The Genuine. The Original.

SECTION 08331

ROLLING FIRE DOORS

FIREKING® MODEL 635

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**** NOTE TO SPECIFIER ** Overhead Door Corporation; Rolling fire door products.**

This section is based on the products of Overhead Door Corporation, which is located at:
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Overhead Door Corporation pioneered the upward-acting door industry, inventing the first upward-acting door in 1921 and the first electric door opener in 1926. Today, we continue to be the industry leader through the strength of our product innovation, superior craftsmanship and outstanding customer support, underscoring a legacy of quality, expertise and integrity. That's why design and construction professionals specify Overhead Door Corporation products more often than any other brand.

This specification includes rolling fire doors. Overhead Door Corporation offers a wide array of rolling steel doors to meet the most demanding fire safety standards, unusual opening sizes and aesthetic requirements. Designed to close automatically in the event of a fire or alarmed event, our fire-rated doors are available for service door and counter applications in commercial, industrial, institutional and retail uses.

PART 1 GENERAL

1.1 SECTION INCLUDES

**** NOTE TO SPECIFIER ** Delete items below not required for project.**

A. Insulated rolling fire doors.

1.2 RELATED SECTIONS

**** NOTE TO SPECIFIER ** Delete any sections below not relevant to this project; add others as required.**

A. Section 05500 - Metal Fabrications: Support framing and framed opening.

B. Section 06200 - Finish Carpentry: Wood jamb and head trim.

C. Section 08710 - Door Hardware: Product Requirements for cylinder core and keys.

D. Section 09900 - Painting: Field applied finish.

E. Section 16130 - Raceway and Boxes: Conduit from electric circuit to door operator.

F. Section 16150 - Wiring Connections: Power to disconnect.

1.3 REFERENCES

**** NOTE TO SPECIFIER ** Delete references from the list below that are not actually required by the text of the edited section.**

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

B. ASTM A 666 - Standard Specification for Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.

C. ASTM A 924 - Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process.

D. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum).

E. NEMA MG 1 - Motors and Generators.

F. NFPA-80 – Standard for Fire Doors and Fire Windows.

1.4 DESIGN / PERFORMANCE REQUIREMENTS

A. Fire Rated Assemblies: Provide assemblies complying with NFPA 80 and listed in UL Directory or Intertek Testing Services (Warnock Hersey Listed) Directory.

1.5 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. Details of construction and fabrication.
   4. Installation methods.

C. Shop Drawings: Include detailed plans and elevations, details of framing members, anchoring methods, clearances, hardware, and accessories.

**** NOTE TO SPECIFIER ** Delete selection samples if colors have already been selected.**

D. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.

E. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) long, representing actual product, color, and patterns.

F. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

G. Operation and Maintenance Data: Submit lubrication requirements and frequency, and periodic adjustments required.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in performing Work of this section with a minimum of five years experience.

B. Installer Qualifications: Installer Qualifications: Company approved by manufacturer, specializing in performing Work of this section with minimum three years experience, with IDEA Certified Installers and service technicians on staff.

1.7 DELIVERY, STORAGE, AND HANDLING

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

B. Protect materials from exposure to moisture. Do not deliver until after wet work is complete and dry.

C. Store materials in a dry, warm, ventilated weathertight location.

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.

1.9 COORDINATION

A. Coordinate Work with other operations and installation of adjacent materials to avoid damage to installed materials.

1.10 WARRANTY

A. Manufacturer’s Warranty: Provide manufacturer’s two year limited warranty.

**** NOTE TO SPECIFIER ** Include the one of the following Optional PowderGuard Finish warranty paragraph if included for the Door(s) specified. Delete if not applicable.**

B. PowderGuard Finish
   1. PowderGuard Premium Applied to curtain, guides, bottom bar, headplates: Manufacturer's limited Premium Finish warranty for 2 years.
   2. PowderGuard Zinc Base Coat applied to guides, bottom bar, headplates plus PowderGuard Premium applied to curtain and top coat for guides, bottom bar, headplates: Manufacturer's limited Zinc Finish warranty for 4 years.
   3. PowderGuard Textured: Applied to curtain, guides, bottom bar, headplates: Manufacturer's limited Textured Finish warranty for 3 years.
   4. PowderGuard Zinc Base Coat applied to guides, bottom bar, headplates plus PowderGuard Textured applied to curtain and top coat for guides, bottom bar, headplates: Manufacturer's limited Zinc Finish warranty for 4 years.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Overhead Door Corporation, 2501 S. State Hwy. 121, Suite 200, Lewisville, TX 75067. ASD. Tel. Toll Free: (800) 275-3290. Phone:

(469) 549-7100. Fax: (972) 906-1499. Web Site: www.overheaddoor.com. E-mail: info@overheaddoor.com.

**** NOTE TO SPECIFIER ** Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.**

B. Substitutions: Not permitted.

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

**** NOTE TO SPECIFIER ** Models 630, 631 and 634 fire service comply with NFPA 80 for masonry and non-masonry installation. Customized doors are available for conveyor installations. Contact Overhead Door Corporation for additional information.**

2.2 INSULATED ROLLING FIRE DOORS

A. Rolling Fire service Doors: FireKing Model 635 Insulated Rolling Fire Doors.

1. Label: Provide fire doors certified with the following listing.

**** NOTE TO SPECIFIER ** Select one or more of the following paragraphs to suit the projects requirements for the door size(s) required and delete the ones not required. Note that UL Labels are standard and FM labels are optional.**

a. Rolling fire doors up to 152 sf (14.12 sm) and not exceeding 13 feet 6 inches (4.11 m) in width or height shall receive the UL 4-Hour Class A Label when face mounted to masonry opening.

b. Rolling fire doors up to 120 sf (11.4 sm) with the width of the opening not exceeding 12 feet (3.7 m) and height of the opening not exceeding 10 feet (3.0 m) shall receive the FM 4-Hour Class A Label for masonry or concrete walls or steel wall jambs.

c. Rolling fire doors up to 152 sf (14.12 sm) and not exceeding 13 feet 6 inches (4.11 m) in width or height shall receive the UL or ULC 3-Hour Class A Label for installation on masonry or steel jamb walls, face mounted or between jambs. Door may be welded to the face of steel jambs.

d. Rolling fire doors up to 120 sf (11.4 sm) with the width of the opening not exceeding 12 feet (3.7 m) and height of the opening not exceeding 10 feet (3.0 m) shall receive the FM 3-Hour Class A Label for masonry or concrete walls or steel wall jambs.or with steel tubes set against fire walls with masonry or non-masonry construction.

e. Rolling fire doors up to 152 sf (14.12 sm) and 13 feet 6 inches (4.11 m) in width or height shall receive the UL or ULC 1-1/2-Hour Class B Label for installation in non-masonry walls, face mounted or between jambs.

f. Rolling fire doors up to 120 sf (11.4 sm) with the width of the opening not exceeding 12 feet (3.7 m) and height of the opening not exceeding 10 feet (3.0 m) shall receive the FM 1-1/2-Hour Class B Label when installed on dry wall jambs.

**** NOTE TO SPECIFIER ** Select the following paragraphs for UL Label and delete if not applicable.**

g. Rolling fire doors over 152 sf (14.12 sm) shall receive the UL Oversize Fire Door Label with masonry or steel wall construction. Face of wall mount: 30’4” max width, 28’4” max height, max area of 683 sf. Between jambs mount: 24’0” max width, 24’0” max height, 576 sf max area.

**** NOTE TO SPECIFIER ** Select the following paragraphs for optional FM Label and delete if not applicable.**

h. Rolling fire doors over 120 sf (11.4 sm) and not exceeding 18 feet (5.49 m) in height or width shall receive the FM Label for Oversize Fire Doors. Doors over 18 ft (5.49 m) must be reviewed by FM.

**** NOTE TO SPECIFIER ** Select the following paragraphs as required and delete if not required.**

i. Provide UL labeled smoke protection where indicated. Comply with with UL label for "Leakage Rated Assembly" or "S" label.
   1) Comply with NFPA 105 air leakage requirements.
   2) Pass UL test procedure 1784.

2. Curtain: Interlocking roll-formed slats. Windlocks shall be attached to each end of alternate slats to prevent lateral movement.
   a. Flat profile type F-265 with back cover and mineral wool filling internal space. For doors thru 24 feet (7.32 m) high and 24 feet (7.32 m) wide, fabricated of:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs and delete the ones not required.**

   1) 24 gauge galvanized steel.
   2) 22 gauge galvanized steel.
   3) 24 gauge stainless steel.
   4) 22 gauge stainless steel.
   b. R-Value: 4.5.
   c. Smoke and Flame Index: 5.
   d. STC (Sound Transmission C lass).
      1) Door Assembly 17
      2) Door Assembly with brush seals 18
      3) Curtain Only 21

**** NOTE TO SPECIFIER ** Select the following paragraph if glazing is required and delete if not required. Available on 4 hour, 3 hour, and 90 minute labeled doors.**

3. Glazing: Fire-rated vision panels, four glazing panels 3 inch by 5/8 inch (76 by 16 mm) with FireLite glazing.
4. Finish:

**** NOTE TO SPECIFIER ** Select the following paragraphs for the slat and hood materials required and delete the ones not required.**

   a. Galvanized Steel: Slats and hood galvanized steel to ASTM A 653 finished with a rust-inhibitive roll coating process, including bonderizing, a 0.2 mils thick baked prime paint, and a 0.6 mils thick baked top coat.

**** NOTE TO SPECIFIER ** Select one of the following two paragraphs for Polyester top coat or Powder top coat and delete the one not required. Polyester top coat is standard.**

      1) Polyester Top Coat.
         (a) Gray polyester.
         (b) Tan polyester.
         (c) White polyester.
         (d) Brown polyester.
      2) Powder coat: PowderGuard

**** NOTE TO SPECIFIER ** PowderGuard Premium polyester powder coat available in 197 colors; custom color match options available. PowderGuard Textured Finish available in 11 color options. See PowderGuard Finish brochure for color selection.**

         (a) PowderGuard Premium: Weather resistant polyester powder coat color as selected by the Architect.
         (b) PowderGuard Textured powder coat, color as selected by the Architect.

   b. Stainless Steel: Slats shall be stainless steel finished as follows.

**** NOTE TO SPECIFIER ** Select one of the following two paragraphs and delete the one not required.**

      1) Finish: 2B mill finish.
      2) Finish: No. 4 satin finish.

c. Non-galvanized exposed ferrous surfaces shall receive one coat of black powder coat.

5. Bottom Bar:
   a. Two structural steel angles 1-1/2 inch by 1-1/2 inch by 1/8 inch (38 mm by 38 mm by 3 mm) minimum.
   b. Two galvanized steel angles with 1-1/2 inch by 1-1/2 inch by 1/8 inch (38 mm by 38 mm by 3 mm) minimum.
   c. Provide sloping bottom bar within UL limits.
6. Guides: Three structural steel angles mounted to the face of the jamb. Guides also include locking bar or wind bar.
   a. Finish: PowderGuard Zinc Finish for guides, bottom bar and head plate.

**** NOTE TO SPECIFIER ** Select one of the following fastening paragraphs to meet projects installation requirements and delete the one not required.**

   b. Fastening Guides to Masonry Fire Walls: UL listed for fire in accordance with manufacturer's listing.
   c. Fastening Guides to Masonry Fire Walls: UL listed for fire and smoke in accordance with manufacturer's listing.
   d. Fastening Guides to Non-Masonry Fire Walls: Comply with the manufacturer's listing.
7. Brackets:
   a. Hot rolled steel to support counterbalance, curtain and hood.
8. Finish; Bottom Bar, Guides, and Brackets:

**** NOTE TO SPECIFIER ** Select one of the following finish paragraphs and delete those not required. Black powder coat is standard. PowderGuard Premium coat available in 197 colors; custom color match options available. PowderGuard Textured Finish available in 11 color options. See PowderGuard Finish brochure for color selections.**

   a. Finish: Black powdercoat finish.
   b. Finish: PowderGuard Premium powder coat color as selected by the Architect.
   c. Finish: PowderGuard Zinc base coat, gray with PowderGuard Premium powder coat color as selected by the Architect.
   d. Finish: PowderGuard Textured powder color as selected by the Architect.
   e. Finish: PowderGuard Zinc base coat, gray with PowderGuard Textured powder color as selected by the Architect.
9. Counterbalance: Helical torsion spring type housed in a steel tube or pipe barrel, supporting the curtain with deflection limited to 0.03 inch per foot of span. Counterbalance is adjustable by means of an adjusting tension wheel.
10. Hood:

**** NOTE TO SPECIFIER ** Select one of the following two paragraphs and delete the one not required. Add the last paragraph for optional FM labeled hoods only.**

   a. Fabricate of 24 gauge galvanized primed steel minimum for wall openings thru 19 feet (5.79 m) wide.
   b. Fabricate of 22 gauge galvanized primed steel for wall openings over 19 feet (5.79 m) wide.
   c. Hood equipped with thermally controlled, internal, galvanized steel flame baffle as required for FM listing.

**** NOTE TO SPECIFIER ** Select one of the following two paragraphs and delete the one not required.**

   d. Provide one intermediate support bracket for wall openings over 13 feet 6 inches (4.11 m) wide
   e. Provide two support brackets for wall openings over 19 feet (5.79 m) wide.

**** NOTE TO SPECIFIER ** Select one of the following Operation paragraphs for manual operation or electric motor operation and delete the one not required.**

11. Manual Operation:

**** NOTE TO SPECIFIER ** Select one of the following manual operation paragraphs and delete the ones not required.**

a. Crank operation.
b. Floor resettable chain hoist.

12. Electric Motor Operation: Provide electric operator as listed in the door UL file, for size as recommended by manufacturer to move door in either direction.
    a. Floor Resettable Electric Motor Operation.
    b. Sensing Edge Protection:

**** NOTE TO SPECIFIER ** Select one of the following two paragraphs and delete the one not required.**

        1) Pneumatic sensing edge.
        2) Electric sensing edge.
        3) Monitored electric sensing edge for momentary contact controls.
    c. Operator Controls:

**** NOTE TO SPECIFIER ** Select one of the following operation paragraphs and delete the one not required.**

        1) Push-button operated control stations with open, close, and stop buttons.
        2) Key operation with NEMA 1 interior, NEMA 4 exterior, surface and flush mounted open, close, and stop controls.
    d. Special Operation:

**** NOTE TO SPECIFIER ** Select one of the following operation paragraphs and delete the one not required.**

        1) Vehicle detector operation.
        2) Radio control operation.
        3) Card reader control.
        4) Photocell operation.
        5) Door timer operation.
        6) Commercial light package.
        7) Explosion and dust ignition proof control wiring.
        8) Digital operation.

**** NOTE TO SPECIFIER ** Select one of the following paragraphs for manual operation or electric motor operation and delete the one not required.**

13. Automatic Closure Standard Fire Door: UL approved release mechanism equipped with a 165 degree fusible link.
    a. Doors equipped with chain hoist release mechanism, requiring only one sash chain to be routed to the operated side (sash chain not required to be routed to adjusting wheel side.)
        1) Release mechanism includes planetary gear differential system.
        2) Door will close by a thermally actuated link rated @165 degrees F, or by an optional listed releasing device, or by manually activating the release handle.
        3) All counterbalance spring tension shall be maintained when the release mechanism is activated.
        4) After closing release handle manually, the door shall be able to be reset by one person from one side of the door (re-engaging the release handle). No tools shall be required to reset the release mechanism.
    b. Doors will be equipped with floor resettable electric motor operation system, requiring only one sash chain to be routed to the operated side (sash chain not required to be routed to adjusting wheel side.)
        1) Release mechanism includes planetary gear differential system.
        2) Door will close by a thermally actuated link rated @165 degrees F, or by an optional listed releasing device, or by manually activating the release handle.

3) All counterbalance spring tension shall be maintained when the release mechanism is activated.
4) After closing by manual activation of the release handle, the door shall be able to be reset by one person from one side of the door (re-engaging the release handle). No tools are required to reset the release mechanism.
5) After closing by alarm activation with power on the electric motor, the door shall be able to be reset by resetting the alarm system without additional tools required.

**** NOTE TO SPECIFIER ** Select the following optional accessory paragraph for Fire Sentinel model if required and delete if not required. Available for use with either motor or non-motor fire doors to allow interface with auxiliary fire protection devices to control the doors' closure.**

c. Fire Sentinel time-delay release mechanism provides an added measure of safety to control the doors' closure.

14. Governor: If required by size of chain hoist doors, provide a viscous governor to regulate the rate of descent of the door in a quiet manner. Use an engagement type that is not engaged during normal door operation, but after cable release, will retard the speed during automatic door closure to under 24 inches per second and not less than 6 inches per second per NFPA 80.
15. Locking:

**** NOTE TO SPECIFIER ** Select one of the following optional paragraphs and delete the ones not required.**

a. Two interior bottom bar slide bolts for manually operated doors.
b. Cylinder lock for manually operated doors.
c. Interior slide bolt lock for electric operation with interlock switch.
d. Cylinder lock for electric operation with interlock switch.

16. Wall Mounting Condition:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs and delete the one not required.**

a. Face-of-wall mounting.
b. Between jambs mounting.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify opening sizes, tolerances and conditions are acceptable.

B. Examine conditions of substrates, supports, and other conditions under which this work is to be performed.

C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install rolling counter fire doors in compliance with requirements of NFPA 80. Test fire-release system and reset components after testing.

C. Use anchorage devices to securely fasten assembly to wall construction and building framing without distortion or stress.

D. Securely and rigidly brace components suspended from structure. Secure guides to structural members only.

E. Fit and align assembly including hardware; level and plumb, to provide smooth operation.

**** NOTE TO SPECIFIER ** Select the following paragraph for electric operation of counter doors and delete if not required.**

F. Coordinate installation of electrical service with Section 16150. Complete wiring from disconnect to unit components.

**** NOTE TO SPECIFIER ** Select the following paragraph for Fire Sentinel Devices used with doors. Delete if not applicable.**

G. Install and test Fire Sentinel release device(s) in accordance with the manufacturer's instructions and in compliance with applicable regulations and codes of the local authority having jurisdiction.

H. Coordinate installation of sealants and backing materials at frame perimeter as specified in Section 07900.

I. Install perimeter trim and closures.

3.4 ADJUSTING

A. Test for proper operation and adjust as necessary to provide proper operation without binding or distortion.

**** NOTE TO SPECIFIER ** Select the following paragraph for Fire Sentinel Devices used with doors. Delete if not applicable.**

B. Release device(s) shall be tested and witnessed for proper operation with the door manufacturer recommendations

C. Adjust hardware and operating assemblies for smooth and noiseless operation.

3.5 FIELD QUALITY CONTROL

A. Functional testing of fire door and window assemblies shall be performed by IDEA Certified personnel with knowledge and understanding of the operating components of the type of door being subject to testing.

3.6 CLEANING

A. Clean curtain and components using non-abrasive materials and methods recommended by manufacturer.

B. Remove labels and visible markings.

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

3.7 PROTECTION

A. Protect installed products until completion of project.

END OF SECTION