FIRECOIL OPTIMA – AUGUST 13, 2007

General Notes: This guide specification document is provided by Raynor Door for use by design professionals in preparing project specification documents for FIRECOIL OPTIMA overhead coiling doors, manufactured by Raynor Doors. For more information, contact Raynor, P.O. Box 448, 1101 East River Road, Dixon, IL 61021-0448. Phone: (800) 472-9667. Phone: (815) 288-1431. Fax: (815) 288-7142. E-mail: thegarage@raynor.com Website: www.raynor.com

Raynor Territory Managers can assist architects, engineers and specifiers in the selection of Raynor products to meet the design requirements of any project. Raynor Distribution Centers, Raynor Professional Installing Distributors and the Raynor Express Fleet ensure national and regional availability and timely delivery.

Specifier notes (comment text) are shown in blue like this. Optional text [**is shown in bold with brackets like this**]. Requirements for project-specific language to be inserted are indicated like this: <**insert requirements.**> Remove specifier notes and unused optional text in final version of the specification document. Retain, edit or delete language below to suit project requirements and specifier practice.

Under CSI's MasterFormat™ the products and systems contained in this section would typically be classified as Section 08331. Change section name or number as desired.

SECTION 08331 - OVERHEAD COILING DOORS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: [**Manually**] [**and**] [**Electrically**] operated overhead coiling doors, operators, controls and accessories.

Specifier Note: Revise paragraph below to suit project requirements. If a reader of this section could reasonably expect to find a product or component specified in this section, but it is actually specified elsewhere, then the related section number(s) should be listed in the paragraph below. Add section numbers and titles per CSI MasterFormat and specifier's practice. In the absence of related sections, delete paragraph below.

B. Related Sections:

1. Division 5 Sections: Miscellaneous Metals for steel supports.
2. Division 8 Sections: Hardware, Locks, Access Panels.
3. Division 9 Sections: Finish Painting, Field Painting.
4. Division 11 Sections: Parking Control Equipment for remote door controls.
5. Division 16 Sections: Electrical connections and service for powered door operators.

Specifier Note: Retain, edit or delete paragraph below to suit project requirements and specifier practice.

C. Products Supplied but not Installed Under this Section: <**Insert requirements.**>

Specifier Note: Retain, edit or delete paragraph below to suit project requirements and specifier practice.

D. Products Installed but not Supplied Under this Section: <**Insert requirements.**>

Specifier Note: Article below may be omitted when specifying manufacturer's proprietary products and installation recommendations. Retain References Article when specifying products and installation by an industry reference standard. This article does not require compliance with standard. It is a listing of all references used in this section.

1.2 REFERENCES

A. General: Standards listed by reference, including revisions by issuing authority, form a part of this specification section to the extent indicated. Standards listed are identified by issuing authority, authority abbreviation, designation number, title or other designation established by issuing authority. Standards subsequently referenced herein are referred to by issuing authority abbreviation and standard designation.

B. American Society for Testing and Materials (ASTM):

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

Specifier Note: Article below should be restricted to statements describing design or performance requirements and functional (not dimensional) tolerances of a complete system. Limit descriptions to composite and operational properties required to link components of a system together and to interface with other systems.

1.3 PERFORMANCE REQUIREMENTS

A. Structural Performance:

Specifier Note: Edit language in paragraph below to suit project requirements.

B. Fire Resistance Rating:

1. Three-hour rating, tested and listed by Factory Mutual (FM) [**where indicated**]<**Insert locations**>.

2. Four-hour rating, tested and listed by [**Underwriters Laboratories (UL)**] [**Canadian Underwriters Laboratories (C-UL)**] [**International Standards**

Organization (ISO 3008)][**British Standards (BS476)**] [**California State Fire Marshal (CSFM)**] [**City of New York Material and Equipment Acceptance (MEA)**].

Specifier Note: Article below includes submittal of relevant data to be furnished by Contractor before, during or after construction. Coordinate this article with Architect's and Contractor's duties and responsibilities in Conditions of the Contract and Division 1 Submittal Procedures Section.

1.4 SUBMITTALS

A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.

B. Product Data: Submit manufacturer's product data and installation instructions.

C. Shop Drawings: Provide drawings indicating guide details, head and jamb conditions, clearances, anchorage, accessories, finish colors, patterns and textures, operator mounts and other related information.

D. Quality Assurance Submittals: Submit the following:

1. Certificates: Submit manufacturer's certificate that products meet or exceed specified requirements.
2. Certificates: Submit installer qualifications.

F. Closeout Submittals: Submit the following:

1. Warranty documents available at www.raynor.com or from your authorized Raynor dealer.

Specifier Note: Installation of Raynor Doors should be performed by an authorized Raynor Dealer. Coordinate article below with Division 1 Quality Assurance Section.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Utilize an installer having demonstrated experience on projects of similar size and complexity, and trained and authorized by the door dealer to perform the work of this section.

Specifier Note: Paragraph below should list obligations for compliance with specific code requirements particular to this section. General statements to comply with a particular code are typically addressed in Conditions of the Contract and Division 1 Regulatory Requirements Section. Repetitive statements should be avoided.

B. Regulatory Requirements and Approvals: <**Insert applicable requirements of regulatory agencies.**>Listed by [**Underwriters Laboratories (UL)**] [**Canadian Underwriters Laboratories (C-UL)**] [**International Standards Organization (ISO 3008)**][**British Standards (BS476)**] [**California State Fire Marshal (CSFM)**] [**City of New York Material and Equipment Acceptance (MEA)**].

Specifier Note: Retain paragraph below if preinstallation meeting is required.

C. Preinstallation Meetings: <**Insert requirements for meeting**>. Verify project requirements, substrate conditions, manufacturer's installation instructions and manufacturer's warranty requirements. Comply with Division 1 Project Management and Coordination (Project Meetings) Section.

Specifier Note: Article below should include specific protection and environmental conditions required during product storage. Coordinate article below with Division 1 Product Requirements Section.

1.6 DELIVERY, STORAGE & HANDLING

A. General: Comply with Division 1 Product Requirements.

B. Comply with manufacturer's ordering instructions and lead-time requirements to avoid construction delays.

C. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

D. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.

Specifier Note: Coordinate article below with Conditions of the Contract and with Division 1 Closeout Submittals (Warranty) Section. Use this article to require special or extended warranty or bond covering the work of this section.

1.7 WARRANTY

A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.

B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under contract documents.

Specifier Note: Retain, edit or delete article below to suit project and specifier practice.

1.8 MAINTENANCE

A. Extra Materials: Provide additional material for use by owner in building maintenance. Package products with protective covering and identify with descriptive labels. Comply with Division 1 Closeout Submittals (Maintenance Materials) Section. Service and repair should be performed by an authorized Raynor dealer.

1. Quantity: <**Insert quantity requirements for additional materials.**>

Specifier Note: State requirements for extended maintenance of systems or equipment to be provided by contractor.

B. Maintenance Service: Submit for Owner's consideration and acceptance maintenance service agreement for products installed.

PART 2 - PRODUCTS

Specifier Note: Retain article below for proprietary method specification. Add product attributes, performance characteristics, material standards and descriptions as applicable. Use of such phrases as "or equal" or "or approved equal" or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining "equal" products.

2.1 MANUFACTURER

Specifier Note: Paragraph below is a recommended addition to CSI SectionFormat. Retain, edit or delete paragraph below to suit project requirements and specifier practice.

A. Manufacturer: Raynor Door.

1. Contact: P.O. Box 448, 1101 East River Road, Dixon, IL 61021-0448; Telephone: (800) 472-9667, (815) 288-1431; Fax: (815) 288-7142; E-mail: thegarage@raynor.com; website: www.raynor.com.

B. Manufacturer Product Designation: FIRECOIL OPTIMA.

2.2 DOOR OPERATORS

A. Provide doors designed for [**hand chain**] [**hand crank**] [**electric motor**] operation.

1. Drive Orientation: For hand-chain, hand-crank or electric motor operated doors, orient the drive from the [**left-hand**] [**right-hand**] side when facing the reference side of the door (side with counterbalance or hood exposed).

Specifier Note: Raynor manufactures multiple models of electric door operators. Retain, edit or delete language below to suit project requirements.

Specifier Note: PowerHoist Optima and ControlHoist Optima operators feature a heavy-duty gear drive running in oil for high reliability and efficient operation. They are designed for larger coiling doors and higher cycle applications.

B. Manufacturer Product Designation: Raynor PowerHoist Optima with Contractor style motor starter (Model Series PHO) or Raynor ControlHoist Optima with Solid State motor controller (Model Series CHO):

1. Type: Jackshaft with manual chain hoist.
2. Motor Horsepower Rating: Continuous [**1/2**] [**3/4**] [**1**] [**1-1/2**] [**2**] HP.
3. Electrical Requirements: [**115 volt single**] [**230 volt single**] [**230 volt three**] [**460 volt three**] phase.
4. Duty Cycle: 30 cycles/hour.
5. Control Wiring: Contractor Style Motor starter 24 volt control with provisions for connection of safety edge to reverse and external radio control hook-up. [**Three button momentary contact "open-close-stop"(Custom wiring is available)**]. Solid State motor controller 24 volt control with provisions to select up to 6 standard wiring types plus delay on reverse, mid stop, maximum run timer, and door lock feature.
6. Model Number: <**Insert model number.**>

Specifier Note: PowerHoist Standard belt-drive operators are designed for medium- to high-cycle applications and for normal- to large-size coiling doors.

C. Manufacturer Product Designation: Raynor PowerHoist Standard (Model Series PHS) or Raynor ControlHoist Standard with Solid State motor controller (Model Series CHS).

1. Type: [**Jackshaft**] [**Jackshaft with manual chain hoist**].
2. Motor Horsepower Rating: Continuous [**1/3**] [**1/2**] [**3/4**] HP.
3. Electrical Requirements: [**115 volt single**] [**230 volt single**] [**230 volt three**] [**460 volt three**] phase.
4. Duty Cycle: 30 cycles/hour.
5. Control Wiring: Contractor Style Motor starter 24 volt control with provisions for connection of safety edge to reverse and external radio control hook-up. [**Three button momentary contact "open-close-stop"(Custom wiring is available)**]. Solid State motor controller 24 volt control with provisions to select up to 6 standard wiring types plus delay on reverse, mid stop, maximum run timer, and door lock feature.
6. Model Number: <**Insert model number.**>

Specifier Note: ControlHoist Basic belt drive operators are designed for operating sectional or rolling steel doors up to 14 feet high in light duty applications.

D. Manufacturer Product Designation: Raynor ControlHoist Basic with Solid State Motor Controller (Model Series CHB) or Raynor PowerHoist Standard with Relay style motor controller (Model Series PHB):

1. Type: [**Jackshaft**] [**Jackshaft with manual chain hoist**].
2. Motor Horsepower Rating: Intermittent 1/2 HP.
3. Electrical Requirements: 115 volt single phase.
4. Duty Cycle: 10 cycles/hour.
5. Control Wiring: Relay style motor controller 24 volt control with provisions for connection of safety edge to reverse and external radio control hook-up. [**Three button momentary contact "open-close-stop"**]. Solid state motor controller 24 volt control with provisions to select up to 4 standard wiring types plus maximum run timer and provisions for connection of a separate delayed light.
6. Model Number: <**Insert model number.**>

2.3 CURTAIN

A. Material: Interlocking steel slats, 18 gauge (0.047 inch minimum thickness), roll-formed from commercial quality hot-dipped galvanized (G-90) steel in compliance with ASTM A-653.

1. Slat Type: [**Flat Slat**] [**Large Contour Slat**].

B. Mounting: [**Face Mounting: fasten to face of wall on each side of door opening**] [**Between-Jamb Mounting: fasten between jambs of wall opening**].

C. Color and Finish: One finish coat of [**Gray polyester paint**] [**Tan polyester paint (Note: Tan is available in flat and insulated flat only)**] [**ArmorBrite Powdercoat <insert color>**] applied over one coat of white epoxy primer.

D. Endlocks: Lateral movement of the slats to be contained by means of zinc-plated malleable endlocks fastened with two zinc-plated steel rivets.

E. Bottom Bar and Seal: Two roll-formed galvanized steel angles, minimum 2 inches by 2 inches by 3/16 inch (51 mm x 51 mm x 4.8 mm). Structural angle bottom bar to receive one coat of rust-inhibitive primer.

2.4 GUIDES

A. Guide Assemblies: To consist of three structural steel angles, minimum 3 inches by 2 inches by 3/16 inch (76 mm by 51 mm by 4.8 mm) and fitted with removable curtain stops. Steel guides to be provided with one coat of rust-inhibitive primer.

B. Jamb Construction: [**Steel Jambs with self-tapping fasteners**] [**Masonry Jambs with anchor bolt fasteners**].

C. Weather Seal: [**None**] [**Guide brush seal**].

2.5 COUNTERBALANCE SYSTEM

A. Headplates: 1/4 inch (6.4 mm) steel plate, attached to wall angle of guide assembly with 1/2 inch (12.7 mm) diameter class 5 case hardened bolts. Inside of drive bracket fitted with sealed ball bearing. Provide head plates with one coat of rust-inhibitive primer

B. Barrel: Minimum 4-1/2 inches (114.3 mm) O.D. and 0.120 inch (3.1 mm) wall thickness structural steel pipe. Deflection of pipe under full load shall not exceed 0.03 inch (0.8 mm) per foot of span.

C. Counterbalance: Provide torsion counterbalance mechanism as follows: [**Torsion Spring: Oil-tempered, helical torsion springs, grease packed and mounted on a continuous steel torsion shaft**] [**Weight Counterbalance**].

2.6 ENCLOSURES

A. Hood: Round hood enclosure.

B. Headplate Cover: 24 gauge steel finish-painted to match curtain.

C. Flame Baffle: [**None**] [**Provide flame baffle to comply with listing agency**].

2.7 RELEASE SYSTEM

A. Descent Control: Rolling fire door operation mechanism shall be disengaged during automatic closing of the door. Descent of door under fire conditions shall be controlled by: [**Mechanical Oscillating Governor**] [**Sure Test Viscous Governor (weight counterbalance only)**] [**Quick Test Centrifugal Governor**].

B. Release Type: Automatic closing of rolling fire door under fire conditions to be initiated by: [**Fusible Links**] [**Thermol-Manual Links**] [**Electro-Thermal Manual Links with Junction Box**] [**Electro-Thermal Manual Links without Junction Box**] [**FireShield (weight counterbalance only)**] [**LM90 Model A**] [**LM90 Model B**] [**LM90 Model B2**] [**LM90 Model C**].

C. Detection Type: Device used in conjunction with the release type to initiate the automatic closing of rolling fire door: [**Ionization Smoke Detector**] [**Photoelectronic with Heat Sensor Detector**].

2.8 HARDWARE

Specifier Note: Door may be provided with locking device. Retain or delete paragraph below to suit project requirements.

A. Locks: Furnish door system with: [**Locking Bar, to receive padlock provided by owner, for use with manual, hand chain, and hand crank operated doors. For motor operated doors provide interlock switch with locking bar**] [**Hand Chain Lock, for doors operated with hand chain to receive padlock provided by owner**] [**Cylinder Lock available for use with manual, hand chain, and hand crank operated doors.** {**For motor operated doors provide interlock switch with cylinder lock**}].

PART 3 - EXECUTION

Specifier Note: Article below is a recommended addition to CSI SectionFormat. Revise article below to suit project requirements and specifier's practice.

3.1 MANUFACTURER'S INSTRUCTIONS

A. Comply with instructions and recommendations of door manufacturer.

Specifier Note: Specify requirements where an unusually high quality of workmanship is required. Retain article below and list local Raynor dealer installers as required to suit project requirements and specifier practice.

3.2 ACCEPTABLE INSTALLERS

A. <**Insert acceptable installers.**>

Specifier Note: Specify actions to physically determine that conditions are acceptable to receive primary products of the section.

3.3 EXAMINATION

A. Site Verification of Conditions: Verify through direct observation and field measurement that site conditions are acceptable for installation of doors, operators, controls and accessories. Ensure that openings square, flush and plumb.

B. Do not proceed with installation of doors, operators, controls and accessories until unacceptable conditions are corrected.

Specifier Note: Coordinate article below with manufacturer's recommended installation requirements. All door installations should be performed by an authorized Raynor Dealer. Consult Raynor to obtain local dealer contact information. Preparation of door openings should comply with submitted Raynor requirements.

3.4 INSTALLATION

A. General: Install door, guide and operating equipment complete with all necessary accessories and hardware according to shop drawings, manufacturer's instructions.

B. Site Tolerances: <**Insert applicable site tolerances for installation of specified products.**>

C. Related Products Installation: Refer to Related Sections paragraph for related products installation.

Specifier Note: Retain, edit or delete paragraph below to suit project requirements and specifier practice. Specify the tests and inspections required for installed or completed work. Establish number and duration of periodic site visits with Owner and manufacturer, and specify below. Consult with manufacturer for services required. Coordinate paragraph below with Division 1 Quality Assurance Section and Part 1 Quality Assurance Submittals.

3.5 FIELD QUALITY CONTROL

A. Manufacturer's Field Services: At Owner's request, provide manufacturer's field service consisting of product installation and use recommendations, and periodic site visits to observe and ensure product installation is done in accordance with manufacturer's recommendations.

1. Site Visits: <**Insert number and duration of periodic site visits.**>

3.6 ADJUSTING

A. General: Lubricate bearings and sliding parts, and adjust doors for proper operation, balance, clearance and similar requirements.

Specifier Note: Specify the final actions required to clean installed equipment or other completed work to properly function or perform. Coordinate article below with Division 1 Execution Requirements (Cleaning) Section.

3.7 CLEANING

A. Remove temporary coverings and protection of adjacent work areas. Repair or replace installed products damaged prior to or during installation.

B. Clean installed products in accordance with manufacturer's instructions prior to Owner's acceptance. Remove and legally dispose of construction debris from project site.

END OF SECTION