

**SECTION 08 33 00**  
**AlarmGard™, FireGard™**  
**ROLLING COUNTER FIRE SHUTTERS /**  
**SMOKESHIELD® ROLLING COUNTER FIRE SHUTTERS**

**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®, 2004 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.

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**

- A. **Section Includes:** [Manual] [and] [electric operated] automatic closing rolling [counter fire doors] [counter fire doors with SmokeShield®UL leakage rated assembly label].
- 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, installation of control station and wiring, and connection to alarm system.
- C. **Products That May Be Supplied, But Are Not Installed Under This Section:**
1. Control station
  2. Electrical disconnect
  3. Annunciators
  4. Primary and control wiring
  5. Conduit and fittings

**1.2 SYSTEM DESCRIPTION**

- A. **Performance Requirements:**
1. Provide doors with Underwriters' Laboratories, Inc. label for the fire rating classification, [3 hr] [1 1/2 hr] [3/4 hr]

**\*\* NOTE TO SPECIFIER \*\*** If UL labeled smoke protection is not desired or required, delete line item "2" below.

2. Provide doors with Underwriters' Laboratories, Inc. label for "Leakage Rated Assembly" or "S" label demonstrating product tested to UL 1784.
  - a. Comply with NFPA 105 air leakage requirements

**\*\*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.

3. **Custom Layout:**
  - a. Product has been reconfigured for a custom layout, refer to drawings by CornellCookson.
4. **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:** 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 - see 1.4 below
    - 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 counter fire doors and smoke control units 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

## PART 2 PRODUCTS

### 2.1 MANUFACTURER

- A. **Manufacturer:**
  1. **Cookson:** 1901 South Litchfield Road, Goodyear, AZ 85338.  
**Telephone:** (800) 233-8366.

**\*\* NOTE TO SPECIFIER \*\*** Use Cornell model ERC10 for labeled fire protection without smoke control. Use Cornell model ERC11 for labeled smoke and fire protection.

- a. **Model:** [ERC10] [ERC11]
2. **Cornell**
3. **Clopay Building Products**
4. **Amarr**

**Substitutions:** Not permitted.

### 2.2 MATERIALS

- A. **Curtain:**
1. **Slat Configuration:**
    - a. **Galvanized Steel with Finish as Described Below:** No. 1F, interlocked flat-faced slats, 1-1/2 inches (38 mm) high by 1/2 inch (13 mm) deep, minimum 22 gauge ASTM A 653, Commercial Quality, galvanized steel with plain steel bottom bar and vinyl astragal
    - a. **Stainless Steel:** No. 1F, interlocked flat-faced slats, 1-1/2 inches (38 mm) high by 1/2 inch (13 mm) deep, minimum 22 gauge AISI type 304 #4 finish stainless steel with stainless steel bottom bar and vinyl astragal
  2. **Finish:**
    - a. **GalvaNex™ Coating System (Stock Colors):**
      - 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] baked-on polyester enamel finish coat
    - a. **SpectraShield® Coating System (Color Selected by Architect):**
      - 1) ASTM A 653 galvanized base coating treated with dual process rinsing agents in preparation for chemical bonding, gray baked-on base coat and gray baked-on polyester finish coat
      - 2) Zirconium treatment followed by baked-on polyester powder coat, with [color as selected by Architect from manufacturer's standard color range, over 180 colors] [custom color as selected by Architect]; minimum 2.5 mils (0.065 mm) cured film thickness; ASTM D-3363 pencil hardness: H or better
    - a. **Atmoshield® Powder Coating System (Color Selected by Architect):**
      - 1) ASTM A 653 galvanized base coating treated with dual process rinsing agents in preparation for chemical bonding, gray baked-on base coat and gray baked-on polyester finish coat
      - 2) Zirconium pre-treatment followed by baked-on polyester powder coat, with [Weathered iron] [Weathered brown] [Earth] [Weathered bronze] [Terra cotta] [Stucco] [Platinum] [Olde copper] [Rust] [Dark roast] [Weathered copper]; minimum 2.5 mils (0.065 mm) cured film thickness; ASTM D-3363 pencil hardness: H or better
    - a. **Custom printed graphic finish**
      - 1) **GalvaNex™ Coating System (Stock Color):** 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
        - a) Graphic to be printed on slat material using Eco-solvent ink-jet UV cured ink. Printed area to be coated with 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.
    - a. **Stainless Steel:** type 304 #4 finish
- B. **Endlocks:**  
Fabricate continuous interlocking slat sections with high strength galvanized steel endlocks riveted to slats per UL requirements
- C. **Guides:**
1. **Configuration & Finish:**
    - a. **Steel:** minimum 12 gauge formed shapes
      - 1) **Powder Coat (Stock Colors):** Zirconium treatment followed by a [gray] [tan] [white] baked-on polyester powder coat; minimum 2.5 mils (0.065 mm) cured film thickness
      - 1) **Powder Coat (Color Selected by Architect):** Zirconium treatment followed by baked-on polyester powder coat, [color as selected by Architect from manufacturer's standard color range] [custom color as selected by Architect]; minimum 2.5 mils (0.065 mm) cured film thickness; ASTM D-3363 pencil hardness: H or better

- 1) **AtmoShield Powder Coat (Color Selected by Architect):** Zirconium pre-treatment followed by baked-on polyester powder coat, [Weathered iron] [Weathered brown] [Earth] [Weathered bronze] [Terra cotta] [Stucco] [Platinum] [Olde copper] [Rust] [Dark roast] [Weathered copper]; minimum 2.5 mils (0.065 mm) cured film thickness; ASTM D-3363 pencil hardness: H or better
    - a. **Stainless Steel:** minimum 12 gauge formed shapes
      - 1) type 304 #4 finish
- D. **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.
- E. **Brackets:**  
Fabricate from reinforced 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. **Powder Coat (Stock Colors):** Zirconium treatment followed by a [gray] [tan] [white] baked-on polyester powder coat; minimum 2.5 mils (0.065 mm) cured film thickness
    - a. **Powder Coat (Color Selected by Architect):** Zirconium treatment followed by baked-on polyester powder coat, [color as selected by Architect from manufacturer's standard color range] [custom color as selected by Architect]; minimum 2.5 mils (0.065 mm) cured film thickness; ASTM D-3363 pencil hardness: H or better
    - a. **AtmoShield Powder Coat (Color Selected by Architect):** Zirconium pre-treatment followed by baked-on polyester powder coat, [Weathered iron] [Weathered brown] [Earth] [Weathered bronze] [Terra cotta] [Stucco] [Platinum] [Olde copper] [Rust] [Dark roast] [Weathered copper]; minimum 2.5 mils (0.065 mm) cured film thickness; ASTM D-3363 pencil hardness: H or better
- F. **Hood and Mechanism Covers:**  
[24 gauge galvanized steel] [24 gauge stainless 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 (Stock Colors):**
      - 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] baked-on polyester finish coat
    - a. **SpectraShield® Coating System (Color Selected by Architect):**
      - 1) ASTM A 653 galvanized base coating treated with dual process rinsing agents in preparation for chemical bonding, gray baked-on base coat and gray baked-on polyester finish coat
      - 2) Zirconium treatment followed by baked-on polyester powder coat, with [color as selected by Architect from manufacturer's standard color range] [custom color as selected by Architect]; minimum 2.5 mils (0.065 mm) cured film thickness; ASTM D-3363 pencil hardness: H or better
    - a. **Atmoshield® Powder Coating System (Color Selected by Architect):**
      - 1) ASTM A 653 galvanized base coating treated with dual process rinsing agents in preparation for chemical bonding, gray baked-on base coat and gray baked-on polyester finish coat
      - 2) Zirconium pre-treatment followed by baked-on polyester powder coat, with [Weathered iron] [Weathered brown] [Earth] [Weathered bronze] [Terra cotta] [Stucco] [Platinum] [Olde copper] [Rust] [Dark roast] [Weathered copper]; minimum 2.5 mils (0.065 mm) cured film thickness; ASTM D-3363 pencil hardness: H or better
    - a. **Stainless steel:** type 304 #4 finish

**\*\* NOTE TO SPECIFIER \*\*** Include the following smoke seals when labeled smoke protection is required - model ERC11 units. Check code for smoke detector and alarm system tie-in requirements. Delete item below if not required.

G. **Smoke Seals & UL Smoke Label:**

1. **[Bottom Bar: UL tested brush seal.] [Bottom Bar (Motor Operated Units)] Combination smoke seal/sensing edge]**
2. **Guides and Head:** Replaceable, UL Listed, brush seals sealing against fascia side of curtain

2.3 OPERATION

**\*\* NOTE TO SPECIFIER \*\*** Model building codes typically require electrical notification by local detectors or by the fire alarm control panel. If so, select one of the following AlarmGard systems. In addition, the AlarmGard systems will provide a safe and controlled rate of descent, an internal failsafe release device, hands-free automatic reset, an integrated cycle counter and a selective auto-open feature.

A. **Motor Operation:**

1. **AlarmGard Advanced Fire Shutter Motor Operation:** UL, cUL listed NEMA 1 enclosure, horsepower as recommended by manufacturer, **[115v single] [230v single] [208/230v three] [460v three]** phase service. Provide a totally enclosed non ventilated motor, removable without affecting the setting of limit switches; thermal overload protection, planetary gear reduction, adjustable rotary limit switch mechanism and a transformer with 24v secondary output. All internal electrical components are to be prewired to terminal blocks.
  - a. Provide a failsafe motor operated door assembly requiring no ancillary or externally mounted release devices, cables, chains, pulleys, reset handles or mechanisms
  - b. Provide an internal electrical failsafe release device that requires no additional wiring, external cables or mounting locations
  - c. Provide an internal solenoid brake mechanism to hold the door at any position during normal door operation
  - d. Provide logic for **[1] [2] [3]** fully monitored safety reversing devices such that the failure of any single monitored device will cause the motor operator to automatically revert to constant pressure to close
  - e. Electrically activate door system automatic closure by **[notification from central alarm system] [notification from local detectors] or [power outage] [power outage exceeding 6 hours with R-BBU battery backup system]**.
  - f. Provide an automatic alarm closure selectable time delay of zero or ten seconds
  - g. Control automatic closure speed with an internal, totally enclosed, variable rate centrifugal governor without the use of electrical pulsation, constant rate viscosity, oscillation type or other exposed governing devices
  - h. Maintain automatic closure speed at not more than 9" (229 mm) per second
  - i. Enable safety edge function during alarm closing while power is present for **[0] [1] [3]** cycle[s]. Enable door to rest upon obstruction following this sequence
  - j. Electrically reset internal failsafe release device and door operating system upon restoration of electrical power and upon clearing of the alarm signal without requiring human supervision
  - k. Provide selectable ability for the door system to automatically self-cycle to the fully open position following automatic reset without requiring human supervision
  - l. Provide an integral, non-resettable cycle counter
  - m. Ensure that manual resetting of spring tension, release devices, linkages or mechanical dropouts will not be required
  - n. Provide minimum #50 roller chain for drive connection from motor drive assembly to the door drive shaft
  - o. Install system only with manufacturer supplied or specified fasteners.
  - p. Notify electrical contractor to mount control station(s) and supply the appropriate disconnect switch, all conduit and wiring per the door system wiring instructions
  - q. Drop test and reset door system twice by all means of activation and comply fully with NFPA 80 Section 5

**\*\* NOTE TO SPECIFIER \*\*** For counter fire shutters and for fire doors up to 150 square feet, a tube motor is ideal for enhanced aesthetic presentation and includes square hoods with endcaps, giving the clean and uncluttered appearance of a soffit. Use for elevations offering limited headroom or backroom while still, providing the convenience of electrical operation with superior

fire protection activation, reset and Auto-Open performance. Use for intermediate duty applications not exceeding 10 - 12 cycles per day.

A. **AlarmGard Advanced Tube Motor Operation:**

1. **AlarmGard Series Electric Tube Motor:** UL, cUL listed NEMA 1 enclosure, [115v/ 50 Hz/ single phase service] [230v/ 60 Hz/ single phase service]. Provide a totally enclosed non ventilated motor, removable without affecting the setting of limit switches; thermal overload protection, planetary gear reduction, adjustable rotary limit switch mechanism and a transformer with 24v secondary output. All internal electrical components are to be prewired to terminal blocks.
  - a. Provide a failsafe tubular motor operated fire shutter assembly requiring no ancillary or externally mounted release devices, cables, chains, pulleys, reset handles or mechanisms
  - b. Provide an internal electrical failsafe release device that requires no additional wiring, external cables or mounting locations
  - c. Provide an internal solenoid brake mechanism to hold the door at any position during normal door operation
  - d. Control automatic closure speed with an internal, totally enclosed, variable rate centrifugal governor without the use of electrical pulsation, constant rate viscosity, oscillation type or other exposed governing devices
  - e. Electrically activate door system automatic closure by [notification from central alarm system] [notification from local detectors] or [power outage] [power outage exceeding 6 hours with controller mounted battery backup system].
  - f. Maintain automatic closure speed at not more than 12" (229 mm) per second.
  - g. Enable safety edge function during alarm gravity closing while power is present. Enable door to rest upon obstruction following this sequence.
  - h. Electrically reset internal failsafe release device and door operating system upon restoration of electrical power and upon clearing of the alarm signal without requiring human supervision
  - i. Provide selectable ability for the door system to automatically self-cycle to the fully open position following automatic reset without requiring human supervision
  - j. Ensure that manual resetting of spring tension, release devices, linkages or mechanical dropouts will not be required
  - k. Notify electrical contractor to mount control station(s) and supply the appropriate disconnect switch, all conduit and wiring per the door system wiring instructions
  - l. Drop test and reset door system twice by all means of activation and comply fully with NFPA 80 Section 5

**\*\* NOTE TO SPECIFIER \*\*** Select the FireGard fire door motor operator system if the fire door system is intended to be activated by fusible link, is not used in areas of high human traffic, may or may not be electrically notified by a fire alarm control panel/ local detectors, and is desired to close at a safe and controlled rate of descent.

1. **FireGard™ Fire Door Motor Operation:** UL listed NEMA 1 enclosure, horsepower as recommended by manufacturer, [115v single] [230v single] [208/230v three] [460v three] phase service. Provide a totally enclosed non ventilated motor, removable without affecting the setting of limit switches; thermal overload protection, planetary gear reduction, adjustable rotary limit switch mechanism and a transformer with 24v secondary output. All internal electrical components are to be prewired to terminal blocks.
  - a. Provide an internal solenoid brake mechanism to hold the door at any position during normal door operation
  - b. Equip operator with an emergency manual chain hoist assembly that provides emergency operation during non-alarm power failure
  - c. Activate automatic closure by [separation of a fusible link] [activation of a failsafe release device] by [notification from central alarm system] [notification from local detectors] or [power outage] [power outage exceeding 6 hours with a battery backup system]
  - d. Delay automatic closure for no more than ten seconds when electrically notified
  - e. Control automatic closure speed with a variable rate centrifugal governor without the use of electrical pulsation, oscillation type or constant rate viscosity governors
  - f. Maintain automatic closure speed at an average of 12" (304mm) per second
  - g. Ensure that electrical sensing edge and push button control station are inoperable during automatic closure

- h. Reset door system by reconnecting fusible links or by re-engaging failsafe release device from floor level
- i. Provide minimum #50 roller chain for drive connection from operator output shaft to the door drive shaft
- j. Ensure that manual resetting of spring tension or mechanical dropouts will not be required
- k. Install system only with manufacturer supplied or specified fasteners
- l. Notify electrical contractor to mount the control station(s) and supply the appropriate disconnect switch, all conduit and wiring per the door system wiring instructions
- m. Drop test and reset door system twice by all means of activation and comply fully with NFPA 80 Section 5

**\*\* NOTE TO SPECIFIER \*\* Model building codes typically require activation by detectors or by the fire alarm control panel to activate fire doors and shutters to close at the first indication of a fire. If so, select one of the following AlarmGard operator systems.** In addition, the AlarmGard systems will provide a safe and controlled rate of descent, an internal failsafe release device, hands-free automatic reset, and programmable Auto-Open.

**A. Manual Operation:**

1. **AlarmGard Advanced Manual [Chain] [Crank] Fire Door Operators:** Electrically activated, manually operated, 115 volt AC system with planetary gear reduction, a transformer with 24v secondary output and an internal failsafe release mechanism
  - a. Door assembly to be manually operated by [chain hoist] [crank]
  - b. Provide an internal electrical failsafe release device that requires no additional wiring, external cables or mounting locations
  - c. Electrically activate automatic closure by [notification from central alarm system] [notification from local detectors] or [power outage] [power outage exceeding 6 hours with R-BBU battery backup system]
  - d. Provide an internal solenoid brake mechanism to hold the door at any position during normal door operation
  - e. Delay automatic closure after notification for no more than ten seconds
  - f. Control automatic closure speed with an internal, totally enclosed, variable rate centrifugal governor without the use of electrical pulsation, constant rate viscosity, oscillation type or other exposed governing devices
  - g. Maintain automatic closure speed at an average of 12" (304mm) per second
  - h. Electrically reset internal failsafe release device and door operating system upon restoration of electrical power and upon clearing of the alarm signal without requiring human supervision
  - i. Provide minimum #50 roller chain from operator output shaft to the door drive shaft
  - j. Install system only with manufacturer supplied or specified fasteners
  - k. Ensure that manual resetting of spring tension, release devices, linkages or mechanical dropouts will not be required
  - l. Notify electrical contractor to supply and install the appropriate disconnect switch, all conduit and wiring per the door system wiring instructions
  - m. Drop test and reset door system twice by all means of activation and comply fully with NFPA 80 Section 5

**\*\* NOTE TO SPECIFIER \*\* Select the FireGard chain hoist or awning crank fire door manual operation system if the fire door system is intended to be activated by fusible link, is not used in areas of high human traffic, may or may not be electrically notified by a fire alarm control panel/ local detectors, and is desired to close at a safe and controlled rate of descent. Do not use for smoke or alarm panel activation unless using an external failsafe release device. Select AlarmGard operators above for electrical notification.**

2. **FireGard™ Series Manual [Chain] [Crank] Operation:** Thermally activated, manually operated system with planetary gear reduction and internal release mechanism
  - a. Provide an internal brake mechanism to hold the door at any position during normal door operation
  - b. Thermally activate automatic closure by melting of a fusible link
  - c. Control automatic closure speed with an internal, totally enclosed, variable rate centrifugal governor without the use of electrical pulsation, non-variable rate viscosity, oscillation type or other governing devices
  - d. Maintain automatic closure speed at an average of 12" (304mm) per second

- e. Reset door system by reconnecting fusible links or by re-engaging a failsafe release device from floor level
- f. Provide minimum #50 roller chain from operator output shaft to the door drive shaft
- g. Install system only with manufacturer supplied or specified fasteners
- h. Ensure that manual resetting of spring tension or mechanical components will not be required
- i. Drop test and reset door system twice by all means of activation and comply fully with NFPA 80 Section 5

**\*\* NOTE TO SPECIFIER \*\*** The FireGard manual push-up operation system is a conventional tension release system that requires access to components on each the side of the opening and above the opening and door assembly for testing and resetting. Permanent hatch access must be allowed for future inspection, drop testing and re-setting.

- 3. **FireGard™ Series Manual Push-Up Operation:** Conventional spring tension release operating system
  - a. Provide bottom bar lift handles and a pull-down pole with hook
  - b. Activate automatic closure by [melting of a fusible link] [activation of a failsafe release device] by [notification from central alarm system] [notification from local detectors] or [power outage] [power outage exceeding 6 hours with a battery backup system]
  - c. Maintain automatic closure speed at an average of 6" – 24" per second
  - d. Reset of spring tension, mechanical dropouts or release devices to be completed only by an approved and trained door systems technician
  - e. Notify electrical contractor to supply and install the appropriate disconnect switch, all conduit and wiring per the door system wiring instructions
  - f. Drop test and reset door system twice by all means of activation and comply fully with NFPA 80, Section 5

**\*\* NOTE TO SPECIFIER \*\*** Most common control stations for **motorized counter fire doors** are listed below; Consult Cornell Architectural Design Services at (800) 233-8366 ext. 4551 for other options.

**Delete sections B through C for manual push-up or crank /hoist operation.**

- B. **Control Station:**
  - 1. **Surface mounted:** "Open/Close/Stop" push buttons; NEMA 1
  - 1. **Surface mounted:** "Open/Close" key switch with "Stop" push button; NEMA 1
  - 1. **Flush mounted:** "Open/Close/Stop" push buttons; NEMA 1B
  - 1. **Flush mounted:** "Open/Close" key switch with "Stop" push button; NEMA 1B
- C. **Control Operation:**
  - 1. **Constant pressure to close:**
    - a. **No sensing device required**
    - a. **2-wire, electric** sensing edge seal extending full width of door bottom bar. Contact before door fully closes shall cause door to immediately stop downward travel and reverse direction to the fully opened position. Provide a [retracting safety cord and reel] [self-coiling cable] connection to control circuit.
  - 1. **Momentary contact to close:**
    - Fail-safe, UL325-2010 Compliant Entrapment Protection for Motor Operation.
    - a. **Continuously monitored, wireless sensing seal** extending full width of door bottom bar. Contact before door fully closes shall cause door to immediately stop downward travel and reverse direction to the fully opened position
    - a. **2-wire, E.L.R.** (E.L.R. meets fail-safe/monitored device specifications) electric sensing edge extending full width of door bottom bar. Contact before door fully closes shall cause door to immediately stop downward travel and reverse direction to the fully opened position. Provide a [retracting safety cord and reel] [self-coiling cable] connection to control circuit.

**\*\* NOTE TO SPECIFIER \*\*** If tube motor operated, provide the following device to enable momentary contact close operation.



**\*\* NOTE TO SPECIFIER \*\*** Standard locking methods are listed below.

- A. **Locking:**
1. **None**
  1. **Padlockable slide bolt:** Padlockable slide bolt on coil side of bottom bar at each jamb extending into slots in guides. Provide interlock switches on motor operated units.
  1. **Masterkeyable cylinder lock:** Operable from [coil] [fascia] [both] side[s] of bottom bar. Provide interlock switches on motor operated units.
    - a. **Standard Mortise Cylinder**
    - a. **BEST 7-Pin**
    - a. **U-Change**
    - a. **Schlage**

**\*\* NOTE TO SPECIFIER \*\*** Plastic laminate countertops are available for openings up to 15'-0" (4.57 m) wide. 12" (305 mm) minimum sill depth; 36" (914 mm) maximum sill depth.

- B. **UL Labeled and Listed Countertop to Meet NFPA 80 Requirements:**
1. **Plastic laminate covered:** 1 ½ Hour UL Labeled, 1-5/8" (41 mm) thick, plastic laminate covered, size and configuration made for opening size and wall construction. Color as selected by Architect from standard range of Wilson Art or Formica plastic laminates.

**\*\* NOTE TO SPECIFIER \*\*** Stainless steel countertops are available for openings up to 11'-2" (3.40 m) wide and for walls up to 12" (305 mm) thick. Sill depth equals wall thickness plus 7 ½" (190.5 mm).

1. **Stainless steel min. 14 gauge type 304 #4 finish:** 1 ½ Hour UL Labeled, 2" (51 mm) thick, 14 gauge type 304 #4 finish stainless steel. ["T" shaped design for face of wall mounted unit] [Rectangular shape design for between jambs mounted unit] of size and configuration for opening size and wall construction

**\*\* NOTE TO SPECIFIER \*\*** Include R-BBU battery back-up system to AlarmGard model FS motor operators to add a four hour time delay to auto-closing upon power failure. This system does not provide for power opening of the unit. Coordinate with section for AlarmGard motor operated systems. Delete if not desired.

- C. **Battery Backup:**
1. **Model R-BBU Battery Back-Up System:** For [AlarmGard Motor Operator] [AlarmGard Manual Operator] [FireGard Motor Operator with a failsafe release device] to provide a minimum of six hours door hold-open time in the event of a power failure

- D. **Photoelectric Smoke/Heat Detector** (when not connected to central alarm system): UL listed

**\*\* NOTE TO SPECIFIER \*\*** Fire emergency annunciators are available for use with a AlarmGard series FDCL motor operator and FireGard series release devices. Horn/strobe available with FDCL operator and all FireGard series devices; voice warning module available with type by device only. Delete below if not desired.

- E. **Fire Emergency Annunciator:**  
[ADA compliant horn/strobe] [Voice Warning Module] fire emergency annunciator to give advanced warning that fire shutter is about to close, activating warning signal upon alarm

**\*\* NOTE TO SPECIFIER \*\*** Exposed moving operator components lower than 8 feet above floor level that create possible pinch points are required to be covered per UL 325. Specify an operator cover whenever this field condition exists.

- F. **Operator and Full Bracket Mechanism Cover:**  
[24 gauge galvanized steel] [24 gauge stainless steel] sheet metal cover to enclose exposed moving operating components at coil area of unit. Finish to match door hood.

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

**\*\* NOTE TO SPECIFIER \*\*** Include NFPA 105 when labeled smoke protection is required (model ERC11 units).

- B. Comply with [NFPA 80] [NFPA 80 and NFPA 105] and follow manufacturer's installation instructions

### 3.3 ADJUSTING

- A. 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 FIELD QUALITY CONTROL

- A. Site Test: Test doors for normal operation and automatic closing. Coordinate with authorities having jurisdiction to witness test and sign Drop Test Form

### 3.5 CLEANING

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

### 3.6 DEMONSTRATION

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

**END OF SECTION**