

SECTION 08 33 00

ROLLING COUNTER DOORS

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 THE SPECIFIER ARE CONTAINED IN BOXES AND SHOULD BE DELETED FROM FINAL COPY.

OPTIONAL ITEMS REQUIRING SELECTION BY THE 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, E.G.: _____.

OPTIONAL PARAGRAPHS ARE SEPARATED BY A REDLINED "OR," E.G.:

OR

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes: [Manual] [and] [electric operated] rolling counter 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

INCLUDE APPROPRIATE LANGUAGE BELOW, INCLUDING A REFERENCE TO SECTION 01 23 00 ALTERNATES, IF ROLLING COUNTER DOORS ARE INCLUDED IN ANY ALTERNATES, ADD SECTION 01 23 00 TO 1.1 B. DELETE IF NO ALTERNATES.

D. Alternates:

1.2 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 9001:2008 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 comply with this specification.

1.3 QUALITY ASSURANCE

- A. Qualifications:
1. Manufacturer Qualifications: ISO 9001:2008 registered and a minimum of five years experience in producing counter doors of the type specified.
 2. Installer Qualifications: Manufacturer's approval.

1.4 DELIVERY STORAGE AND HANDLING

- A. Reference Section 01 66 00 Product Storage and Handling Requirements.
- B. Follow manufacturer's instructions.

1.5 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: Cornell Iron Works, Inc., Crestwood Industrial Park, Mountaintop, PA 18707. Telephone: (800) 233-8366, Fax: (800) 526-0841. Underwriters Laboratories, Inc. (UL), ISO 9001:2008 registered.

INSERT NAME, ADDRESS, AND PHONE NUMBERS OF LOCAL DISTRIBUTOR BELOW.

- 1. Distributor:
- B. Model: ESC10
- C. Substitutions: Reference Section 01 25 13 Product Substitution Procedures.

2.2 MATERIALS

A. Curtain:

- 1. Slats: No. 1F, interlocked flat-faced slats, 1-1/2 inches (38 mm) high by 1/2 inch (13 mm) deep, [22 gauge ASTM A 653, Commercial Quality, galvanized steel] [0.040 inch aluminum] with extruded tubular aluminum bottom bar with continuous lift handle and vinyl astragal.

OR

- 1. Slats: No. 1F, interlocked flat-faced slats, 1-1/2 inches (38 mm) high by 1/2 inch (13 mm) deep, 22 gauge AISI type 304 series stainless steel with stainless steel angle bottom bar with lift handles and vinyl astragal.

OR

- 1. Slats: No. 1P ScreenGard interlocked flat-faced, perforated slats, 1-1/2 inches (38 mm) high by 1/2 inch (13 mm) deep, 22 gauge ASTM A 653, Commercial Quality, galvanized steel perforated with 0.062 inch (1.6 mm) diameter openings at 0.094 inch (2.4 mm) staggered centers, approximately 22 percent free area with extruded aluminum tubular bottom bar, continuous lift handle and vinyl astragal.
- 2. Fabricate interlocking slat sections with high strength molded nylon endlocks riveted to ends of alternate slats.
- 3. Slat 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] [tan] baked-on polyester base coat and a [light gray] [tan] 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.

OR

- a. GalvaNex™ Coating System and phosphate treatment followed by baked-on polyester powder coat, [color as selected by Architect from manufacturer's standard color range, minimum 32 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.

OR

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

OR

- a. Stainless Steel: No. 4 finish.

4. Bottom Bar Finish:

- a. Aluminum Bar (for Steel Slat with Baked Enamel Coating): Clear anodized.

OR

- a. Aluminum Bar (for Steel Slat with Powder Coating): Match slat powder coating.

OR

- a. Aluminum Bar (with Aluminum Slat): Match slat finish.

OR

- a. Stainless steel: No. 4 finish.

B. Guides:

- 1. Aluminum: Heavy duty extruded aluminum sections with snap-on cover to conceal fasteners. Provide polypropylene pile runners on both sides of curtain to eliminate metal to metal contact between guides and curtain.

OR

- 1. Stainless Steel: 12 gauge formed shapes.
- 2. Finish:
 - a. Aluminum Guide (for Steel Slat with Baked Enamel Coating): Clear anodized.

OR

- a. Aluminum Guide (for Steel Slat with Powder Coating): Match slat powder coating.

OR

- a. Aluminum Guide (with Aluminum Slat): Match slat finish.

OR

- a. Stainless steel: No. 4 finish.

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.

OR

Tube Motor 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.

D. Brackets: Fabricate from reinforced steel plate with bearings at rotating support points to support counterbalance shaft assembly and form end closures.

- 1. Finish:
 - a. Phosphate treatment followed by a [light gray] [tan] baked-on polyester powder coat; minimum 2.5 mils (0.065 mm) cured film thickness.

OR

- a. Phosphate treatment followed by a corrosion inhibitive baked-on zinc-rich gray polyester powder coat; minimum 2.5 mils (0.065 mm) cured film thickness.

OR

- a. ASTM A 123, Grade 85 zinc coating, hot-dip galvanized after fabrication.

OR

- a. Phosphate treatment followed by baked-on polyester powder coat, [color as selected by Architect from manufacturer's standard color range, minimum 32 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.

E. Hood: [24 gauge galvanized steel] [24 gauge stainless steel] [0.040 inch (1.016 mm) aluminum] 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] [tan] baked-on polyester base coat and a [light gray] [tan] 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.

OR

- a. GalvaNex™ Coating System and phosphate treatment followed by baked-on polyester powder coat, [color as selected by Architect from manufacturer's standard color range, minimum 32 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.

OR

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

OR

- a. Stainless steel: No. 4 finish.

2.3 ACCESSORIES

STANDARD LOCKING METHODS FOR MANUAL PUSH-UP OR CRANK HOIST ARE LISTED BELOW. SELECT THUMB WING LATCH WITH GALVANIZED STEEL OR ALUMINUM CURTAIN UNITS. SELECT PADLOCKABLE SLIDE BOLT WITH STAINLESS STEEL CURTAIN UNITS.

A. Locking:

- 1. [Manual Push-Up] [Manual Crank Hoist]: Locking thumb wing latch located on coil side of bottom bar at each jamb extending lock bolt through slots in guides. Keyed alike but not masterkeyed.

OR

- 1. [Manual Push-Up] [Manual Crank Hoist]: Padlockable slide bolt on coil side of bottom bar at each jamb extending into slots in guides.

OR

AVAILABLE LOCKING OPTIONS ON ALL COUNTER DOORS. CONSULT CORNELL ENGINEERING SERVICES (800) 233-8366 EXT. 551 FOR OTHER OPTIONS.

- 1. Padlockable slide bolt on coil side of bottom bar at each jamb extending into slots in guides. [Provide interlock switches on motor operated units.]

OR

- 1. Masterkeyable cylinder operable from [coil] [fascia] [both] side[s] of bottom bar. [Provide interlock switches on motor operated units.]

- B. Graphics Door Image: [Flat face surface of door curtain slats] [hood] [fascia] to include a factory applied [4] [2] -color process, 2 mil thick vinyl graphic image, 3M® or equal. Graphic image to be selected and electronically supplied by customer. Door opening size to be _____ feet wide x _____ feet high. Graphic image size to be _____ feet wide x _____ feet high.

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.

- C. Countertop: Plastic laminate covered, 1-1/4" (32 mm) thick, of size and configuration for opening size and wall construction. Color as selected by Architect from standard range of Wilson Art or Formica plastic laminates.

OR

STAINLESS STEEL COUNTERTOPS ARE AVAILABLE FOR OPENINGS UP TO 11'-0" (3.35 M) WIDE WITH SILL DEPTHS UP TO 20" (508 mm).

- C. Countertop: 14 gauge #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.

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.

- D. Operator [and Bracket Mechanism] Cover: Provide [24 gauge galvanized steel] [24 gauge stainless steel] [0.040 inch (1.016 mm) aluminum] sheet metal cover [to provide weather resistance] [to enclose exposed moving operating components] at coil area of unit. Finish to match door hood.

2.4 OPERATION

- A. Manual Push-Up: Manual lift or pole with hook.

OR

- A. Manual Crank Hoist: Provide crank hoist operator including crank gear box, steel crank drive shaft and geared reduction unit. Fabricate gear box to completely enclose operating mechanism and be oil-tight.

OR

- A. Supply Cornell 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, ____ Volts, ____ Phase. Provide complete with electric motor and factory pre-wired motor control terminals, maintenance free solenoid actuated brake, [emergency manual chain hoist] [provisions for auxiliary push-up operation] 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.] [a disconnect cable for auxiliary push-up operation.] 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.

OR

- A. Supply Electric Tube Motor Operator - rated for a maximum of 10 cycles per day, cULus recognized, rated (50nm) (100nm) or (200nm) as recommended by door manufacturer for size and type of door, 110 Volts, 1 Phase. Provide complete with electric tube motor, maintenance free electric brake, emergency manual crank hoist and control station(s). Motor shall be protected against overload with an auto-reset thermal sensing device. Operator shall be equipped with an emergency manual crank hoist assembly that safely cuts operator power when engaged. A disconnect chain shall not be required to engage or release the manual crank hoist. Operator shall be capable of 10-14 RPM. Fully adjustable, mechanical internal worm 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.

MOST COMMON CONTROL STATIONS ARE LISTED BELOW; CONSULT CORNELL ENGINEERING SERVICES (800) 233-8366 EXT. 551 FOR OTHER OPTIONS.

1. Control Station: Flush mounted, "Open/Close/Stop" push buttons; NEMA 1B.

OR

1. Control Station: Surface mounted, "Open/Close/Stop" push buttons; NEMA 1.

OR

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

OR

1. Control Station (Tube Motor Only): Flush mounted, Rocker Switch; NEMA 1

OR

1. Control Station (Tube Motor Only): Flush mounted, Designer Switch; NEMA 1

OR

1. Control Station (Tube Motor Only): Flush mounted, Toggle Switch; NEMA 1

CONSTANT PRESSURE CLOSE OPERATION IS RECOMMENDED FOR MOTOR OPERATED COUNTER DOOR UNITS. SELECT THE OPERATOR FUNCTION BELOW WHEN CONSTANT PRESSURE CLOSE OPERATION IS ACCEPTABLE. THE MOTOR CONTROL STATION(S) MUST BE MOUNTED WITHIN VISIBLE SIGHT OF THE ENTIRE DOOR OPENING AND PRESSURE MUST BE MAINTAINED ON "CLOSE" FOR THE DURATION OF EACH CLOSE CYCLE.

- B. Provide operator to function with constant pressure close operation to meet UL325-2010 listing standard requirements

OR

FOR MOMENTARY CONTACT CLOSE OPERATION PER UL325-2010, MOTOR OPERATED DOORS MUST BE PROVIDED WITH A CONNECTED AND PROPERLY FUNCTIONING PRIMARY ENTRAPMENT PROTECTION DEVICE OR THE SYSTEM WILL REVERT TO CONSTANT PRESSURE CLOSE OPERATION.

■ SELECT A PRIMARY ENTRAPMENT PROTECTION DEVICE FROM 2.4-B-1 BELOW TO ENABLE MOMENTARY CONTACT CLOSE OPERATION, INCLUDING THE CONNECTION OF RADIO CONTROLS, INDUCTION LOOPS, TIMER TO CLOSE, ETC.

- B. Entrapment Protection **for Model MG Motor Operation**: Provide the following primary entrapment protection device to enable momentary contact close operation.

A STAND ALONE 2-WIRE E.L.R. ELECTRIC SENSING EDGE IS RECOMMENDED TO MEET THE UL325-2010 REQUIREMENT FOR ENTRAPMENT PROTECTION WHILE ALSO PROVIDING PROPERTY PROTECTION. A SENSING EDGE WILL DETECT OBJECTS PROJECTING THROUGH THE OPENING ABOVE 6" FROM THE COUNTER / FLOOR THAT PHOTO EYES MAY NOT DETECT.

1. Provide a 2-wire, E.L.R. electric sensing/weather 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.

OR

1. Provide NEMA 4X photo eye sensors consisting of a transmitter and receiver that are to be mounted within 6" (152.4 mm) of the counter/floor, projecting an IR beam across the entire width of the door. Interruption of beam before door fully closes shall cause door to immediately stop downward travel and reverse direction to the fully opened position. Electrical contractor to provide low voltage wiring from the transmitter and receiver to the door operator.

OR

1. Provide NEMA 1 photo eye sensors consisting of a transmitter and receiver that are to be mounted within 6" (152.4 mm) of the counter/floor, projecting an IR beam across the entire width of the door. Interruption of beam before door fully closes shall cause door to immediately stop downward travel and reverse direction to the fully opened position. Electrical contractor to provide low voltage wiring from the transmitter and receiver to the door operator.

THE ITEM LISTED BELOW IS AN OPTIONAL SECONDARY ENTRAPMENT PROTECTION DEVICE, AND MAY BE USED IN CONJUNCTION WITH A SET OF PRIMARY ENTRAPMENT PROTECTION PHOTO EYES OR WITH CONSTANT PRESSURE CLOSE OPERATION. DELETE IF NOT DESIRED.

AND/OR

- 2/1. Sensing/Weather Edge: Provide automatic reversing control by an automatic sensing switch within neoprene or rubber astragal extending full width of door bottom bar.
 - a. 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 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.

- B. **Tube Motor Operation**: Provide the following device to enable momentary contact close operation.

1. Provide a 2-wire electric sensing/weather 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.

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 door 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 doors 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