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SECTION 04 22 00 – CONCRETE UNIT MASONRY

COMFORT BLOCK BUILDING SYSTEMS

SPECIFIER NOTE: THESE SPECIFICATIONS WERE CURRENT AT THE TIME OF PUBLICATION BUT ARE SUBJECT TO CHANGE AT ANY TIME WITHOUT NOTICE. PLEASE CONFIRM THE ACCURACY OF THESE SPECIFICATIONS WITH THE MANUFACTURER AND/OR DISTRIBUTOR PRIOR TO CONSTRUCTION OR INSTALLATION.

GUIDE SPECIFICATIONS:

THIS GUIDE SPECIFICATION IS WRITTEN ACCORDING TO THE CONSTRUCTION SPECIFICATIONS INSTITUTE (CSI) FORMATS, INCLUDING MASTERFORMAT®, SECTIONFORMAT™, AND PAGEFORMAT™.

CAREFULLY REVIEW AND EDIT THIS SECTION TO MEET THE REQUIREMENTS OF THE PROJECT, LOCAL BUILDING CODE AND AUTHORITIES HAVING JURISDICTION. COORDINATE THIS SECTION WITH OTHER SPECIFICATION SECTIONS AND DRAWINGS.

DELETE ALL "SPECIFIER NOTES" WHEN EDITING THIS SECTION.

# GENERAL

## CONDITIONS AND REQUIREMENTS

### The General Conditions, Supplementary Conditions, and Division 01 – General Requirements apply.

## SECTION INCLUDES

## Section Includes

### Comfort Block CB-4.

### Comfort Block CB-6.

### Comfort Block CB-8.

### Comfort Block CB-12.

### Comfort Block CB-16.

### Comfort Block EPS Inserts.

## RELATED SECTIONS

### Section 07 10 00 – Dampproofing and Waterproofing.

### Section 09 24 23 – Cement Stucco.

### Section 26 00 00 – Electrical.

### Section 41 36 13.13 – Adhesive Applicators.

## REFERENCES

### American Society for Testing and Materials (ASTM):

### ASTM C55: Standard Specification for Concrete Building Brick.

### ASTM C90: Standard Specification for Loadbearing Concrete Masonry Units.

### ASTM C140: Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units.

### ASTM C1072: Standard Test Methods for Measurement of Masonry Flexural Bond Strength.

### ASTM C1314: Standard Test Method for Compressive Strength of Masonry Prisms.

### ASTM E72: Standard Test Methods of Conducting Strength Tests of Panels for Building Construction.

### ASTM E519: Standard Test Method for Diagonal Tension (Shear) in Masonry Assemblages.

### International Code Council Evaluation Service (ICC-ES):

### ICC-ES AC362: Adhesives for Masonry Construction.

### National Concrete Masonry Association (NCMA):

### NCMA TEK 07-01D: Fire Resistance Ratings of Concrete Masonry Assemblies.

### The Masonry Society (TMS):

### TMS 1430-21: Design and Construction Guidelines for Dry-Stack Concrete Masonry.

## SUBMITTALS

### Product Data:

### Submit the manufacturer's printed product literature, specifications, and datasheet for each type of product indicated including inserts, blocks, adhesives, and accessories.

### LEED submittals including Environmental Product Declarations (EPDs).

### Physical samples for verification of each type of product.

### Masonry unit shop drawings.

## QUALITY ASSURANCE

### Qualifications:

### Manufacturer:

### The manufacturer shall be a certified and approved manufacturer of the Comfort Block System.

### Builder:

### Builder shall obtain masonry units, adhesive, and related products from a single supplier.

### Mock-Ups: The builder shall construction panel mock-ups for review and approval by the Architect.

## STORAGE AND HANDLING

### Blocks must be on a clean and stable pallet that is secured with banding or stretch wrap.

### Where required, use top sheeting to prevent snow and ice.

### Ensure blocks are free from ice and the temperature is above freezing before proceeding with assembly.

### Adhesive must be stored between 40 and 110 degrees Fahrenheit (5 to 43 degrees Celsius).

## WARRANTY

### Manufacturer’s Warranty: Provide the manufacturer’s standard limited warranty in effect at the date of purchase.

# PRODUCTS

## MANUFACTURERS

### Specified Manufacturer: Comfort Block, Sanford, Maine. Telephone: 207-324-3250. Email: [info@comfortblock.com](mailto:info@comfortblock.com). Web: www.comfortblock.com.

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SPECIFIER NOTES: DELETE ONE OF THE FOLLOWING TWO PARAGRAPHS.

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### Substitutions: Not Permitted.

### Requests for approved substitutions will be considered in accordance with provisions specified in Section 01 62 00 – Product Options.

## DESCRIPTION OF COMFORT BLOCK BUILDING SYSTEMS

### Comfort Block Building Systems Description: Designed to replace a standard concrete block and mortar system, Comfort Block is a precision-ground block system assembled with masonry adhesive, eliminating the need for mortar. The Comfort Block building system is available in five depth sizes with the CB-12 and CB-16 systems containing integrated insulation for enhanced thermal performance. Integrated electrical channels make it easy to install the electrical system after construction. No furring or drywall is needed as the wall can be covered with a plaster or sand / cement finish. Exterior finishing options include EIFS, stucco, plaster, thin veneer, strapping, siding, and more. This modernized building system makes it quick and easy to build durable homes, commercial buildings, garages, sheds, outdoor kitchens, free-standing walls and more with less labor and less waste of materials. Comfort Block structures are extremely durable, healthy, safe, and efficient and will last for generations with little to no maintenance. For more information on Comfort Block visit www.comfortblock.com.

### Sustainability Characteristics:

#### Low Carbon Concrete: G-mix® is a formula used by Genest Concrete to manufacture Comfort Block systems. G-mix® is a low carbon formula that uses up to 55% recycled content and half of the cement traditionally used to produce concrete blocks. The environmental impact of G-mix® has been third-party tested and ASTM verified. The Global Warming Potential of Comfort Block products is among the lowest in the industry. The carbon footprint of a normal weight CB-8 s over 62 percent lower than the industry average for concrete masonry units.

#### Authorized Comfort Block manufacturers using their own low-carbon methods that have been approved by Comfort Block can be substituted for Comfort Block manufactured by Genest Concrete.

#### Environmental product declarations via ASTM C90 are available by request from the manufacturer, or can be downloaded from ASTM.org.

## COMFORT BLOCK PERFORMANCE AND DESIGN CRITERIA

### Design Criteria:

#### Minimum wind resistance: 120 miles per hour (193 kilometers per hour).

#### Fire Resistance Rated in accordance with TMS 1430, NCMA TEK 07-01D, ASTM C140, and ICC-ES AC362 when coated on both sides.

### Benefits:

#### Interlocking sides.

#### Manufactured to a precise height.

#### Minimal construction waste.

#### Low maintenance costs.

#### Resists rot, mold, and mildew.

#### Non-Combustible.

#### Thermal mass for comfort.

#### Reduced need for water on the job site.

#### No need to store mortar and sand on site.

#### Mixing mortar is practically eliminated.

#### Less construction set up and cleanup.

#### Blocks can go from the pallet onto the wall with no stocking required near the mason.

#### Basecoat, grout, and finishes can be applied the same day as wall construction.

### Performance Criteria:

#### Strength Testing and Assessed Properties: As assessed with CB-8.

#### Compressive Strength: Shall conform to ASTM C1314.

#### Flexural Strength: Shall conform to ASTM C1072.

#### Out-of-Plane Traverse Loading: Shall conform to ASTM E72.

#### Shear Stress: Shall conform to ASTM E519.

#### Thermal Performance: Products must have been tested for thermal performance with expanded polystyrene inserts for heat transfer.

## COMFORT BLOCK MATERIALS

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SPECIFIER NOTES: COMFORT BLOCK OPTIONS ARE BELOW. DELETE OPTIONS NOT REQUIRED FOR THIS PROJECT.

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### Comfort Block CB-4:

#### Thickness: 4 inches (10.2 centimetres).

#### Blocks: CB-4

#### CB-4 Stretcher:

#### Width: 4 inches (10.2 centimetres).

#### Height: 8 inches (20.3 centimetres).

#### Length: 16 inches (40.6 centimetres).

#### Weight: 28.7 pounds (13 kilograms).

#### CB-4 Half:

#### Width: 4 inches (10.2 centimetres).

#### Height: 8 inches (20.3 centimetres).

#### Length: 8 inches (20.3 centimetres).

#### Weight: 14.8 pounds (6.7 kilograms).

#### Applications: Any application where a standard 4 inch concrete masonry unit can be used.

#### Fire Resistance:

#### Equivalent Thickness Value: 2.90 inches (7.4 centimeters).

#### Fire Resistance Rating determined in accordance with TMS 1430-21 and NCMA TEK 07-01D: 1-hour.

### Comfort Block CB-6:

#### Thickness: 6 inches (15.2 centimetres).

#### Blocks: CB-6

#### CB-6 Stretcher:

#### Width: 6 inches (15.2 centimetres).

#### Height: 8 inches (20.3 centimetres).

#### Length: 12 inches (30.5 centimetres).

#### Weight: 29.2 pounds (13.2 kilograms).

#### CB-6 Half:

#### Width: 6 inches (15.2 centimetres).

#### Height: 8 inches (20.3 centimetres).

#### Length: 6 inches (15.2 centimetres).

#### Weight: 13.7 pounds (6.2 kilograms).

#### Utility Channel: Built-in utility channel for installation of electrical boxes after construction.

#### Applications: Any application where a standard 6 inch concrete masonry unit can be used.

#### Fire Resistance:

#### Equivalent Thickness Value: 3.90 inches (9.9 centimeters).

#### Fire Resistance Rating determined in accordance with TMS 1430-21 and NCMA TEK 07-01D: 1-hour for a normal weight mix to 2-hour fire resistance rating for a lightweight mix.

### Comfort Block CB-8:

#### Thickness: 8 inches (20.3 centimetres).

#### Blocks: CB-8

#### CB-6 Stretcher:

#### Width: 8 inches (20.3 centimetres).

#### Height: 8 inches (20.3 centimetres).

#### Length: 16 inches (40.6 centimetres).

#### Weight: 44.3 pounds (20.1 kilograms).

#### CB-8 Half:

#### Width: 8 inches (20.3 centimetres).

#### Height: 8 inches (20.3 centimetres).

#### Length: 8 inches (20.3 centimetres).

#### Weight: 23.6 pounds (10.7 kilograms).

#### Utility Channel: Built-in utility channel for installation of electrical boxes after construction.

#### Applications: Any application where a standard 8 inch concrete masonry unit can be used.

#### Fire Resistance:

#### Equivalent Thickness Value: 4.73 inches (12 centimeters).

#### Fire Resistance Rating determined in accordance with TMS 1430-21 and NCMA TEK 07-01D: 2-hour.

### Comfort Block CB-12:

#### Thickness: 12 inches (30.5 centimetres).

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SPECIFIER NOTES: DELETE OPTIONAL INSULATION IF NOT REQUIRED FOR THIS PROJECT.

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#### Optional Insulation: One layer of expanded polystyrene insulation inserts.

#### Blocks: CB-12

#### CB-12 Stretcher:

#### Width: 12 inches (30.5 centimetres).

#### Height: 8 inches (20.3 centimetres).

#### Length: 12 inches (30.5 centimetres).

#### Weight: 49 pounds (22.2 kilograms).

#### CB-12 Half:

#### Width: 6 inches (15.2 centimetres).

#### Height: 8 inches (20.3 centimetres).

#### Length: 12 inches (30.5 centimetres).

#### Weight: 25.6 pounds (11.6 kilograms).

#### Utility Channel: Built-in utility channel for installation of electrical boxes after construction.

#### Applications: Any application where a standard 12 inch concrete masonry unit can be used.

#### Fire Resistance:

#### Equivalent Thickness Value: 8.03 inches (20.4 centimeters).

#### Fire Resistance Rating determined in accordance with TMS 1430-21 and NCMA TEK 07-01D: 4-hour.

### Comfort Block CB-16:

#### Thickness: 16 inches (40.6 centimetres).

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SPECIFIER NOTES: DELETE OPTIONAL INSULATION IF NOT REQUIRED FOR THIS PROJECT.

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#### Optional Insulation: Three layers of expanded polystyrene insulation inserts.

#### Blocks: CB-16

#### CB-16 Stretcher:

#### Width: 16 inches (40.6 centimetres).

#### Height: 8 inches (20.3 centimetres).

#### Length: 12 inches (30.5 centimetres).

#### Weight 54.8 pounds (24.9 kilograms).

#### CB-16 Full Jamb:

#### Width: 16 inches (40.6 centimetres).

#### Height: 8 inches (20.3 centimetres).

#### Length: 12 inches (30.5 centimetres).

#### Weight: 57.9 pounds (26.3 kilograms).

#### CB-16 Half Jamb:

#### Width: 16 inches (40.6 centimetres).

#### Height: 8 inches (20.3 centimetres).

#### Length: 6 inches (15.2 centimetres).

#### Weight: 31.3 pounds (14.2 kilograms).

#### CB-16 Corner:

#### Width: 16 inches (40.6 centimetres).

#### Height: 8 inches (20.3 centimetres).

#### Length: 10 inches (25.4 centimetres).

#### Weight: 37.3 pounds (16.9 kilograms).

#### CB-16 Spacer:

#### Width: 16 inches (40.6 centimetres).

#### Height: 8 inches (20.3 centimetres).

#### Length: 2 inches (5.1 centimetres).

#### Weight 15.9 pounds (7.2 kilograms).

#### Utility Channel: Built-in utility channel for installation of electrical boxes after construction.

#### Applications: Primarily used for exterior wall construction where insulation is required.

#### Fire Resistance:

#### Equivalent Thickness Value: 8.99 inches (22.8 centimeters).

#### Fire Resistance Rating determined in accordance with TMS 1430-21 and NCMA TEK 07-01D: 4-hour.

### Comfort Block EPS Inserts:

#### Description: Optional expanded polystyrene inserts for added insulation in cooler climates.

#### Available for Comfort Block CB-12 and CB-16.

## COMFORT BLOCK ACCESSORIES

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SPECIFIER NOTES: DELETE ACCESSORY OR ADHESIVE OPTION NOT REQUIRED FOR THIS PROJECT. ADHESIVE OPTION INDICATED WITH SQUARE BRACKETS.

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### Masonry Adhesive: [Comfort Block Adhesive] or [TREMPRO® PU1000 from TREMCO Product Group].

#### Approved Adhesive: Approved under ICC-ES AC362 as an alternative to mortar exclusive to Comfort Block systems.

### Kangaroo Can Holder: For use with adhesive gun.

### Mortar Leveling Kit: To assist with installation of the base course only.

### Concrete Lintel System.

### Finishes: The Comfort Block wall system must have a finish on the outside to ensure the wall remains weather and airtight. Examples of finishes are cement stucco, thin stone veneer, external insulation systems, architectural finishes such as Parex, and cement-based or gypsum-based plaster finishes for the interior.

# EXECUTION

## EXAMINATION

### Examine Project conditions and completed Work and verify that the area is ready to receive work

### Immediately correct all deficiencies and conditions which would cause improper execution of Work specified in this Section and subsequent Work.

### Proceeding with Work specified in this Section shall be interpreted to mean that all conditions were determined to be acceptable prior to start of Work.

## INSTALLATION

### Comfort Block wall assemblies must be entirely coated on both sides to weatherize the wall system and achieve the appropriate fire rating based on TMP 1430-21 and NCMA TEK 07-01D.

### Adhere to the recommendations and instructions of the manufacturer for installation of Comfort Block System regarding installation, requirements for layout, base preparation, adhesive application, block cutting, grouting, utility installation, application of finishes, and all aspects of Comfort Block installation.

### Adhere to Comfort Block Systems installation recommendations of the Authorities Having Jurisdiction.

### Refer to the manufacturer’s instructions for required tools, materials, estimating procedures, and jobsite preparation.

### Adhere to local protocols and Authorities Having Jurisdiction before digging.

END OF SECTION