured with two ¼” (6.35 mm) rivets. Fabricate interlocking sections with high strength [nylon – available to 21’5” width] [galvanized cast iron]. Provide endlocks/windlocks as required to meet specified wind load.

**\*\* Note To Specifier\*\*** If galvanized steel curtain is selected, bottom bar options are limited to extruded aluminum or structural steel angles. If stainless steel curtain is selected bottom bar options are limited to extruded aluminum or stainless steel angles. If aluminum curtain is selected bottom bar options are limited to extruded aluminum or aluminum angles. Please select from one of the following.

C. **Bottom Bar**

1. **Configuration:**

a. **Extruded Aluminum** (Standard to 21’4” opening width): Extruded aluminum alloy 6063-T5

b. **Structural Steel Angles** (Standard above 21’4” opening width)

c. **Structural** **Aluminum Angles**

d. **Heavy Duty Aluminum Bottom Bar:** 6” x 2” x 3/8” impact resistant tubular extrusion (Available to 11’11” opening width)

**\*\*NOTE TO SPECIFIER\*\*** Please select from one of the following.

2. **Finish:**

a. **Aluminum:** [Mill] [Clear anodized] [Medium bronze anodized] [Dark bronze anodized] [Black anodized]

**\*\*NOTE TO SPECIFIER\*\*** Please select from one of the following.

b. Powder Coat**:**

1) Zirconium pre-treatment followed by baked-on polyester powder coat. minimum 2.5 mils (0.065 mm) cured film thickness; ASTM D-3363 pencil hardness: H or better.

a) Stock color to match curtain [gray] [tan] [white] [brown]

b) SpectraShield color as selected by Architect from manufacturer's color range, more than 180 colors

c) Custom color as selected by Architect

d) AtmoShield textured environmental coating; color as selected by Architect, [Weathered iron] [Weathered brown] [Earth] [Weathered bronze] [Terra cotta] [Stucco] [Platinum] [Olde copper] [Rust] [Dark roast] [Weathered copper]

c. **Corrosion Inhibitive:** Zirconium treatment followed by a corrosion inhibitive baked-on zinc enriched gray polyester powder coat; minimum 2.5 mils (0.065 mm) cured film thickness

d. **Hot-dip Galvanized:** ASTM A 123, Grade 85 zinc coating, hot-dip galvanized after fabrication

e. **Stainless Steel:** Type 304 #4 brushed finish

D. **Guides:**

1. **Fabrication:**

a. [Structural steel] [Stainless steel] [Structural aluminum] angles. Provide windlock bars as required, removable bellmouths, and bottom bar stoppers of same material.

**\*\*NOTE TO SPECIFIER\*\*** Please select from one of the following.

2. **Finish:**

a. **Powder Coat:**

1) Zirconium pre-treatment followed by baked-on polyester powder coat. minimum 2.5 mils (0.065 mm) cured film thickness; ASTM D-3363 pencil hardness: H or better.

a) **Stock color** to match curtain [gray] [tan] [white] [brown]

b) **SpectraShield** color as selected by Architect from manufacturer's color range, more than 180 colors

c) **Custom color** as selected by Architect

d) **AtmoShield** textured environmental coating; color as selected by Architect, [Weathered iron] [Weathered brown] [Earth] [Weathered bronze] [Terra cotta] [Stucco] [Platinum] [Olde copper] [Rust] [Dark roast] [Weathered copper]

b. **Aluminum:** [Mill] [Clear anodized] [Medium bronze anodized] [Dark bronze anodized] [Black anodized]

c. **Corrosion Inhibitive:** Zirconium treatment followed by a corrosion inhibitive baked-on zinc enriched gray polyester powder coat; minimum 2.5 mils (0.065 mm) cured film thickness

d. **Hot-dip Galvanized:** ASTM A 123, Grade 85 zinc coating, hot-dip galvanized after fabrication

e. **Stainless Steel:** Type 304 #4 brushed finish provided for openings up to 14’4” width and 10’0” height. Mill finish structural provided for openings wider than 14’-4” (4.27 m) and higher than 10’-0” (3.05 m)

E. **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

F. **Brackets:**

Fabricate from minimum 3/16 inch (5 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:**

**\*\*NOTE TO SPECIFIER\*\*** Please select from one of the following.

* 1. **Powder Coat:**

1) Zirconium pre-treatment followed by baked-on polyester powder coat. minimum 2.5 mils (0.065 mm) cured film thickness; ASTM D-3363 pencil hardness: H or better.

a) **Stock color** to match curtain [gray] [tan] [white] [brown]

b) **SpectraShield** color as selected by Architect from manufacturer's color range, more than 180 colors

c) **Custom color** as selected by Architect

d) **AtmoShield** textured environmental coating; color as selected by Architect, [Weathered iron] [Weathered brown] [Earth] [Weathered bronze] [Terra cotta] [Stucco] [Platinum] [Olde copper] [Rust] [Dark roast] [Weathered copper]

b. **Corrosion Inhibitive:** Zirconium treatment followed by a corrosion inhibitive baked-on zinc enriched gray polyester powder coat; minimum 2.5 mils (0.065 mm) cured film thickness

c. **Hot-dip Galvanized:** ASTM A 123, Grade 85 zinc coating, hot-dip galvanized after fabrication

G. **Hood:**

[Galvanized steel] [Stainless steel] [Aluminum] with reinforced top and bottom edges. Provide intermediate support brackets as required.

**\*\*NOTE TO SPECIFIER\*\*** Please select from one of the following.

1. **Finish:**

a. **GalvaNex™** Coating System (Stock Color):

1) ASTM A 653 galvanized base coating treated with dual process rinsing agents in preparation for chemical bonding baked-on base coat and [gray] [tan] [white] [brown] baked-on polyester enamel finish coat

b. **Powder Coat:**

1) Zirconium pre-treatment followed by baked-on polyester powder coat. minimum 2.5 mils (0.065 mm) cured film thickness; ASTM D-3363 pencil hardness: H or better.

a) **SpectraShield** color as selected by Architect from manufacturer's color range, more than 180 colors

b) **Custom color** as selected by Architect

c) **AtmoShield** textured environmental coating; color as selected by Architect, [Weathered iron] [Weathered brown] [Earth] [Weathered bronze] [Terra cotta] [Stucco] [Platinum] [Olde copper] [Rust] [Dark roast] [Weathered copper]

c. **Stainless Steel:** #4 type 304 finish

d. **Aluminum:** [Mill] [Clear anodized] [Medium bronze anodized] [Dark bronze anodized] [Black anodized]

**\*\* NOTE TO SPECIFIER \*\*** The following four weatherstrip options are available individually or in conjunction; please select as desired.

H. **Weatherstripping:**

1. **Bottom Bar:** Replaceable, bulb-style, compressible EDPM gasket extending into guides

2. **Guides:** Vinyl strip sealing against fascia side of curtain

3. **Hood:** Neoprene/rayon baffle to impede air flow above coil

4. **Lintel Seal:** Nylon brush seal fitted at door header to impede air flow

* 1. OPERATION

 A. **ThreatProtect Electric Motor Operator with back-up power control box**, Limited Duty (up to 10 cycles per hour), cULus listed, TENV gear head operator, 24DVC. Horsepower as recommended by manufacturer. 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, with overload protection. Primary speed reduction shall be heavy-duty gears running in maintenance free, sealed gear box with mechanical braking to hold the door in any position. The emergency manual chain hoist assembly is automatically disengaged when motor is energized. 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 minimum #50 roller chain. Operator shall be capable of driving the door at a speed of up to 9” per second or as recommended for door size. Fully adjustable, driven linear screw type cam limit switch mechanism shall synchronize the operator with the door. The motor shall be removable without affecting the limit switch settings. The electrical contractor shall mount the control stations and supply the appropriate disconnect switch, all conduit and wiring per the overhead door wiring instructions.

 1. **Supply model ThreatProtect with programmable logic board and back-up power**

 **supply**. 120v AC input power with auto switch to 24v DC back-up power. Back-up power

to provide minimum 10 open/close cycles and 48 hr stand-by.

a. (2) 12v rechargeable lead sealed batteries.

b. Programmable battery load testing

c. Monitoring points for open/close position, AC power loss and battery low voltage

d. 12’-0” (standard) wiring whip to connect control box and motor

 (up to 120’-0” available)

e. Door power indicator: Flush mounted voltage monitor for battery back-up system. Flashing red light indicates low battery power and maintenance check-up. Can be located up to 150 ft. away from motor control box.

f. Non-resettable cycle counter

g. UL325 & UL864 compliant system.

**h. Emergency open alarm input**

**i. Hostile Event alarm input**

B. **Control Station:**

1. **Flush mounted:** "Open/Close/Stop" push buttons; NEMA 1B

1. **Flush mounted:** "Open/Close" key switch with "Stop" push button; NEMA 1B

1. **Surface mounted:** "Open/Close/Stop" push buttons; NEMA 1

1. **Surface mounted:** "Open/Close" key switch with "Stop" push button; NEMA 3R

1. **Surface mounted:** "Open/Close/Stop" push buttons with keyed lock-out, not masterkeyable; NEMA 4

1. **Flush mounted:** "Open/Close" key switch with ["Stop" push button and] [small format Best type 7-pin cylinder] [Schlage 6-pin cylinder] [#5 U-Change cylinder]; NEMA 1B

C. **Primary Entrapment:** Fail- safe, UL325-2010 Compliant Entrapment Protection for Motor

Operation

a. **Continuously monitored, wireless sensing/weather edge** seal extending full width of door bottom bar.

2.5 ACCESSORIES

**\*\* NOTE TO SPECIFIER \*\*** Standard locking is based on door operation. Locking is obtained through motor operator gearing and secured control station; no locking required on door. Please select from one of the following.

A. **Interior Aesthetic Covers:**

1. **Operator and Bracket Mechanism Cover:** [Galvanized steel] [Stainless steel] [Aluminum] sheet metal cover [to provide weather resistance] [to enclose exposed operating components] at coil area of unit. Finish matching hood.

**\*\* NOTE TO SPECIFIER \*\*** A Trim Package is custom-made to hide visible bolts, fasteners and other exposed hardware. Delete below if not required.

2. **Guide** **Trim Package:** [Powder coated steel to match guides] [Type 304 #4 finish brushed stainless steel].

**\*\* NOTE TO SPECIFIER \*\*** Vibration isolators not available for units requiring wind load or seismic validation. Delete below if not required.

1. **Vibration Isolators:**
	1. Include continuous vibration isolators pre-installed on both guides to reduce vibration transferred from the door to the structure. Vibration isolators should be expected to reduce vibration by up to 14%. Dampening pads are to be manufactured from nitrile oil-resistant rubber, durometer 50A.

**PART 3** EXECUTION

3.1 EXAMINATION

1. Examine substrates upon which work will be installed and verify conditions are in accordance with approved shop drawings
2. Coordinate with responsible entity to perform corrective work on unsatisfactory substrates

C. Commencement of work by installer is acceptance of substrate

3.2 INSTALLATION

1. Install door and operating equipment with necessary hardware, anchors, inserts, hangers and supports

B. Follow manufacturer's installation instructions

3.3 ADJUSTING

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

3.4 CLEANING

1. Clean surfaces soiled by work as recommended by manufacturer

B. Remove surplus materials and debris from the site

3.5 DEMONSTRATION

1. Demonstrate proper operation to Owner's Representative

B. Instruct Owner's Representative in maintenance procedures

**END OF SECTION**