



SECTION 08330 [08 33 00]

ROLLING STEEL DOORS

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**** NOTE TO SPECIFIER ** Wayne Dalton; Rolling steel door products.**

This section is based on the products of Wayne Dalton, which is located at:
2501 S. State Highway 121 Business, Suite 200
Lewisville, TX 75067
Phone: (800) 827-3667
Web Site: www.wayne-dalton.com
Email: info@wayne-dalton.com.
[click Here] for additional information.

Wayne Dalton Rolling Doors have a long history of excellence in the design and construction of doors that have met and often exceeded the needs and expectations of even the most critical projects.

With numerous innovations created and experience acquired over the years, Wayne Dalton continues to lead all other manufacturers with both standard and custom-made doors from a variety of materials and colors to meet almost any need.

So whether it's the over-sized Model 800 rolling doors, protective FireStar rolling fire doors, or secure rolling grilles, you can feel confident that with Wayne Dalton's many years of knowledge and experience, you will get the best possible solution for your building application needs.

PART 1 GENERAL

1.1 SECTION INCLUDES

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

- A. Rolling steel doors.
- B. Rolling steel springless high cycle doors.
- C. Rolling steel advanced performance service doors.
- D. Rolling steel fire doors.
- E. Overhead Coiling Security Shutters.

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 and from door operator to control station.
- 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. ANSI/DASMA 108 - American National Standards Institute Standard Method For Testing Sectional Garage Doors And Rolling Doors: Determination Of Structural Performance Under Uniform Static Air Pressure Difference.
- B. ANSI/DASMA 203 - American National Standards Institute Specifications for non-rated fire rolling doors published by Door & Access Systems Manufacturers Association International.
- C. ASTM A 123 - Zinc hot-dipped galvanized] coatings on iron and steel products.
- D. ASTM A 229 - Steel wire, oil-tempered for mechanical springs.
- E. ASTM A 653 - Steel sheet, zinc-coated galvanized by the hot-dipped process, commercial quality.
- F. ASTM E 330 - Structural performance of exterior windows, curtain walls, and doors by uniform static air pressure difference.
- G. ASTM E 413 - Classification for Rating Sound Insulation

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Shop Drawings: Include detailed plans, elevations, details of framing members, anchoring methods, required clearances, hardware, and accessories. Include relationship with adjacent construction.

**** NOTE TO SPECIFIER ** Delete the following paragraphs if LEED is not applicable.**

- D. LEED Submittals: Provide documentation of how the requirements of Credit will be met:
 - 1. List of proposed materials with recycled content. Indicate post-consumer recycled content and pre-consumer recycled content for each product having recycled content.
 - 2. Product data and certification letter indicating percentages by weight of post-consumer and pre-consumer recycled content for products having recycled content.

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

- E. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- F. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) long, representing actual product, color, and patterns.
- G. Manufacturer's Certificates: Certify products meet or exceed specified requirements.
- H. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for periodic checking, adjustment and lubrication of components.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in performing Work of this section with a minimum of five years experience in the fabrication and installation of security closures.
- B. Installer Qualifications: Installer Qualifications: Company specializing in performing Work of this section with minimum three years and an authorized Wayne Dalton installer.

**** NOTE TO SPECIFIER ** Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.**

- C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Finish areas designated by Architect.
 - 2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
 - 3. Refinish mock-up area as required to produce acceptable work.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Store products in manufacturer's unopened packaging with seals and labels intact until ready for installation.
- B. Store materials off the ground in a dry, warm, ventilated weathertight location.

1.7 SEQUENCING

- A. Ensure that locating templates and other information required for installation of products of this section are furnished to affected trades in time to prevent interruption of construction progress.
- B. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

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 WARRANTY

**** NOTE TO SPECIFIER ** Select the paragraph(s) that are applicable and delete any that are not relevant to this project.**

- A. Provide Rolling Steel Service doors and Rolling Steel Fire doors with limited 2 Year Warranty on defects in materials and workmanship on the door; excludes the counterbalance spring and finish.
- B. Provide rolling steel springless high cycle doors with limited 3 Year, 500,000 cycle Warranty on all door systems materials and workmanship.
- C. Provide rolling steel Advanced Performance service doors with limited 5 Year Warranty on all doors system materials and workmanship.
- D. Provide Aluminum Security Shutters, Model 523 with limited 2 Year Warranty on defects in materials and workmanship on the door and components. Provide Powder Coat Finish with a 2 years warranty against excessive fading, cracking, blistering, flaking or peeling.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Wayne Dalton; 2501 S. State Highway 121 Business, Suite 200, Lewisville, TX 75067. ASD. Phone: (800) 827-3667; Web Site: www.wayne-dalton.com. Email: info@wayne-dalton.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 ** Select the doors required from the following paragraphs and delete those not required.**

2.2 ROLLING STEEL SERVICE DOORS

A. Wayne Dalton Model 900 Rolling Service Doors:

1. Description:
 - a. Maximum Width: 14 feet
 - b. Maximum Height: 14 feet
2. Curtain: composed of interlocking roll-formed slats.
 - a. Slat Profiles/Material:

**** NOTE TO SPECIFIER ** Select the slat profile and material required from the following paragraphs and delete those not required.**

- 1) No. 2 Curved-faced single crown slat.
 - (a) 24-gauge steel.
 - (b) 22-gauge steel.
 - (c) 20-gauge steel.
 - (d) 22-gauge stainless steel.
 - (e) 20-gauge stainless steel.
 - (f) 18-gauge aluminum (mill finish).
- 2) No. 17 Flat-faced slat.
 - (a) 24-gauge steel.
 - (b) 22-gauge steel.
 - (c) 20-gauge steel.
 - (d) 22-gauge stainless steel.
 - (e) 20-gauge stainless steel.
- 3) Secur-Vent Perforated slat provides optimal security and ventilation. Slat consists of 1/16 inch diameter holes offering 41 percent open area over length of each slat. Available in No. 17 flat slat up to 14 feet wide by 12 feet high.

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

- (a) 22-gauge steel.
 - (b) 22-gauge stainless steel.
 - b. Ends of alternate slats fitted with metal endlocks/windlocks.
3. Bottom Bar: Consists of two equal angles, 0.12 inch minimum thickness, to stiffen curtain, with astragal. Angle shall be:

**** NOTE TO SPECIFIER ** Select the bottom bar material required from the following paragraphs and delete those not required. Steel is standard.**

- a. Steel.
 - b. Stainless steel.
 - c. Aluminum.
4. Guides:

**** NOTE TO SPECIFIER ** Select the Guide required from the following paragraphs and delete those not required.**

- a. Roll-formed steel channel bolted to wall.
- b. Roll-formed steel channel bolted to three structural angle guide angle assembly forming a slot to retain curtains in guides. Structural grade, three angle assembly fabricated of:

**** NOTE TO SPECIFIER ** Select the assembly material required from the following paragraphs and delete those not required. Steel is standard.**

- 1) Steel.
 - 2) Stainless steel.
 - 3) Aluminum.
 - c. Provide with integral windlock bars and removable bottom bar stops.
5. Brackets: Design to enclose ends of coil and provide support for counterbalance pipe at each end. Fabricate of steel plates, with permanently sealed ball bearings. Thickness shall be:

**** NOTE TO SPECIFIER ** Select the thickness required from the following paragraphs and delete those not required. 3/16 inch is standard.**

- a. 3/16 inch minimum.
- b. 1/4 inch minimum.
6. Counterbalance: Curtain to be coiled on a pipe of sufficient size to carry door load with deflection not to exceed 0.033 inch per foot of door span. Curtain to be correctly balanced by helical springs, oil tempered torsion type. Cast iron barrel plugs will be used to anchor springs to tension shaft and pipe.
7. Hood: Hood to enclose curtain coil and counterbalance mechanism. Hood fabricated of sheet metal, flanged at top for attachment to header and flanged at bottom to provide longitudinal stiffness. Fabricate of:

**** NOTE TO SPECIFIER ** Select the hood material required from the following paragraphs and delete those not required. 24-gauge galvanized steel is standard.**

- a. Minimum 22-gauge B&S aluminum.
- b. Minimum 24-gauge galvanized steel.
- c. Minimum 24-gauge stainless steel.
8. Finish: Shop coat of rust inhibitive primer on non-galvanized surfaces and operating mechanisms. Guides and bracket plates will be coated with a flat black prime paint.

**** NOTE TO SPECIFIER ** Select the finish and color required from the following paragraphs and delete those not required. Note that white, beige, brown is only available as 24 or 22-gauge. Custom colors are available from 180 colors.**

- a. Galvanized Steel:
 - 1) Gray baked on primer.
 - 2) White baked on primer.
 - 3) Beige baked on primer.
 - 4) Brown baked on primer.
 - 5) Powdercoat finish as selected from manufacturer's RAL color selections.
 - 6) Powdercoat finish in custom color as selected.
- b. Aluminum Finish:
 - 1) Mill finish.
 - 2) Clear anodized.
 - 3) Bronze anodized.
- c. Stainless Steel finish.
 - 1) #4 finish.
9. Operation: Door will be operated by means of:

**** NOTE TO SPECIFIER ** Select the operation required from the following paragraphs and delete those not required.**

- a. Manual, lift-up.
- b. Chain hoist.
- c. Awning crank.
- d. Wall crank box.
- e. Motor operation.
- f. Motor operation with electrical sensing edge attached to bottom bar to stop and reverse door when it contacts an object during the closing cycle.
- g. Motor operation with pneumatic sensing edge attached to bottom bar to stop and reverse door when it contacts an object during the closing cycle.
10. Weatherstripping: Bottom astragal, optional surface guide weatherstrip, and internal hood baffle.
11. Locking:

**** NOTE TO SPECIFIER ** Select the locking required from the following paragraphs and delete those not required. When specifying locks on electric-motor operated doors, electric interlocks should also be specified to prevent operation when lock bolts are engaged in the guides, to prevent damage to the curtain and/or operator. Interior slide bolts are standard on manual doors and optional on others.**

- a. Interior slide-bolts suitable for padlocks by others.
- b. Chain-hoist door provided with chain keepers suitable for padlocks by others.
- c. Electric-motor operation doors provided with lock through the operator gearing.
- d. Provide with cylinder locks.
- e. Provide with thumb turn.

**** NOTE TO SPECIFIER ** Insert the windload required in the following paragraph. Doors are available with a minimum windload of plus or minus 20 psf (design pressure) and a maximum windload of plus or minus 31 psf (design pressure).**

12. Windload: Windload minimum ____ psf per DASMA 108-2012 and as required by local codes.
13. Mounting:
 - a. Steel jambs.
 - b. Wood jambs.
 - c. Masonry jambs.

B. Wayne Dalton Model 926 Service Doors:

1. Description:
 - a. Maximum Width: 12 feet.
 - b. Maximum Height: 12 feet.
2. Curtain: composed of interlocking roll-formed slats.
 - a. Slat Profiles/Material:
 - 1) No. 17 Flat-faced slat, 26-gauge steel.
 - b. Ends of alternate slats fitted with metal endlocks/windlocks.
3. Bottom Bar: Consists of two equal angles to stiffen curtain, with astragal.
4. Guides: Roll-formed steel channel bolted to angle to form a slot to retain curtains in guides.
5. Brackets: Design to enclose ends of coil and provide support for counterbalance pipe at each end. Fabricate of steel plates, with permanently sealed ball bearings. Thickness shall be:
 - a. 3/16 inch minimum.
6. Counterbalance: Curtain to be coiled on a pipe of sufficient size to carry door load with deflection not to exceed 0.033 inch per foot of door span. Curtain to be correctly balanced by helical springs, oil tempered torsion type. Cast iron barrel plugs will be used to anchor springs to tension shaft and pipe.

**** NOTE TO SPECIFIER ** Select the optional hood if required from the following paragraph and delete if not required.**

7. Hood: Hood to enclose curtain coil and counterbalance mechanism. Hood fabricated of galvanized steel, flanged at top for attachment to header and flanged at bottom to provide longitudinal stiffness.
8. Finish: Shop coat of rust inhibitive primer on non-galvanized surfaces and operating mechanisms. Guides and bracket plates will be coated with a flat black prime paint.
 - a. Galvanized Steel:
 - 1) White baked on primer.
9. Operation: Door will be operated by means of:

**** NOTE TO SPECIFIER ** Select the operation required from the following paragraphs and delete those not required.**

- a. Manual, lift-up.
 - b. Chain hoist.
 - c. Motor operation.
 - d. Motor operation with electrical sensing edge attached to bottom bar to stop and reverse door when it contacts an object during the closing cycle.
 - e. Motor operation with pneumatic sensing edge attached to bottom bar to stop and reverse door when it contacts an object during the closing cycle.
10. Weatherstripping:
- a. Vinyl bulb bottom seal.
11. Locking:

**** NOTE TO SPECIFIER ** Select the locking required from the following paragraphs and delete those not required. When specifying locks on electric-motor operated doors, electric interlocks should also be specified to prevent operation when lock bolts are engaged in the guides, to prevent damage to the curtain and/or operator. Interior slide bolts are standard on manual doors and optional on others.**

- a. Interior slide-bolts suitable for padlocks by others.
- b. Chain-hoist door provided with chain keepers suitable for padlocks by others.
- c. Electric-motor operation doors provided with lock through the operator gearing.

*** NOTE TO SPECIFIER * Insert the windload required in the following paragraph. Doors are available with a minimum windload of plus or minus 20 psf (design pressure) and a maximum windload of plus or minus 31 psf (design pressure).**

12. Windload: Windload minimum ____ psf per DASMA 102-2012 and as required by local codes.
13. Mounting:
- a. Steel jambs.
 - b. Wood jambs.
 - c. Masonry jambs.

C. Wayne Dalton Model 800 Rolling Service Doors:

1. Description:
- a. Maximum Width: 40 feet
 - b. Maximum Height: 40 feet
2. Curtain: composed of interlocking roll-formed slats.
- a. Slat Profiles/Material:

**** NOTE TO SPECIFIER ** Select the slat profile and material required from the following paragraphs and delete those not required.**

- 1) No. 4 Curved-faced single crown slat.
 - (a) 22-gauge steel.
 - (b) 20-gauge steel.
 - (c) 18-gauge steel.
 - (d) 16-gauge steel.
 - (e) 22-gauge stainless steel.
 - (f) 20-gauge stainless steel.
 - (g) 18-gauge stainless steel.
 - (h) 16-gauge aluminum.
 - (i) 14-gauge aluminum.
- 2) No. 14 Flat-faced slat.
 - (a) 22-gauge steel.
 - (b) 20-gauge steel.
 - (c) 18-gauge steel.

- (d) 16-gauge steel.
 - (e) 22-gauge stainless steel.
 - (f) 20-gauge stainless steel.
 - (g) 18-gauge stainless steel.
 - (h) 16-gauge aluminum..
 - (i) 14-gauge aluminum.
- 3) Secur-Vent Perforated slat provides optimal security and ventilation. Slat consists of 1/16 inch diameter holes offering 41 percent open area over length of each slat. Available in No. 14 flat slat up to 22 feet wide by 20 feet high.
- (a) 20-gauge steel.
 - (b) 20-gauge stainless steel.
- b. Ends of alternate slats fitted with metal endlocks/windlocks.
3. Bottom Bar: Consists of two equal angles, 0.12 inch minimum thickness, to stiffen curtain, with astragal. Angle shall be:

**** NOTE TO SPECIFIER ** Select the bottom bar material required from the following paragraphs and delete those not required. Steel is standard.**

- a. Steel.
 - b. Stainless steel.
 - c. Aluminum.
4. Guides:

**** NOTE TO SPECIFIER ** Select the Guide required from the following paragraphs and delete those not required.**

- a. Roll-formed steel channel bolted to wall.
- b. Roll-formed steel channel bolted to three structural angle guide angle assembly forming a slot to retain curtains in guides. Structural grade, three angle assembly fabricated of:

**** NOTE TO SPECIFIER ** Select the assembly material required from the following paragraphs and delete those not required. Steel is standard.**

- 1) Steel.
 - 2) Stainless steel.
 - 3) Aluminum.
- c. Provide with integral windlock bars and removable bottom bar stops.
5. Brackets: Design to enclose ends of coil and provide support for counterbalance pipe at each end. Fabricate of steel plates, with permanently sealed ball bearings. Thickness shall be:

**** NOTE TO SPECIFIER ** Select the thickness required from the following paragraphs and delete those not required. 3/16 inch is standard.**

- a. 3/16 inch minimum.
 - b. 1/4 inch minimum.
6. Counterbalance: Curtain to be coiled on a pipe of sufficient size to carry door load with deflection not to exceed 0.033 inch per foot of door span. Curtain to be correctly balanced by helical springs, oil tempered torsion type. Cast iron barrel plugs will be used to anchor springs to tension shaft and pipe.
7. Hood: Hood to enclose curtain coil and counterbalance mechanism. Hood fabricated of sheet metal, flanged at top for attachment to header and flanged at bottom to provide longitudinal stiffness. Fabricate of:

**** NOTE TO SPECIFIER ** Select the hood material required from the following paragraphs and delete those not required. 24-gauge galvanized steel is standard.**

- a. Minimum 22-gauge B&S aluminum.
- b. Minimum 24-gauge galvanized steel.
- c. Minimum 24-gauge stainless steel.

8. Finish: Shop coat of rust inhibitive primer on non-galvanized surfaces and operating mechanisms. Guides and bracket plates will be coated with a flat black prime paint.

**** NOTE TO SPECIFIER ** Select the finish and color required from the following paragraphs and delete those not required. Note that white, beige, brown is only available as 24 or 22 gauge. Custom colors are available from 180 colors.**

- a. Galvanized Steel:
 - 1) Gray baked on primer.
 - 2) White baked on primer.
 - 3) Beige baked on primer.
 - 4) Brown baked on primer.
 - 5) Powdercoat finish as selected from manufacturer's RAL color selections.
 - 6) Powdercoat finish in custom color as selected.
- b. Aluminum Finish:
 - 1) Mill finish.
 - 2) Clear anodized.
 - 3) Bronze anodized.
- c. Stainless Steel finish.
 - 1) #4 finish.

9. Operation: Door will be operated by means of:

**** NOTE TO SPECIFIER ** Select the operation required from the following paragraphs and delete those not required.**

- a. Manual, lift-up.
 - b. Chain hoist.
 - c. Awning crank.
 - d. Wall crank box.
 - e. Motor operation.
 - f. Motor operation with electrical sensing edge attached to bottom bar to stop and reverse door when it contacts an object during the closing cycle.
 - g. Motor operation with pneumatic sensing edge attached to bottom bar to stop and reverse door when it contacts an object during the closing cycle.
10. Weatherstripping: Bottom astragal, optional surface guide weatherstrip, and internal hood baffle.
 11. Locking:

**** NOTE TO SPECIFIER ** Select the locking required from the following paragraphs and delete those not required. When specifying locks on electric-motor operated doors, electric interlocks should also be specified to prevent operation when lock bolts are engaged in the guides, to prevent damage to the curtain and/or operator. Interior slide bolts are standard on manual doors and optional on others.**

- a. Interior slide-bolts suitable for padlocks by others.
- b. Chain-hoist door provided with chain keepers suitable for padlocks by others.
- c. Electric-motor operation doors provided with lock through the operator gearing.
- d. Provide with cylinder locks.
- e. Provide with thumb turn.

**** NOTE TO SPECIFIER ** Insert the windload required in the following paragraph. Doors are available with a minimum windload of plus or minus 20 psf (design pressure) and a maximum windload of plus or minus 55 psf (design pressure).**

12. Windload: Windload minimum ____ psf per DASMA 102-2012 and as required by local codes.

13. Mounting:
 - a. Steel jambs.
 - b. Wood jambs.
 - c. Masonry jambs.

D. Wayne Dalton Model 800C Insulated Rolling Service Doors:

1. Description:
 - a. Maximum Width: 42 feet
 - b. Maximum Height: 30 feet
 - c. ASTM E 413 Sound transmission class acoustical performance value = STC 22.
2. Curtain: composed of interlocking roll-formed slats.
 - a. Slat Profiles/Material:

**** NOTE TO SPECIFIER ** Select the slat material required from the following paragraphs and delete those not required.**

- 1) No. 34 Flat-faced slat. The area between the #34 exterior slat and the back slat filled with polyurethane insulation, R-value of 7.7 (U = 0.13).
 - (a) 22-gauge galvanized steel with 24-gauge back.
 - (b) 20-gauge galvanized steel with 24-gauge back.
 - (c) 18-gauge galvanized steel with 24-gauge back.
 - (d) 16-gauge aluminum with 24-gauge aluminum back.
 - (e) 22-gauge stainless steel with 24-gauge steel back.
 - (f) 20-gauge stainless steel with 24-gauge steel back.
 - (g) 18-gauge stainless steel with 24-gauge steel back
 - b. Ends of alternate slats fitted with metal endlocks/windlocks.
3. Bottom Bar: Consists of two equal angles, 0.12 inch minimum thickness, to stiffen curtain, with astragal. Angle shall be:

**** NOTE TO SPECIFIER ** Select the bottom bar material required from the following paragraphs and delete those not required. Steel is standard.**

- a. Steel.
 - b. Stainless steel.
 - c. Aluminum.
4. Guides:

**** NOTE TO SPECIFIER ** Select the Guide required from the following paragraphs and delete those not required.**

- a. Roll-formed steel channel bolted to wall.
- b. Roll-formed steel channel bolted to three structural angle guide angle assembly forming a slot to retain curtains in guides. Structural grade, three angle assembly fabricated of:

**** NOTE TO SPECIFIER ** Select the assembly material required from the following paragraphs and delete those not required. Steel is standard.**

- 1) Steel.
 - 2) Stainless steel.
 - 3) Aluminum.
- c. Provide with integral windlock bars and removable bottom bar stops.
5. Brackets: Design to enclose ends of coil and provide support for counterbalance pipe at each end. Fabricate of steel plates, with permanently sealed ball bearings. Thickness shall be:

**** NOTE TO SPECIFIER ** Select the thickness required from the following paragraphs and delete those not required. 3/16 inch is standard.**

- a. 3/16 inch minimum.
- b. 1/4 inch minimum.

6. Counterbalance: Curtain to be coiled on a pipe of sufficient size to carry door load with deflection not to exceed 0.033 inch per foot of door span. Curtain to be correctly balanced by helical springs, oil tempered torsion type. Cast iron barrel plugs will be used to anchor springs to tension shaft and pipe.
7. Hood: Hood to enclose curtain coil and counterbalance mechanism. Hood fabricated of sheet metal, flanged at top for attachment to header and flanged at bottom to provide longitudinal stiffness. Fabricate of:

**** NOTE TO SPECIFIER ** Select the hood material required from the following paragraphs and delete those not required. 24-gauge galvanized steel is standard.**

- a. Minimum 22-gauge B&S aluminum.
 - b. Minimum 24-gauge galvanized steel.
 - c. Minimum 24-gauge stainless steel.
8. Finish: Shop coat of rust inhibitive primer on non-galvanized surfaces and operating mechanisms. Guides and bracket plates will be coated with a flat black prime paint.

**** NOTE TO SPECIFIER ** Select the finish and color required from the following paragraphs and delete those not required. Note that white, beige, brown is only available as 22-gauge. Custom colors are available from 180 colors.**

- a. Galvanized Steel:
 - 1) Gray baked on primer.
 - 2) White baked on primer.
 - 3) Beige baked on primer.
 - 4) Brown baked on primer.
 - 5) Powdercoat finish as selected from manufacturer's RAL color selections.
 - 6) Powdercoat finish in custom color as selected.
 - b. Aluminum Finish:
 - 1) Mill finish.
 - 2) Clear anodized.
 - 3) Bronze anodized.
 - c. Stainless Steel finish.
 - 1) #4 finish.
9. Operation: Door will be operated by means of:

**** NOTE TO SPECIFIER ** Select the operation required from the following paragraphs and delete those not required.**

- a. Manual, lift-up.
- b. Chain hoist.
- c. Awning crank.
- d. Wall crank box.
- e. Motor operation.
- f. Motor operation with electrical sensing edge attached to bottom bar to stop and reverse door when it contacts an object during the closing cycle.
- g. Motor operation with pneumatic sensing edge attached to bottom bar to stop and reverse door when it contacts an object during the closing cycle.

**** NOTE TO SPECIFIER ** Select Weatherstripping or Airinfiltration Package from the following two paragraphs and delete the one not required. Note that the Air infiltration Package is only available on face mounted doors.**

10. Weatherstripping: Doors will include bottom astragal, optional surface guide weatherstrip, and internal hood baffle.

**** NOTE TO SPECIFIER ** Select the optional lintel brush if required from the following paragraph and delete if not required.**

- a. Provide with lintel brush weatherstrip.

11. Air Infiltration Package: IECC 2012/2015) listed product to meet C402.4.3 2012 Air leakage <1.00 cfm/ft2
 - a. Air infiltration perimeter seal package includes: guide cover, guide cap, dual brush exterior guide seal, 3 inch lintel rubber seal, internal hood baffle and bottom astragal.

12. Locking:

**** NOTE TO SPECIFIER ** Select the locking required from the following paragraphs and delete those not required. When specifying locks on electric-motor operated doors, electric interlocks should also be specified to prevent operation when lock bolts are engaged in the guides, to prevent damage to the curtain and/or operator. Interior slide bolts are standard on manual doors and optional on others.**

- a. Interior slide-bolts suitable for padlocks by others.
- b. Chain-hoist door provided with chain keepers suitable for padlocks by others.
- c. Electric-motor operation doors provided with lock through the operator gearing.
- d. Provide with cylinder locks.
- e. Provide with thumb turn.

**** NOTE TO SPECIFIER ** Insert the windload required in the following paragraph. Doors are available with a minimum windload of plus or minus 20 psf (design pressure) and a maximum windload of plus or minus 55 psf (design pressure).**

13. Windload: Windload minimum ____ psf per DASMA 102-2012 and as required by local codes.
14. Mounting:
 - a. Steel jambs.
 - b. Wood jambs.
 - c. Masonry jambs.

2.3 SPRINGLESS HIGH CYCLE ROLLING SERVICE DOORS

**** NOTE TO SPECIFIER ** Wayne Dalton Model 800 HC Springless High Cycle Rolling Service Door System is designed for exterior and interior openings that require a high-cycle door. Available in a maximum height of 20 feet and a maximum width of 20 feet. Standard windload design 20 PSF. Note that windload design does not apply when optional guide wear strips are selected. Windload ratings up to and including Miami-Dade County and/or FBC are available. Contact the manufacturer for additional information.**

A. Wayne Dalton Model 800 HC Springless High Cycle Rolling Service Door:

1. Description:
 - a. Maximum Width: 20 feet
 - b. Maximum Height: 20 feet
2. Curtain: composed of interlocking roll-formed slats.
 - a. Slat Profiles/Material:

**** NOTE TO SPECIFIER ** Select the slat profile and material required from the following paragraphs and delete those not required.**

- 1) No. 14 Flat-faced slat.
 - (a) 22-gauge steel.
 - (b) 20-gauge steel.
 - (c) 18-gauge steel.
 - (d) 22-gauge stainless steel.
 - (e) 20-gauge stainless steel.
 - (f) 16-gauge (.050 inch) B&S aluminum.
- 2) For fenestrated service doors, provide slats with 5 inch by 3/4 inch uniformly spaced openings.

- 3) Vision Lite: Provide with 5 inch by 3/4 inch uniformly spaced openings, with 1/16 inch clear plastic.
- 4) Ends of alternate slats fitted with malleable iron endlocks/windlocks.

b. Curtain Finish:

**** NOTE TO SPECIFIER ** Select the finish and color required from the following paragraphs and delete those not required. Note that white, beige, brown is only available as 22 gauge**

- 1) Galvanized steel:
 - (a) Gray baked on primer.
 - (a) White baked on primer.
 - (b) Beige baked on primer.
 - (c) Brown baked on primer.

**** NOTE TO SPECIFIER ** Powder coat is available in a selection of colors. Contact manufacturer for color availability.**

- (d) Powder coat finish as selected from manufacturer's RAL color selections.
- (e) Powder coat finish in custom color as selected.
- (f) Powder coat finish with hardening additive, ideal for high cycle applications, is available in a selection of colors. Contact manufacturer for color availability

- 2) Aluminum Finish:
 - (a) Clear anodized.
 - (b) Bronze anodized.

3. Bottom Bar: Consists of two equal angles, 0.12 inch minimum thickness, to stiffen curtain with vinyl astragal. Angle shall be:

**** NOTE TO SPECIFIER ** Select the bottom bar material required from the following paragraphs and delete those not required. Steel factory painted black is standard.**

- a. Steel factory painted black.
- b. Steel with powder coat, to match curtain
- c. Stainless steel.

4. Guides: Three piece structural angle guide assembly forming a slot to retain curtains in guides.

a. Fabricated of:

**** NOTE TO SPECIFIER ** Select the assembly material required from the following paragraphs and delete those not required. Steel factory painted black is standard.**

- 1) Steel factory painted black.
- 2) Steel with powder coat, to match curtain.

**** NOTE TO SPECIFIER ** Select the following paragraph if required. Note that high usage guide wear strips to minimize wear and reduce sound are not available on doors designed for wind load.**

- b. Provide with high usage guide wear strips.
- c. Provide with integral windlock bars when size or wind loading requires.
- d. Removable bottom bar stops.

5. Brackets: Design to provide support for springless counterbalance pipe at each end. Fabricate of steel plates, with permanently sealed ball bearings. Brackets shall be black painted steel. Thickness shall be:

**** NOTE TO SPECIFIER ** Select the thickness required from the following paragraphs and delete those not required. 3/16 inch is standard unless size of door requires 1/4 inch.**

- a. 3/16 inch minimum.
- b. 1/4 inch minimum.

6. Door Roll: Directly driven, springless roll shall be steel tube with integral shafts, keyed on the Drive End and supported by self-aligning sealed bearings. Door shall not require any counterbalance device.

7. Hood: Hood to enclose curtain coil and counterbalance mechanism. Hood fabricated of sheet metal, flanged at top for attachment to header and flanged at bottom to provide longitudinal stiffness.

a. Fabricate of:

**** NOTE TO SPECIFIER ** Select the hood material required from the following paragraphs and delete those not required. 24-gauge galvanized steel is standard.**

- 1) Minimum 22-gauge B&S aluminum.
- 2) Minimum 24-gauge galvanized steel.
- 3) Minimum 24-gauge stainless steel.

b. Hood Finish:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs for hood material and finish and delete those not required.; Baked on primer is standard on galvanized steel hood**

- 1) Galvanized steel:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs for hood finish and delete those not required.**

- (b) Gray baked on primer.
- (a) White baked on primer.
- (b) Beige baked on primer.
- (c) Brown baked on primer.

**** NOTE TO SPECIFIER ** Powder coat is available in a selection of colors. Contact manufacturer for color availability.**

- (d) Powdercoat finish as selected from manufacturer's RAL color selections.
- (e) Powdercoat finish in custom color as selected.

- 2) Aluminum:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs for hood finish and delete those not required.**

- (f) Clear anodized.
- (g) Bronze anodized.

8. Control Panel: Electronic controller with microprocessor self-diagnostics. Digital readout indicates door action, alarm conditions and fault conditions. Time delay self-close timer and non-resettable cycle counter are included. Enclosure is IP54 rated (NEMA 3 equivalent).

**** NOTE TO SPECIFIER ** Note that motor HP is dependent on the door size(s) required. Contact manufacturer for HP requirements.**

9. Motor: Direct drive, integrated gear motor/brake assembly sized for openings. Provide with a manual hand chain for operation during power outages. Operator and drive assembly is factory pre-assembled and provided with all wiring harnesses needed direct from the factory.

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

- a. Electrical Characteristics: 220V AC, single phase per motor/drive.
- b. Electrical Characteristics: 230V AC, three phase per motor/drive.
- c. Electrical Characteristics: 460V AC, three phase per motor/drive.
- d. Electrical Characteristics: 575V AC, three phase per motor/drive.

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

- e. Left hand mount.
- f. Right hand mount.

10. Safety Devices: Provide door with following safety devices:

- a. Photoelectric sensors that cast an invisible beam across the door opening and reverses the downward motion of the door when an object enters the path of the beam.

- b. Built-in (to motor assembly) brake mechanism eliminates uncontrolled curtain travel independent of other safeties.
 - c. Electric Sensing Edge (option, not standard).
 - d. Second set of photoelectric sensors (option not standard).
11. Actuators:
- a. One Open/Close/Stop push button station incorporated into Control Panel.

**** NOTE TO SPECIFIER ** Select from the following paragraphs optional equipment as required; and delete if not required. Considerable thought should be given to the choice of actuators based on the type of traffic and traffic flow through the opening. Contact the manufacturer for additional information.**

- b. Loop detectors.
- c. Radio control.
- d. Interior Push buttons.
- e. Exterior Push buttons.
- f. Interior Key switch.
- g. Exterior Key switch.
- h. Motion detectors.
- i. Warning light.

12. Windload Design:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs and delete the one not required. Standard windload is 20 PSF. Note that if optional guide wear strips are used the windload warranty does not apply. Contact the manufacturer for current data on Miami-Dade County and/or FBC Certification.**

- a. Standard windload of 20 PSF.
- b. Miami-Dade County NOA ____.
- c. FBC certification FL# ____.

13. Mounting:

- a. Steel jambs.
- b. Wood jambs.
- c. Masonry jambs.

B. Wayne Dalton Model 800C HC Insulated Springless High Cycle Rolling Service Door:

1. Description:

- a. Maximum Width: 20 feet
- b. Maximum Height: 20 feet
- c. ASTM E 413 Sound transmission class acoustical performance value = STC 22.

2. Curtain: composed of interlocking roll-formed slats.

- a. Slat Profiles/Material:

**** NOTE TO SPECIFIER ** Select the slat material required from the following paragraphs and delete those not required.**

- 1) No. 34 Flat-faced slat. The area between the #34 exterior slat and the back slat filled with polyurethane insulation, R-value of 7.7 (U = 0.13).
 - (a) 22-gauge galvanized steel with 24-gauge back.
 - (a) 20-gauge galvanized steel with 24-gauge back.
 - (b) 18-gauge galvanized steel with 24-gauge back.
 - (c) 22-gauge stainless steel with 24-gauge steel back.
 - (d) 20-gauge stainless steel with 24-gauge steel back.
 - (e) 16-gauge (.050 inch) B&S aluminum with 22-gauge (.025 inch) aluminum back.

- 2) Insulated Vision Lites: Provide with 5 inch by 3/4 inch uniformly spaced openings, with 1/16 inch clear plastic.
- 3) Ends of alternate slats fitted with malleable iron endlocks/windlocks.

b. Curtain Finish:

**** NOTE TO SPECIFIER ** Select the finish and color required from the following paragraphs and delete those not required. Note that white, beige, brown is only available as 24 or 22 gauge**

1) Galvanized steel:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs for powder coat finish and delete those not required.**

- (a) Gray baked on primer.
- (b) White baked on primer.
- (c) Beige baked on primer.
- (d) Brown baked on primer.

**** NOTE TO SPECIFIER ** Powder coat is available in a selection of colors. Contact manufacturer for color availability.**

- (e) Powdercoat finish as selected from manufacturer's RAL color selections.
- (f) Powdercoat finish in custom color as selected.
- (g) Powder coat finish with hardening additive, ideal for high cycle applications, is available in a selection of colors. Contact manufacturer for color availability

2) Aluminum:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs for hood finish and delete those not required.**

- (a) Clear anodized.
- (b) Bronze anodized.

3. Bottom Bar: Consists of two equal angles, 0.12 inch minimum thickness, to stiffen curtain with vinyl astragal. Angle shall be:

**** NOTE TO SPECIFIER ** Select the bottom bar material required from the following paragraphs and delete those not required. Steel is standard.**

- a. Steel factory painted black.
- b. Steel with powder coat, to match curtain.
- c. Stainless steel.

4. Guides: Three piece structural angle guide assembly forming a slot to retain curtains in guides.

a. Fabricated of:

**** NOTE TO SPECIFIER ** Select the assembly material required from the following paragraphs and delete those not required. Steel factory painted black is standard.**

- 1) Steel factory painted black.
- 2) Steel with powder coat, to match curtain.

**** NOTE TO SPECIFIER ** Select the following paragraph if required. Note that high usage guide wear strips to minimize wear and reduce sound are not available on doors designed for wind load.**

- b. Provide with high usage guide wear strips.
- c. Provide with integral windlock bars when size or wind loading requires.
- d. Removable bottom bar stops.

5. Brackets: Design provide support for springless counterbalance pipe at each end. Fabricate of steel plates, with permanently sealed ball bearings.

Brackets shall be black painted steel. Thickness shall be:

**** NOTE TO SPECIFIER ** Select the thickness required from the following paragraphs and delete those not required. 3/16 inch is standard unless size of door requires 1/4 inch.**

- a. 3/16 inch minimum.

- b. 1/4 inch minimum.
- 6. Door Roll: Directly driven, springless roll shall be steel tube with integral shafts, keyed on the Drive End and supported by self-aligning sealed bearings. Door shall not require any counterbalance device.
- 7. Hood: Hood to enclose curtain coil and counterbalance mechanism. Hood fabricated of sheet metal, flanged at top for attachment to header and flanged at bottom to provide longitudinal stiffness.

- a. Fabricate of:

**** NOTE TO SPECIFIER ** Select the hood material required from the following paragraphs and delete those not required. 24-gauge galvanized steel is standard.**

- 1) Minimum 22-gauge B&S aluminum.
- 2) Minimum 24-gauge galvanized steel.
- 3) Minimum 24-gauge stainless steel.

- b. Hood Finish:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs for hood finish and delete those not required.; Baked on primer is standard on galvanized steel hood**

- 1) Galvanized steel:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs for hood finish and delete those not required.**

- (a) Gray baked on primer.
- (a) White baked on primer.
- (b) Beige baked on primer.
- (c) Brown baked on primer.

**** NOTE TO SPECIFIER ** Powder coat is available in a selection of colors. Contact manufacturer for color availability.**

- (d) Powdercoat finish as selected from manufacturer's RAL color selections.
- (e) Powdercoat finish in custom color as selected

- 2) Aluminum:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs for hood finish and delete those not required.**

- (a) Clear anodized.
- (b) Bronze anodized.

- 8. Control Panel: Electronic controller with microprocessor self-diagnostics. Digital readout indicates door action, alarm conditions and fault conditions. Time delay self-close timer and non-resettable cycle counter are included. Enclosure is IP54 rated (NEMA 3 equivalent).

**** NOTE TO SPECIFIER ** Note that motor HP is dependent on the door size(s) and weight, the appropriate HP motor will be selected by plant.**

- 9. Motor: Direct drive, integrated gear motor/brake assembly sized for openings. Provide with a manual hand chain for operation during power outages. Operator and drive assembly is factory pre-assembled and provided with all wiring harnesses needed direct from the factory.

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

- a. Electrical Characteristics: 220V AC, single phase per motor/drive.
- b. Electrical Characteristics: 230V AC, three phase per motor/drive.
- c. Electrical Characteristics: 460V AC, three phase per motor/drive.
- d. Electrical Characteristics: 575V AC, three phase per motor/drive.

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

- e. Left hand mount.
- f. Right hand mount.

- 10. Safety Devices: Provide door with following safety devices:

- a. Photoelectric sensors that cast an invisible beam across the door opening and reverses the downward motion of the door when an object enters the path of the beam.
 - b. Built-in (to motor assembly) brake mechanism eliminates uncontrolled curtain travel independent of other safeties.
 - c. Electric Sensing Edge (option, not standard).
 - d. Second set of photoelectric sensors (option, not standard).
11. Actuators:
- a. One Open/Close/Stop push button station incorporated into Control Panel.

**** NOTE TO SPECIFIER ** Select from the following paragraphs optional equipment as required; and delete if not required. Considerable thought should be given to the choice of actuators based on the type of traffic and traffic flow through the opening. Contact the manufacturer for additional information.**

- b. Loop detectors.
- c. Radio control.
- d. Interior Push buttons.
- e. Exterior Push buttons.
- f. Interior Key switch.
- g. Exterior Key switch.
- h. Motion detectors.
- i. Warning light.

12. Windload Design:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs and delete the one not required. Standard windload is 20 PSF. Note that if optional guide wear strips are used the windload warranty does not apply. Contact the manufacturer for current data on Miami-Dade County and/or FBC Certification.**

- a. Standard windload of 20 PSF.
- b. Miami-Dade County NOA ____.
- c. FBC certification FL# ____.

13. Mounting:

- a. Steel jambs.
- b. Wood jambs.
- c. Masonry jambs.

2.4 ROLLING STEEL ADVANCED PERFORMANCE DOORS

**** NOTE TO SPECIFIER ** Wayne Dalton Model 800 with Advanced Rolling Door System Option is designed for exterior and interior openings that require a high-speed, high-cycle door. Available in a maximum height of 20 feet and a maximum width of 20 feet. Standard windload design 20 PSF. Note that windload design does not apply when optional guide wear strips are selected. Windload ratings up to and including Miami-Dade County and/or FBC are available. Contact the manufacturer for additional information.**

- A. Wayne Dalton Model 800 with Advanced Rolling Door System Option:

- 1. Description:
 - a. Maximum Width: 20 feet
 - b. Maximum Height: 20 feet
- 2. Curtain: composed of interlocking roll-formed slats.
 - a. Slat Profiles/Material:

**** NOTE TO SPECIFIER ** Select the slat profile and material required from the following paragraphs and delete those not required.**

- 1) No. 14 Flat-faced slat.
 - (a) 22-gauge steel.

- (b) 20-gauge steel.
 - (c) 18-gauge steel.
 - (d) 22-gauge stainless steel.
 - (e) 20-gauge stainless steel.
 - (f) 16-gauge (.050 inch) B&S aluminum.
 - 2) For fenestrated service doors, provide slats with 5 inch by 3/4 inch uniformly spaced openings.
 - 3) Vision Lite: Provide with 5 inch by 3/4 inch uniformly spaced openings, with 1/16 inch clear plastic.
 - 4) Ends of alternate slats fitted with malleable iron endlocks/windlocks.
- b. Curtain Finish:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs for hood finish and delete those not required.; Polyester top coat is standard on galvanized steel hood**

- 1) Galvanized steel with polyester top coat in choice of:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs for powder coat finish and delete those not required.**

- (a) Gray.
- (b) Beige.
- (c) White.

**** NOTE TO SPECIFIER ** Polyester powder coat with hardening additive is available in a selection of colors. Contact manufacturer for color availability.**

- (d) Powder coat with hardening additive, color as selected by the Architect.

- 2) Aluminum:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs for hood finish and delete those not required.**

- (a) Clear anodized.
- (b) Bronze anodized.

- 3. Bottom Bar: Consists of two equal angles, 0.12 inch minimum thickness, to stiffen curtain, incorporating a 2-wire, self-monitoring, fail safe, electric sensing edge. Angle shall be:

**** NOTE TO SPECIFIER ** Select the bottom bar material required from the following paragraphs and delete those not required. Steel is standard.**

- a. Steel factory painted black.
- b. Steel with standard powder coat, color as selected by Architect.
- c. Stainless steel.

- 4. Guides: Three piece structural angle guide assembly forming a slot to retain curtains in guides.

- a. Structural grade, three angle assembly fabricated of:

**** NOTE TO SPECIFIER ** Select the assembly material required from the following paragraphs and delete those not required. Steel is standard.**

- 1) Steel factory painted black.
- 2) Steel with standard powder coat, to match curtain.
- 3) Steel with powder coat, to match curtain.

**** NOTE TO SPECIFIER ** Select the following paragraph if required. Note that high usage guide wear strips to minimize wear and reduce sound are not available on doors designed for wind load.**

- b. Provide with high usage guide wear strips.
- c. Provide with integral windlock bars when size or wind loading requires.
- d. Removable bottom bar stops.
- 5. Brackets: Design to enclose ends of coil and provide support for counterbalance pipe at each end. Fabricate of steel plates, with permanently

sealed ball bearings. Brackets shall be black painted steel. Thickness shall be:

**** NOTE TO SPECIFIER ** Select the thickness required from the following paragraphs and delete those not required. 3/16 inch is standard unless size of door requires 1/4 inch.**

- a. 3/16 inch minimum.
 - b. 1/4 inch minimum.
6. Door Roll: Directly driven, springless roll shall be steel tube with integral shafts, keyed on the Drive End and supported by self-aligning sealed bearings. Door shall not require any counterbalance device.
7. Hood: Hood to enclose curtain coil and counterbalance mechanism. Hood fabricated of sheet metal, flanged at top for attachment to header and flanged at bottom to provide longitudinal stiffness.

a. Fabricate of:

**** NOTE TO SPECIFIER ** Select the hood material required from the following paragraphs and delete those not required. 24-gauge galvanized steel is standard.**

- 1) Minimum 22-gauge B&S aluminum.
- 2) Minimum 24-gauge galvanized steel.
- 3) Minimum 24-gauge stainless steel.

b. Hood Finish:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs for hood finish and delete those not required.; Polyester top coat is standard on galvanized steel hood**

- 1) Galvanized steel with polyester top coat in choice of:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs for powder coat finish and delete those not required.**

- (a) Gray.
- (b) Beige.
- (c) White.

**** NOTE TO SPECIFIER ** Polyester powder coat is available in a selection of colors. Contact manufacturer for color availability.**

(d) Color as selected by the Architect.

- 2) Aluminum:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs for hood finish and delete those not required.**

- (a) Clear anodized.
- (b) Bronze anodized.

8. Control Panel: Provide electronic Variable Frequency drive controller with microprocessor self-diagnostics. LCD readout indicates door action, alarm conditions, and fault conditions. Timer to close programming options and non-resettable cycle counter are included. Enclosure is NEMA 4X rated. Control system is UL508A certified. The junction box is IP67 rated.

**** NOTE TO SPECIFIER ** Note that motor HP is dependent on the door size(s) and weight, the appropriate HP motor will be selected by plant.**

9. Motor: Direct drive, integrated gear motor/brake assembly sized for openings. Provide with a manual hand chain for operation during power outages. Operator and drive assembly is factory pre-assembled and provided wiring harnesses needed direct from the factory.

- a. Opening Speed: 24 inches per second.
- b. Closing Speed: 12 inches per second.

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

- c. Electrical Characteristics: 220V AC, single phase per motor/drive.
- d. Electrical Characteristics: 230V AC, three phase per motor/drive.
- e. Electrical Characteristics: 460V AC, three phase per motor/drive.
- f. Electrical Characteristics: 575V AC, three phase per motor/drive.

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

- g. Left hand mount.
- h. Right hand mount.
- 10. Safety Devices: Provide door with following safety devices:
 - a. Photoelectric sensors that cast an invisible beam across the door opening and reverses the downward motion of the door when an object enters the path of the beam.
 - b. Wireless, monitored safety edge reverses downward motion upon impact.
 - c. Built-in (to motor assembly) brake mechanism eliminates uncontrolled curtain travel independent of other safeties.
- 11. Actuators:
 - a. One Open/Close/Stop push button station incorporated into Control Panel.

**** NOTE TO SPECIFIER ** Select from the following paragraphs optional equipment as required; and delete if not required. Considerable thought should be given to the choice of actuators based on the type of traffic and traffic flow through the opening. Contact the manufacturer for additional information.**

- b. Loop detectors.
- c. Radio control.
- d. Interior Push buttons.
- e. Exterior Push buttons.
- f. Interior Key switch.
- g. Exterior Key switch.
- h. Motion detectors.
- i. Warning light.
- j. Horns and/or strobes.
- k. Second set of photoelectric sensors.
- 12. Weatherstripping: Bottom astragal, optional high usage guide wear strip.
- 13. Windload Design:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs and delete the one not required. Standard windload is 20 PSF. Note that if optional guide wear strips are used the windload warranty does not apply. Contact the manufacturer for current data on Miami-Dade County and/or FBC Certification.**

- a. Standard windload shall be 20 PSF.
- b. Miami-Dade County NOA ____.
- c. FBC certification FL# ____.
- 14. Mounting:
 - a. Steel jambs.
 - b. Wood jambs.
 - c. Masonry jambs.
- B. Wayne Dalton Model 800C Insulated with Advanced Rolling Door System Options:
 - 1. Description:
 - a. Maximum Width: 20 feet
 - b. Maximum Height: 20 feet
 - c. ASTM E 413 Sound transmission class acoustical performance value = STC 22.
 - 2. Curtain: composed of interlocking roll-formed slats.
 - a. Slat Profiles/Material:

**** NOTE TO SPECIFIER ** Select the slat material required from the following paragraphs and delete those not required.**

- 1) No. 34 Flat-faced slat. The area between the #34 exterior slat and the back slat filled with polyurethane insulation, R-value of 7.7 (U = 0.13).
 - (a) 22-gauge galvanized steel with 24-gauge back.
 - (b) 20-gauge galvanized steel with 24-gauge back.
 - (c) 18-gauge galvanized steel with 24-gauge back.
 - (d) 22-gauge stainless steel with 24-gauge steel back.
 - (e) 20-gauge stainless steel with 24-gauge steel back.
 - (f) 16-gauge (.050 inch) B&S aluminum with 22-gauge (.025 inch) aluminum back.
- 2) Insulated Vision Lites: Provide with 5 inch by 3/4 inch uniformly spaced openings, with 1/16 inch clear plastic.
- 3) Ends of alternate slats fitted with malleable iron endlocks/windlocks.

b. Curtain Finish:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs for hood finish and delete those not required.; Polyester top coat is standard on galvanized steel hood**

- 1) Galvanized steel with polyester top coat in choice of:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs for powder coat finish and delete those not required.**

- (a) Gray.
- (b) Beige.
- (c) White.

**** NOTE TO SPECIFIER ** Polyester powder coat is available in a selection of colors. Contact manufacturer for color availability.**

- (d) Color as selected by the Architect.

- 2) Aluminum:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs for hood finish and delete those not required.**

- (a) Clear anodized.
- (b) Bronze anodized.

3. Bottom Bar: Consists of two equal angles, 0.12 inch minimum thickness, to stiffen curtain, incorporating a 2-wire, self-monitoring, fail safe, electric sensing edge. Angle shall be:

**** NOTE TO SPECIFIER ** Select the bottom bar material required from the following paragraphs and delete those not required. Steel is standard.**

- a. Steel factory painted black.
- b. Steel with standard powder coat, color as selected by Architect.
- c. Stainless steel.

4. Guides: Three piece structural angle guide assembly forming a slot to retain curtains in guides.

- a. Structural grade, three angle assembly fabricated of:

**** NOTE TO SPECIFIER ** Select the assembly material required from the following paragraphs and delete those not required. Steel is standard.**

- 1) Steel factory painted black.
- 2) Steel with standard powder coat, to match curtain.

**** NOTE TO SPECIFIER ** Select the following paragraph if required. Note that high usage guide wear strips to minimize wear and reduce sound are not available on doors designed for wind load.**

- b. Provide with high usage guide wear strips.
- c. Provide with integral windlock bars when size or wind loading requires.
- d. Removable bottom bar stops.

5. Brackets: Design to enclose ends of coil and provide support for counterbalance pipe at each end. Fabricate of steel plates, with permanently

sealed ball bearings. Brackets shall be black painted steel. Thickness shall be:

**** NOTE TO SPECIFIER ** Select the thickness required from the following paragraphs and delete those not required. 3/16 inch is standard unless size of door requires 1/4 inch.**

- a. 3/16 inch minimum.
 - b. 1/4 inch minimum.
6. Door Roll: Directly driven, springless roll shall be steel tube with integral shafts, keyed on the Drive End and supported by self-aligning sealed bearings. Door shall not require any counterbalance device.
7. Hood: Hood to enclose curtain coil and counterbalance mechanism. Hood fabricated of sheet metal, flanged at top for attachment to header and flanged at bottom to provide longitudinal stiffness.

a. Fabricate of:

**** NOTE TO SPECIFIER ** Select the hood material required from the following paragraphs and delete those not required. 24-gauge galvanized steel is standard.**

- 1) Minimum 22-gauge B&S aluminum.
- 2) Minimum 24-gauge galvanized steel.
- 3) Minimum 24-gauge stainless steel.

b. Hood Finish:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs for hood finish and delete those not required.; Polyester top coat is standard on galvanized steel hood**

- 1) Galvanized steel with polyester top coat in choice of:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs for powder coat finish and delete those not required.**

- (a) Gray.
- (b) Beige.
- (c) White.

**** NOTE TO SPECIFIER ** Polyester powder coat is available in a selection of colors. Contact manufacturer for color availability.**

(d) Color as selected by the Architect.

- 2) Aluminum:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs for hood finish and delete those not required.**

- (a) Clear anodized.
- (b) Bronze anodized.

8. Control Panel: Provide electronic Variable Frequency drive controller with microprocessor self-diagnostics. LCD readout indicates door action, alarm conditions, and fault conditions. Timer to close programming options and non-resettable cycle counter are included. Enclosure is NEMA 4X rated. Control system is UL508A certified. The junction box is IP67 rated.

**** NOTE TO SPECIFIER ** Note that motor HP is dependent on the door size(s) and weight, the appropriate HP motor will be selected by plant.**

9. Motor: Direct drive, integrated gear motor/brake assembly sized for openings. Provide with a manual hand chain for operation during power outages. Operator and drive assembly is factory pre-assembled and provided with wiring harnesses needed direct from the factory.
- a. Opening Speed: 24 inches per second.
 - b. Closing Speed: 12 inches per second.

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

- c. Electrical Characteristics: 220V AC, single phase per motor/drive.
- d. Electrical Characteristics: 230V AC, three phase per motor/drive.
- e. Electrical Characteristics: 460V AC, three phase per motor/drive.
- f. Electrical Characteristics: 575V AC, three phase per motor/drive.

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

- g. Left hand mount.
- h. Right hand mount.
- 10. Safety Devices: Provide door with following safety devices:
 - a. Photoelectric sensors that cast an invisible beam across the door opening and reverses the downward motion of the door when an object enters the path of the beam.
 - b. Wireless, monitored safety edge reverses downward motion upon impact.
 - c. Built-in (to motor assembly) brake mechanism eliminates uncontrolled curtain travel independent of other safeties.
- 11. Actuators:
 - a. One Open/Close/Stop push button station incorporated into Control Panel.

**** NOTE TO SPECIFIER ** Select from the following paragraphs optional equipment as required; and delete if not required. Considerable thought should be given to the choice of actuators based on the type of traffic and traffic flow through the opening. Contact the manufacturer for additional information.**

- b. Loop detectors.
- c. Radio control.
- d. Interior Push buttons.
- e. Exterior Push buttons.
- f. Interior Key switch.
- g. Exterior Key switch.
- h. Motion detectors.
- i. Warning light.
- j. Horns and/or strobes.
- k. Second set of photoelectric sensors.
- 12. Weatherstripping: Bottom astragal, optional high usage guide wear strip, and internal neoprene hood baffle.
- 13. Windload Design:

**** NOTE TO SPECIFIER ** Select one of the following paragraphs and delete the one not required. Standard windload is 20 PSF. Note that if optional guide wear strips are used the windload warranty does not apply. Contact the manufacturer for current data on Miami-Dade County and/or FBC Certification.**

- a. Standard windload shall be 20 PSF.
- b. Miami-Dade County NOA ____.
- c. FBC certification FL# ____.
- 14. Mounting:
 - a. Steel jambs.
 - b. Wood jambs.
 - c. Masonry jambs.

**** NOTE TO SPECIFIER ** Select the doors required from the following paragraphs and delete those not required.**

2.5 ROLLING STEEL FIRE DOORS

- A. Wayne Dalton FireStar 700 Rolling Steel Fire Door
 - 1. Description:
 - a. Maximum Width: 36 feet 0 inches
 - b. Maximum Height: 28 feet 0 inches
 - c. Fire Labeled: Yes

**** NOTE TO SPECIFIER ** Rating available upon request. Select and complete the following paragraph if required and delete if not required.**

- d. Windload: Windload minimum ____ psf per DASMA 108-2012 and as required by local codes.
- 2. Curtain: composed of interlocking roll-formed slats.
 - a. Slat Profiles/Material:

**** NOTE TO SPECIFIER ** Select the slat profile and material required from the following paragraphs and delete those not required.**

- 1) No. 4 Curved-faced single crown slat.
 - (a) 18-gauge steel.
 - (b) 20-gauge steel.
 - (c) 22-gauge steel.
 - (d) 18-gauge stainless steel.
 - (e) 20-gauge stainless steel.
 - (f) 22-gauge stainless steel.
- 2) No. 14 Flat-faced slat.
 - (a) 18-gauge steel.
 - (b) 20-gauge steel.
 - (c) 22-gauge steel.
 - (d) 18-gauge stainless steel.
 - (e) 20-gauge stainless steel.
 - (f) 22-gauge stainless steel.
- 3) No. 2 Curved-faced single crown slat.
 - (a) 20-gauge steel.
 - (b) 22-gauge steel.
 - (c) 20-gauge stainless steel.
 - (d) 22-gauge stainless steel.
- 4) No. 17 Flat-faced slat.
 - (a) 20-gauge steel.
 - (b) 22-gauge steel.
 - (c) 20-gauge stainless steel.
 - (d) 22-gauge stainless steel.
- b. Ends of alternate slats fitted with metal endlocks/windlocks.
- 3. Bottom Bar: Consists of two equal angles, 0.12 inch minimum thickness, to stiffen curtain. Angle shall be:

**** NOTE TO SPECIFIER ** Select the bottom bar material required from the following paragraphs and delete those not required. Steel is standard.**

- a. Steel.
- b. Stainless steel.
- 4. Guides:
 - a. Three structural angle guide assembly fabricated of:

**** NOTE TO SPECIFIER ** Select the assembly material required from the following paragraphs and delete those not required. Steel is standard.**

- 1) Steel.
- 2) Stainless steel.
- b. Provide with integral windlock bars and removable bottom bar stops.
- 5. Brackets: Design to enclose ends of coil and provide support for counterbalance pipe at each end. Fabricate of steel plates, with permanently sealed ball bearings. Thickness shall be:

**** NOTE TO SPECIFIER ** Select the thickness required from the following paragraphs and delete those not required. 3/16 inch is standard.**

- a. 3/16 inch minimum.
- b. 1/4 inch minimum.

6. Counterbalance: Curtain to be coiled on a pipe of sufficient size to carry door load with deflection not to exceed 0.033 inch per foot of door span. Curtain to be correctly balanced by helical springs, oil tempered torsion type. Cast iron barrel plugs will be used to anchor springs to tension shaft and pipe.
7. Hood: Hood to enclose curtain coil and counterbalance mechanism. Hood fabricated of sheet metal, flanged at top for attachment to header and flanged at bottom to provide longitudinal stiffness. Provide all FM hoods with a steel hood baffle. Fabricate of:

**** NOTE TO SPECIFIER ** Select the hood material required from the following paragraphs and delete those not required.**

- a. Minimum 24-gauge galvanized steel.
 - b. Minimum 24-gauge stainless steel.
8. Finish: Shop coat of rust inhibitive primer on non-galvanized surfaces and operating mechanisms. Guides and bracket plates will be coated with a flat black prime paint.

**** NOTE TO SPECIFIER ** Select the finish and color required from the following paragraphs and delete those not required. Note that white, beige, brown is only available as 22-gauge. Custom colors are available from 180 colors.**

- a. Galvanized Steel:
 - 1) Gray baked on primer.
 - 2) White baked on primer.
 - 3) Beige baked on primer.
 - 4) Brown baked on primer.
 - 5) Powdercoat finish as selected from manufacturer's RAL color selections.
 - 6) Powdercoat finish in custom color as selected.
 - b. Stainless Steel finish.
 - 1) #4 finish.
9. Operation: Door will be operated by means of:

**** NOTE TO SPECIFIER ** Select the operation required from the following paragraphs and delete those not required.**

- a. Chain hoist.
 - b. Awning crank.
 - c. Motor operation.
 - d. Motor operation with electrical sensing edge attached to bottom bar to stop and reverse door when it contacts an object during the closing cycle.
 - e. Motor operation with pneumatic sensing edge attached to bottom bar to stop and reverse door when it contacts an object during the closing cycle.
10. Governor: If required by the size for chain hoist or motor driven doors, provide a viscous governor to regulate the rate of descent of 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.
 11. Label: Provide rolling 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. UL 3-Hour Class A Label for installation on masonry or steel jamb walls (face mounted). Door may be welded to the face of steel jambs.
- b. ULC 3-Hour Class A Label for installation on masonry or steel jamb walls (face mounted). Door may be welded to the face of steel jambs.

- c. FM 3-Hour Class A Label for masonry or concrete walls, steel wall jambs or with steel tubes set against fire walls (masonry or non-masonry construction).
 - d. UL 1-1/2-Hour Class B Label for installation in non-masonry walls, face mounted or between jambs.
 - e. ULC 1-1/2-Hour Class B Label for installation in non-masonry walls, face mounted or between jambs.
 - f. FM 3/4-Hour Class B Label when installed on fire-rated gypsum dry walls.
12. Mounting:
- a. Steel jambs.
 - b. Fire Rated wood jambs.
 - c. Fire Rated drywall over minimum 16-gauge steel stud jambs.
 - d. Masonry jambs.

B. Wayne Dalton FireStar 700C Insulated Rolling Steel Fire Door:

1. Description:
- a. Maximum Width: 24 feet
 - b. Maximum Height: 24 feet
 - c. Fire Labeled: Yes
 - d. Windload: Windload minimum ___ psf per DASMA 108-2012 and as required by local codes.
2. Curtain: composed of interlocking roll-formed slats.
- a. Slat Profiles/Material:

**** NOTE TO SPECIFIER ** Rating available upon request. Select and complete the following paragraph if required and delete if not required.**

**** NOTE TO SPECIFIER ** Select the slat material required from the following paragraphs and delete those not required. Note that 22-gauge galvanized steel front and 24-gauge backer is standard.**

- 1) No. 34 Flat-faced slat. Area between the #34 exterior slat and the back slat filled with non-combustible mineral wool insulation with 0 flame spread, 0 smoke development, providing an R-value of 5 (U = 0.2).
 - (a) 22-gauge galvanized steel front and 24-gauge backer.
 - (b) 20-gauge galvanized steel front and 24-gauge backer.
 - (c) 18-gauge galvanized steel front and 24-gauge backer.
 - (d) 22-gauge stainless steel slats with 24-gauge backer.
 - (e) 20-gauge stainless steel slats with 24-gauge backer.
 - (f) 18-gauge stainless steel slats with 24-gauge backer.
 - b. Ends of alternate slats fitted with metal endlocks/windlocks.
3. Bottom Bar: Consists of two equal angles, 0.12 inch minimum thickness, to stiffen curtain. Angle shall be:

**** NOTE TO SPECIFIER ** Select the bottom bar material required from the following paragraphs and delete those not required. Steel is standard.**

- a. Steel.
 - b. Stainless steel.
4. Guides:
- a. Three structural angle guide assembly fabricated of:

**** NOTE TO SPECIFIER ** Select the assembly material required from the following paragraphs and delete those not required. Steel is standard.**

- 1) Steel.
 - 2) Stainless steel.
- b. Provide with perimeter brush seals to reduce smoke/air infiltration around door opening

5. Brackets: Design to enclose ends of coil and provide support for counterbalance pipe at each end. Fabricate of steel plates, with permanently sealed ball bearings. Thickness shall be:

**** NOTE TO SPECIFIER ** Select the thickness required from the following paragraphs and delete those not required. 3/16 inch is standard.**

- a. 3/16 inch minimum.
 - b. 1/4 inch minimum.
6. Counterbalance: Curtain to be coiled on a pipe of sufficient size to carry door load with deflection not to exceed 0.033 inch per foot of door span. Curtain to be correctly balanced by helical springs, oil tempered torsion type. Cast iron barrel plugs will be used to anchor springs to tension shaft and pipe.
 7. Hood: Hood to enclose curtain coil and counterbalance mechanism. Hood fabricated of sheet metal, flanged at top for attachment to header and flanged at bottom to provide longitudinal stiffness. Provide all FM hoods with a steel hood baffle. Fabricate of:

**** NOTE TO SPECIFIER ** Select the hood material required from the following paragraphs and delete those not required.**

- a. Minimum 24-gauge galvanized steel.
 - b. Minimum 24-gauge stainless steel.
8. Finish: Shop coat of rust inhibitive primer on non-galvanized surfaces and operating mechanisms. Guides and bracket plates will be coated with a flat black prime paint.

**** NOTE TO SPECIFIER ** Select the finish and color required from the following paragraphs and delete those not required. Note that white, beige, brown is only available as 22-gauge. Custom colors are available from 180 colors.**

- a. Galvanized Steel:
 - 1) Gray baked on primer.
 - 2) White baked on primer.
 - 3) Beige baked on primer.
 - 4) Brown baked on primer.
 - 5) Powdercoat finish as selected from manufacturer's RAL color selections.
 - 6) Powdercoat finish in custom color as selected.
 - b. Stainless Steel finish.
 - 1) #4 finish.
9. Operation: Door will be operated by means of:

**** NOTE TO SPECIFIER ** Select the operation required from the following paragraphs and delete those not required.**

- a. Chain hoist.
 - b. Awning crank.
 - c. Motor operation.
 - d. Motor operation with electrical sensing edge attached to bottom bar to stop and reverse door when it contacts an object during the closing cycle.
 - e. Motor operation with pneumatic sensing edge attached to bottom bar to stop and reverse door when it contacts an object during the closing cycle.
10. Governor: If required by the size for chain hoist or motor driven doors, provide a viscous governor to regulate the rate of descent of 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.
 11. Label: Provide rolling 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. UL 3-Hour Class A Label for installation on masonry or steel jamb walls (face mounted). Door may be welded to the face of steel jambs.
 - b. ULC 3-Hour Class A Label for installation on masonry or steel jamb walls (face mounted). Door may be welded to the face of steel jambs.
 - c. FM 3-Hour Class A Label for masonry or concrete walls, steel wall jambs or with steel tubes set against fire walls (masonry or non-masonry construction).
 - d. UL 1-1/2-Hour Class B Label for installation in non-masonry walls, face mounted or between jambs.
 - e. ULC 1-1/2-Hour Class B Label for installation in non-masonry walls, face mounted or between jambs.
 - f. FM 3/4-Hour Class B Label when installed on fire-rated gypsum dry walls.
12. Mounting:
- a. Steel jambs.
 - b. Fire Rated wood jambs.
 - c. Fire Rated drywall over minimum 16-gauge steel stud jambs.
 - d. Masonry jambs.

2.6 OVERHEAD COILING SECURITY SHUTTERS

**** NOTE TO SPECIFIER ** Security Shutter Model 523 is not wind load rated. This door is ideal for interior applications or exterior applications where wind load is not required. Available in a maximum height of 14 feet and a maximum width of 20 feet. Contact the manufacturer for additional information.**

A. Aluminum Security Shutter: Wayne Dalton, Model 523.

1. Wall Mounting Condition:

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

- a. Face-of-wall mounting.
 - b. Between jambs mounting.
2. Curtain: Interlocking extruded aluminum slats constructed of .05 inch aluminum. Nickel plated, steel screws and end locks to retain curtain within guides and prevent lateral movement. Over 16 feet wide will come standard with plastic roller retainers to strengthen curtain.

3. Fenestration/Perforation:

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

- a. Open fenestration 1 inch by 1 inch; 0.5 inch uniformly spaced openings; full curtain.
- b. Perforation full curtain.
- c. Partial open fenestration, 1 inch by 1 inch; 0.5 inch uniformly spaced openings; Height of curtain segment to be fenestrated as indicated on the Drawings.
- d. Partial perforation, height of curtain segment to be perforated as indicated on the Drawings.

4. Finish:

**** NOTE TO SPECIFIER ** Select one of the following for powder coat and delete the ones not required. Powder coat finish is standard in the four colors listed. Wood Grain powder coat is a powder coat finish with a wood grain pattern.**

- a. Powder Coat:
 - 1) Silver powder coat to match look of clear anodized aluminum.
 - 2) Bronze powder coat to match look of bronze anodized.
 - 3) White.
 - 4) Almond.
 - 5) Powdercoat color as selected by the Architect.
- b. Powder Coat: Wood Grain
 - 1) Natural Pine.
 - 2) Rustic Alder.
 - 3) Barrel Oak.
 - 4) Dark Barrel Oak.
 - 5) Golden Maple.
 - 6) Winchester Cherry.

5. Bottom Bar and Locking:

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

- a. Aluminum compact bottom bar with vinyl bulb seal with coil side left and right slide locks. Powder coat to match curtain color selection. (standard).
 - b. Aluminum compact bottom bar with vinyl bulb seal with padlock-able non-coil side left and right slide locks. Powder coat to match curtain color selection.
 - c. Tubular aluminum cylinder locking bottom bar with weatherstrip. Requires 1.5 inch by 3 inch wall tubes for face of wall mount.
 - d. Locking doors with tube motor shall be provided with interlock micro switch.
 - e. Aluminum compact bottom bar with vinyl bulb seal; non-locking.
 - f. Step angle attachment option.
6. Guides: Extruded aluminum channels with continuous PVC wear strips. Powder coat: color to match curtain.
7. Brackets: Steel plate to support counterbalance, curtain and hood. Powder coat to match curtain color selection.
8. Hood: aluminum two-piece square hood silver powder coated to match curtain color selection. Provided with intermediate support brackets as required.
9. Hood with brackets; box size to match manufacturer's recommendation on housing size based on door height.
10. Counterbalance: Extruded aluminum barrel housing counterbalance spring assembly.
11. Operation:

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

- a. Manual push up.
- b. Crank operation.
- c. Electric tube motor with crank for emergency egress manual override.

**** NOTE TO SPECIFIER ** Include the following paragraph if electric motor operation is required and delete if not required.**

12. Electric Motor Operation: Provide UL listed electric operator, size as recommended by manufacturer:
- a. Operator Controls:
 - b. Double throw hard wired wall switch.

PART 3 EXECUTION

3.1 EXAMINATION

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

**** NOTE TO SPECIFIER ** Select the following paragraph for FireStar 700 and FireStar 700C fire doors and delete if not required.**

- B. Install rolling fire doors in accordance with the manufacturer's instructions and in accordance with the requirements of the National Fire Protection Association Standard 80 (NFPA 80).
- C. Install door complete with necessary hardware, jamb and head mold strips, anchors, inserts, hangers, and equipment supports in accordance with final shop drawings, manufacturers instructions, and as specified herein.
- D. Fit, align and adjust rolling door assemblies level and plumb for smooth operation.
- E. Upon completion of final installation, lubricate, test and adjust doors to operate easily, free from warp, twist or distortion and fitting for entire perimeter.

**** NOTE TO SPECIFIER ** Select the following paragraph for FireStar 700 and FireStar 700C fire doors and delete if not required.**

3.4 TESTING

- A. Drop-test rolling steel fire doors in accordance with NFPA 80 and witnessed, attesting to their successful operation at the time of installation.

3.5 MAINTENANCE

- A. Per NFPA 80, paragraph 15-2 4.3: All horizontal or vertical sliding and rolling fire doors shall be inspected and tested annually to check for proper operation and full closure. Resetting of the release mechanism shall be done in accordance with the manufacturers instructions. A written record shall be maintained by the building owner and made available to the authority having jurisdiction.

3.6 ADJUSTING

- A. Test for proper operation and adjust as necessary to provide proper operation without binding or distortion.
- B. Adjust hardware and operating assemblies for smooth and noiseless operation.

3.7 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.

3.8 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

3.9 SCHEDULES

**** NOTE TO SPECIFIER ** Retain Paragraph below if required to suit project requirements. Identify products by name on the Drawings or use this paragraph to define the location of each type of material to be used. The following are some examples of schedule references. Edit as required to suit project or delete and identify products on the Drawings.**

- A. :
 - 1.
 - 2.
 - 3.
- B. :
 - 1.
 - 2.
 - 3.

END OF SECTION