



Black Rock Fireproof Column Company



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This Manu-Spec® utilizes the Construction Specifications Institute (CSI) *Project Resource Manual* (PRM), including *MasterFormat™*, *SectionFormat™* and *PageFormat™*. A Manu-Spec is a manufacturer-specific proprietary product specification using the proprietary method of specifying applicable to project specifications and master guide specifications. Optional text is indicated by brackets []; delete optional text in final copy of specification. Specifier Notes precede specification text; delete notes in final copy of specification. Trade/brand names with appropriate product model numbers, styles and types are used in Specifier Notes and in the specification text Article titled "Acceptable Material." Metric conversion, where used, is soft metric conversion.

This Manu-Spec specifies fabricated fireproofed steel columns.

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FABRICATED FIREPROOFED STEEL COLUMNS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes: This Section specifies fabricated fireproofed steel columns.

Specifier Note: Revise Paragraph below to suit project requirements. Add section numbers and titles as recommended by CSI MasterFormat and specifiers practice.

- B. Related Requirements:

Specifier Note: Include in this Paragraph only those sections and documents that directly affect the work of this section. 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 Subparagraph below. Do not include Division 00 documents or Division 01 sections since it is assumed that all technical sections are related to all project Division 00 documents and Division 01 sections to some degree. Refer to other documents with caution since referencing them may cause them to be considered part of the Contract.

1. Section [09 91 13 - Exterior Painting].
2. Section [09 91 23 - Interior Painting].
3. Section [09 97 13 - Steel Coatings].
4. Section [].

1.2 REFERENCES

Specifier Note: Define terms that are unique to this Section and are not provided elsewhere in the contract documents. Include in this Article terms that are unique to the work result specified that may not be commonly known in the construction industry. Delete the following Paragraph if no Definitions are required.

- A. Definitions:



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Specifier Note: Paragraph below may be omitted when specifying manufacturer's proprietary products and recommended installation. Retain References Paragraph when specifying products and installation by an industry reference standard. List retained standard(s) referenced in this section alphabetically. Indicate issuing authority name, acronym, standard designation and title. Establish policy for indicating edition date of standard referenced and update as applicable. Contract Conditions Section 01 42 00 - References may be used to establish the edition date of standards. This Paragraph does not require compliance with standard(s). It is a listing of all references used in this section. Only include here standards that are referenced in the body of the specification in PARTS 1, 2 and/or 3. Do not include references to building codes at any level.

B. Reference Standards:

1. American Institute for Steel Construction (AISC).
 - a. AISC 303-[2010], Code of Standard Practice for Steel Buildings and Bridges.
 - b. AISC 325-[2011], Steel Construction Manual.
2. ASTM International (ASTM).==S
 - a. ASTM A36/A36M-[2014], Specification for Structural Steel.
 - b. ASTM A572/A572M - 15 Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel.
 - c. ASTM A992/A992M - 11(2015) Standard Specification for Structural Steel Shapes.
 - d. ASTM E119 Standard Test Methods for Fire Tests of Building Construction and Materials.
 - e. ASTM F3125/F3125M -[2015], Standard Specification for High Strength Structural Bolts, Steel and Alloy Steel, Heat Treated, 120 ksi (830 MPa) and 150 ksi (1040 MPa) Minimum Tensile Strength, Inch and Metric Dimensions.
3. Steel Structures Painting Council (SSPC).
 - a. SSPC PA1-[2016], Shop, Field, and Maintenance Painting of Steel.
 - b. SSPC SP3-[2004], Power Tool Cleaning.
 - c. SSPC SP 6/NACE No. 3, Commercial Blast Cleaning.
 - d. SSPC SP 10/NACE No. 2, Near-White Blast Cleaning.
4. US Green Building Council (USGBC).
 - a. LEED NC Version 2.2-[2014], LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Package For New Construction and Major Renovations.

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 Contract Conditions and Section 01 33 00 - Submittal Procedures.

1.3 SUBMITTALS

- A. Make submittals in accordance with Section [01 33 00 - Submittal Procedures].
- B. Product Data: Manufacturer's standard specifications and descriptive literature, including:
 1. Product characteristics.
 2. Performance criteria.
 3. Material Safety Data Sheets (MSDS).
- C. Shop Drawings: Submit shop drawings showing cross section of columns, configurations, and material thicknesses.
 1. Include base and bearing plates with bolt and bolt hole locations shown.
 2. Outer shells must be called out on the shop drawing showing location and fire rating.

Specifier Note: Specify submittals intended to document manufacturer storage, installation and other instructions.

- D. Manufacturer's written Instructions, including:
 1. Delivery, storage and handling recommendations.
 2. Preparation and installation recommendations.

- E. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.
- F. Certificates: Product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria, and physical requirements.
- G. Manufacturer's Field Reports: Submit manufacturer's field reports within 3 days of each manufacturer representative's site visit and inspection.
- H. Fabricator's Experience: Submit verification of evidence of work similar to work of this Section.
- I. Erector's Experience: Submit verification of evidence of work similar to work of this Section.

Specifier Note: Coordinate Article below with Contract Conditions and with Section 01 78 36 - Warranties.

- J. Warranty: Fully executed, issued in [Owner's] name, and registered with manufacturer, including:
 1. Manufacturer's [1-year] warranty, from date of substantial completion, covering defects in materials.

Specifier Note: Retain the following only if specifying for a LEED project. Specify only the technical submittal requirements necessary to achieve the credits desired for this Project.

- K. Sustainable Design (LEED) Submittals:
 1. LEED Submittals: In accordance with Section [01 35 21 – LEED Requirements].
 2. Submit verification for items when appropriate as follows:
 - a. MR 5 - Regional Materials.
 - b. MR 4 - Recycled Content.
 - c. [].

1.4 QUALITY ASSURANCE

- A. Fabricator: Experienced in performing work similar to that required for this project.
- B. Erector: Experienced in performing work similar to that required for this project.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in accordance with manufacturer's written instructions.
 1. Deliver materials with identification labels intact and product name and manufacturer clearly visible, and in sizes to suit project.
- B. Store materials off ground, clean and dry.
- C. Inspect and contact the manufacturer for compliance for any columns damaged or disfigured during shipping and handling.

1.6 WARRANTY

- A. Project Warranty: Refer to Contract Conditions for project warranty provisions.
- B. Manufacturer's warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official.
 1. Manufacturer's warranty is in addition to and not intended to limit other rights Owner may have under Contract Conditions.

PART 2 PRODUCTS

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



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2.1 MANUFACTURER

- A. Black Rock Fireproof Column Company.
- B. Contact Information: 164 School Street, East Hartford, CT 06108; Phone: (860) 936-3344; Fax: (860) 289-2908; Email: info@blackrockcolumn.com; Website: www.blackrockfireproof.com.

2.2 DESCRIPTION

- A. Fabricated fireproofed steel columns consisting of load-bearing structural-steel members encased in manufacturer's standard insulating material for fire protection and enclosed in an outer non-load-bearing steel shell in configurations specified.

2.3 PERFORMANCE

- A. Structural Steel: To ASTM A36/A36M, ASTM A992, A572-50 and ASTM A572/A572M - 15.
- B. Structural Steel Bolts: To ASTM F3125/F3125M.

2.4 MATERIALS

- A. Steel Flanges and Casings: to AISC 325.

Specifier Note: Retain and edit the following Paragraph to suit project requirements. Contact Black Rock Fireproof Column Co. for column configurations. Custom column configurations are available upon request.

- B. Column Configuration: [Round shell casing with interior round structural column] [Round shell casing with interior H-flange structural column] [Square shell casing with interior H-flange structural column] [Rectangular shell casing with interior H-flange structural column] [Rectangular shell casing with interior rectangular flange structural column].

Specifier Note: Retain and edit the following two Paragraphs to suit project requirements. Contact Black Rock Fireproof Column Co. for standard shell casing sizes and interior column sizes. Custom sizes are available upon request.

1. Shell casing size: [] [As indicated].
2. Interior column size: [] [As indicated]

- C. Insulated Column Fill: Concrete mixture consisting of Portland cement, vermiculite, aggregates and other additives as required.
- D. Fire Resistance UL Rating: [X106 - 2 hour] [X104 - 3 hour] [X101 - 4 hour] [As indicated].

Specifier Note: Retain and edit the following Paragraph. Choose Type OO when a round shell casing with an interior round flange structural column are required; Choose Type OH when a round shell casing with an interior H-flange structural column is required; Choose Type SH when a square shell casing with an interior H-flange structural column is required; Choose Type RH when a rectangular shell casing with an interior H-flange structural column is required; and, choose Type RR when a rectangular shell casing with an interior rectangular flange structural column is required.

- E. Acceptable Material: Black Rock Fireproof Column Co., Type [OO] [OS] [OH] [SH] [RH] [RR].

2.5 FABRICATION

- A. Use only fabricators with training and verifiable experience of work similar to work of this Section.
- B. Design and fabricate fireproofed steel columns to AISC 325.
 1. Include base and bearing plates.
- C. Shop Priming:

Specifier Note: Edit the following Paragraph to meet project requirements.

1. Prime exposed column surfaces except as follows:
 - a. Surfaces embedded in concrete or mortar.

- 1) Extend priming of partially embedded members two inches deep.
- b. Surfaces to be field welded.
- c. Surfaces to be high-strength bolted with slip-critical connections.
- d. Surfaces to receive sprayed-in-place fireproofing.
2. Surface Preparation: Clean surfaces to be painted.
 - a. Remove loose rust, loose mill scale, and spatter, slag, or flux deposits.
 - b. Prepare surfaces to SSPC SP 3.
3. Priming: Apply primer immediately after surface preparation is completed in accordance with manufacturer's written recommendations.
 - 1) Use priming methods that result in full coverage of joints, corners, edges, and exposed surfaces.
 - 2) Application rate: To SSPC PA1 recommendations.
 - 3) Thickness: 1.5 mil minimum.

2.6 ACCESSORIES

Specifier Note: Retain the following Paragraph to suit project requirements.

- A. Structural Steel Bolts: [In accordance with manufacturer's written recommendations] [To ASTM F3125/F3125M.

Specifier Note: Retain the following Paragraph to suit project requirements. If primer is specified another Section, verify the Section number and title before editing the following Paragraph.

- B. Primer: [Fabricator's standard lead-and-chromate free, non-asphalt, rust-inhibiting primer] [In accordance with Section [09 91 13 - Exterior Painting] [09 91 23 - Interior Painting] [09 97 13 - Steel Coatings]].

Specifier Note: Retain the following Paragraph only when the primer is being specified in this Section.

1. Acceptable materials: Black Rock Fireproof Column Co., Standard Primer.

PART 3 EXECUTION

3.1 ERECTOR

- A. Use only erectors with training and verifiable experience of work similar to work of this Section.

3.2 EXAMINATION

- A. Verification of Conditions: Verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for fabricated fireproofed steel columns installation in accordance with manufacturer's written recommendations.
1. Ensure substrate is smooth, sound, clean, dry and free of contaminants and other deleterious materials.
 2. Visually inspect substrate in presence of Architect.
 3. Inform Architect of unacceptable conditions immediately upon discovery.
 4. Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to Starting installation of fabricated fireproofed steel columns implies substrate conditions are acceptable for Work of this Section.

3.3 ERECTION

- A. Do structural steel work to AISC 325.
- B. Set structural steel accurately in locations and to elevations indicated.
- C. Base and Bearing Plates: Clean concrete and masonry bearing surfaces and roughen surfaces prior to setting base and bearing plates.



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1. Clean bottom surface of base and bearing plates.
 2. Maintain erection tolerance of structural steel to AISC 303.
- D. Take care during erection and handling to prevent damage or disfigurement of column's shell casing.
1. Inspect and contact the manufacturer for compliance for any columns damaged or disfigured during erection and handling.
- E. Touch up primer damaged during transportation, handling and erection.
- F. Apply finish [paint] [coating] In accordance with Section [09 91 13 - Exterior Painting] [09 91 23 - Interior Painting] [09 97 13 - Steel Coatings].

3.4 FIELD QUALITY CONTROL

- A. Field Inspection: Coordinate field inspection in accordance with Section [01 45 00 - Quality Control].

Specifier Note: Specify requirements if manufacturers are to provide field quality control with onsite personnel for instruction or supervision of product application, erection, or construction. Manufacturer field reports are included under PART 1, Submittals.

- B. Manufacturer's Services:

Specifier Note: Use the following Paragraphs only when manufacturer's field services are provided and are required to verify the quality of the installed components. Establish the number and duration of periodic site visits required by manufacturer and specify below. Contact Black Rock Fireproof Column Co., to determine any costs associated with Technical Representatives providing manufacturer's field services. Delete if field services are not required.

1. Coordinate manufacturer's services with Section [01 45 00 - Quality Control].

Specifier Note: Delete the following paragraph if no costs are associated with manufacturer's services.

2. Arrange for payment for manufacturer's services.
3. Have manufacturer review work involved in handling, storage and installation of fabricated fireproofed steel columns, and submit written reports in acceptable format to verify compliance of Work with Contract conditions.
4. Manufacturer's Field Services: Provide manufacturer's field services consisting of product use recommendations and periodic site visits for product installation review in accordance with manufacturer's instructions.
 - a. Report any inconsistencies from manufacturer's recommendations immediately to Architect.

Specifier Note: Edit the following Paragraph to meet project requirements. Coordinate site visits with manufacturer or delete the Paragraph and all of its subparagraphs if site visits are not required.

5. Schedule site visits to review work at stages listed:
 - a. After delivery and storage of fabricated fireproofed steel columns, and when preparatory work on which Work of this Section depends is complete, but before application begins.
 - b. During progress of work.
 - c. Upon completion of Work, after cleaning is carried out.
 - d. Obtain reports within three days of review and submit immediately to Architect.

3.5 CLEANING

- A. Perform daily progress cleaning.
1. Leave work area clean at end of each day.
- B. Upon completion, remove surplus materials, rubbish, tools and equipment.
- C. Collect recyclable waste and dispose of in accordance with manufacturer's written recommendations and at appropriate recycling facilities.

Specifier Note: Specify protection methods completed after installation, but prior to acceptance by the owner. Include only statements unique to this Section. Coordinate the following Article with Section 01 76 00 - Protecting Installed Construction.



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3.6 PROTECTION

- A. Protect installed fabricated fireproofed steel columns from damage during construction.
- B. Repair or replace adjacent materials damaged by installation of fabricated fireproofed steel columns.

END OF SECTION