High Performance Buildings

OneStep Construction

ONE **PRODUCT** **ONE** **TRADE** **ONE** **STEP**

OneStep
Building System

Park at 201
Iowa City, IA

What is the OneStep Building System?

The OneStep Building System combines the **beauty** of masonry, the **strength** of reinforced concrete and the **energy efficiency** of polystyrene insulation into a singular building product, which dramatically simplifies the construction process and reduces the environmental impact of high performance buildings.

The patented OneStep Building System has been designed and engineered to offer the best performance characteristics of any singular building product available on the market. Although the OneStep Building System may look like a standard concrete block or brick wall on the outside (and are laid up by masons using regular mortar and standard masonry installation techniques), the webs and cells of a typical block have been replaced by internal plastic connectors and a rigid insulation insert.

The unique block design creates a concrete cavity to the interior side of the unit, and forms an insulation blanket and air-space to the exterior side of the unit. It incorporates **high R-values**, eliminates thermal bridging and adds the benefits of **thermal mass** - all of which combine to significantly reduce heating and cooling costs. The block also includes a five-layer moisture blocking system, designed to prevent water leakage, condensation and black mold. It's unique design allows for limitless combinations of exterior and interior colors and finishes.
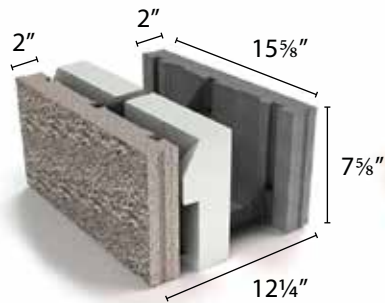
The OneStep Building System **installs quickly** and eliminates many of the products and trades required to complete buildings of traditional design, making it more economical and a STEP ahead of most other wall systems.

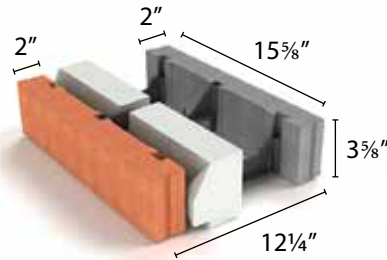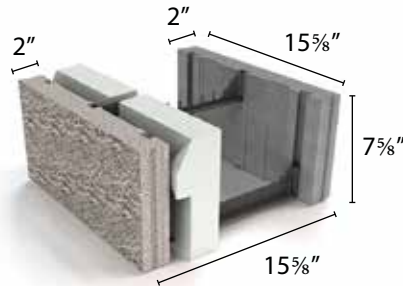Eagan Hills Church & School
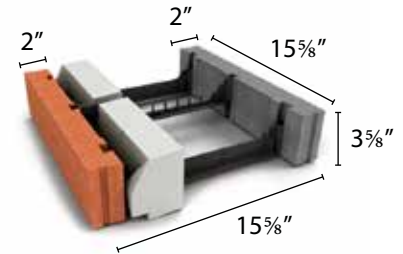Eagan, MN

The OneStep Lineup

| 12" Full Height Unit | 12" Half Height Unit | 16" Full Height Unit | 16" Half Height Unit |

2" · 2" · 15⅝" · 7⅝" · 12¼"

2" · 2" · 15⅝" · 3⅝" · 12¼"
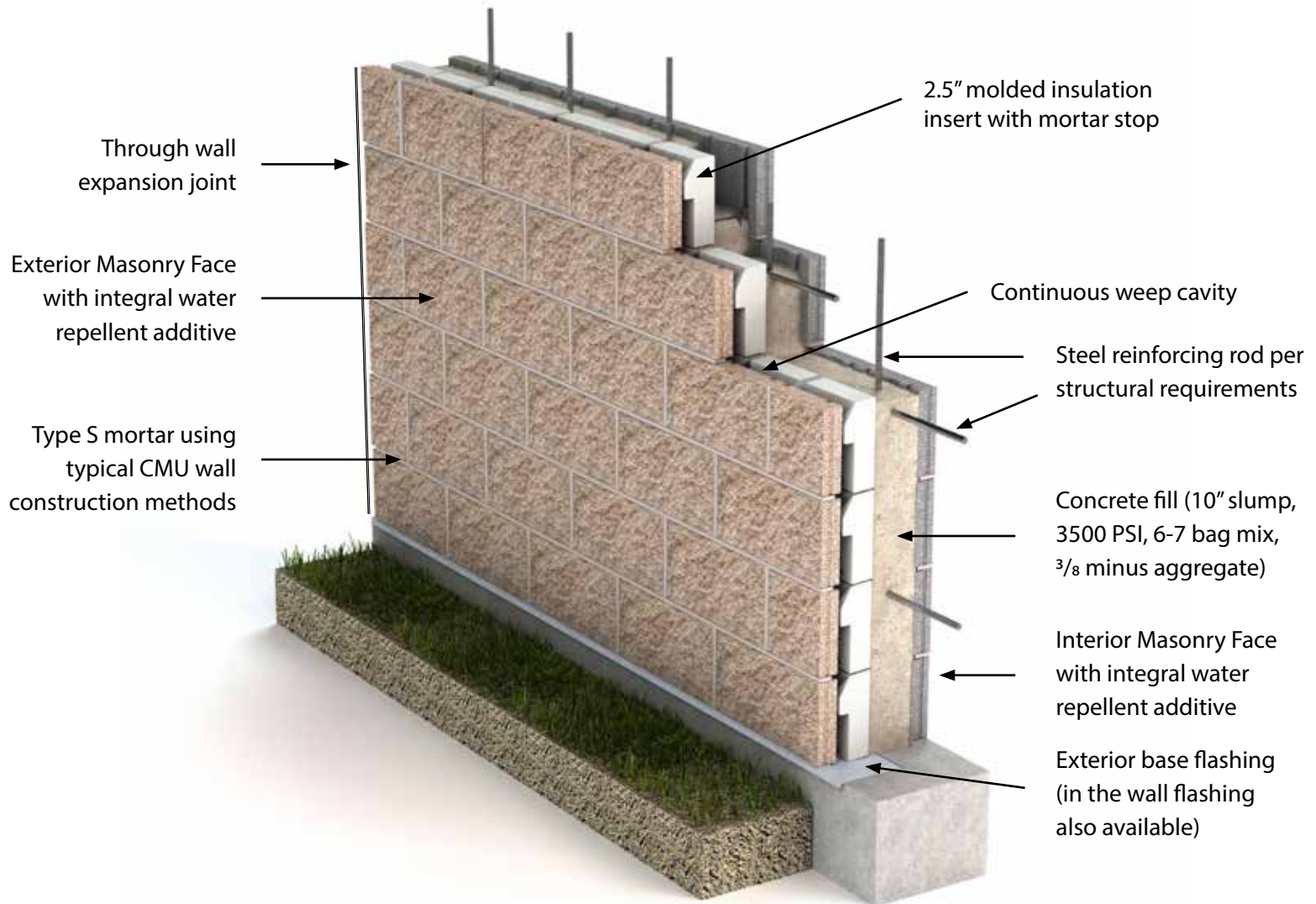
2" · 2" · 15⅝" · 7⅝" · 15⅝"
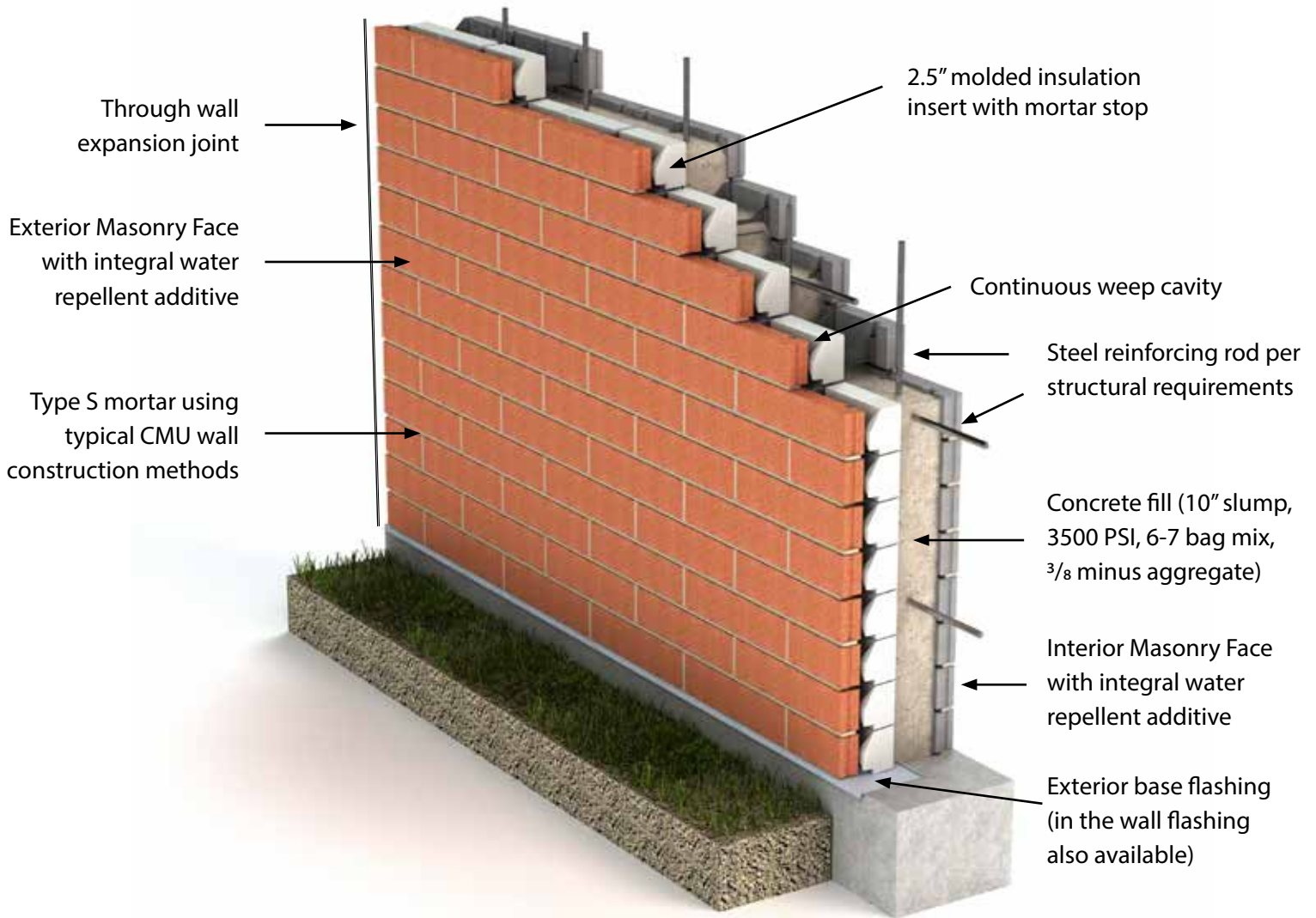
2" · 2" · 15⅝" · 3⅝" · 15⅝"

Benefits

- **Safety** – Strength of reinforced cast in place concrete, four hour fire rating, withstands extreme wind loads, **very high** bullet & blast resistance.

- **Moisture Resistance** – Eliminates black mold potential, reduced efflorescence, no condensation.

- **Energy Efficiency** – High Static R-values & dense thermal mass create R-22 to R-40 equivalency and reduced energy costs. Unique design creates total thermal break.

- **Superior Sustainability** – Simplicity of design saves natural resources, human resources, transportation & energy costs. Results are quiet buildings, improved air quality, a safe environment and life cycle savings.

- **Design Flexibility** – Multiple colors, textures, and patterns available in assorted masonry faces.

- **Strength** – A 12 inch OneStep wall can support over 300,000 pound per LF.

- **Value** – Fewer products, trades, and steps result in lower construction costs.

- **Mason Friendly** – Lighter weight, ergonomically designed units, which can lead to increased productivity with less lost time due to back and hand injuries (a 12" OneStep unit is 33% lighter than a standard 12" CMU).

- **LEED Buildings** – Meets numerous LEED qualifications at no additional cost to the building owner.

12" Full Height OneStep Wall Assembly

Through wall expansion joint

Exterior Masonry Face with integral water repellent additive

Type S mortar using typical CMU wall construction methods

2.5" molded insulation insert with mortar stop

Continuous weep cavity

Steel reinforcing rod per structural requirements

Concrete fill (10" slump, 3500 PSI, 6-7 bag mix, ³/₈ minus aggregate)

Interior Masonry Face with integral water repellent additive

Exterior base flashing (in the wall flashing also available)

12" Half Height OneStep Wall Assembly

Through wall expansion joint

Exterior Masonry Face with integral water repellent additive

Type S mortar using typical CMU wall construction methods

2.5" molded insulation insert with mortar stop

Continuous weep cavity

Steel reinforcing rod per structural requirements

Concrete fill (10" slump, 3500 PSI, 6-7 bag mix, ³/₈ minus aggregate)

Interior Masonry Face with integral water repellent additive

Exterior base flashing (in the wall flashing also available)

Features

- Holistic system design creates a high performance wall that has a finished exterior *and* interior masonry veneer that is architecturally and structurally complete when the mason removes his scaffolding…
One Product, One Trade, OneStep

- Over 7" of solid concrete creates a four hour fire wall

- Cast in place reinforced concrete creates one of the strongest masonry envelopes available

- Patented connector and insulation system effectively eliminates thermal bridging through the wall

- Thermal efficiency achieved through a combination of 105 lbs of thermal mass per sq ft, a continuous rigid insulation blanket, a continuous weep cavity, and a 2" outer shell

- Built in weep cavity system with mortar stop spacers in every unit preventing clogged weep cavities

- Five layer moisture blocking system designed to prevent water penetration, condensation and black mold

- Durable masonry surfaces for both interior and exterior surfaces in multiple sizes, colors, and textures

- Normal compatibility with traditional construction products

**NTSB Building
Washington, DC**

**Waste Water Treatment Plant
Seattle, WA**

**SDSU Caldwell Hall
Brookings, SD**

**Merrill Fire Station
Merrill, WI**

**Oak Bend Office
St Louis, MO**

Construction

The unique internal design of the OneStep Building System creates a concrete cavity to the interior side of the unit and forms an insulation blanket and air-space to the exterior side of the unit. The design incorporates high R-values, eliminates thermal bridging and adds the benefits of thermal mass - all of which, when combined, significantly reduce heating and cooling costs. The OneStep Building System also includes a five-layer moisture blocking system, designed to prevent water leakage, condensation and black mold. It's unique design allows for limitless combinations of exterior and interior colors and finishes.

The OneStep Building System installs quickly and eliminates many of the products and trades required to complete buildings of traditional design, making it more economical and a STEP ahead of most other wall systems.

Simplified Installation

- Two-thirds the weight of a standard 12" block
- Specially designed ergonomic handle with built-in rebar chairs
- Increased productivity due to lighter weight units
- Center handle dovetail used as guide to maintain bond

Product Information

Unit Weight

- Approximately 34 lbs per 8" full height unit
- Approximately 16 lbs per 4" half height unit

Concrete Fill

- 1 yd concrete: **69** units of 12 x 8 x 16 or 61.7 sq ft of wall
  42 units of 16 x 8 x 16 or 37.3 sq ft of wall
- Concrete is a 10" slump, 3/8 minus aggregate, 6-7 cement bag mix per yard, 3,000 psi minimum

Special Units

- Half, L-Corner and Jamb blocks are standard available shapes; "cuttable" utility units are also available for on-site cutting

Finish Options

- OneStep units are available in most standard masonry colors, textures and shapes

Please contact your local OneStep sales representative for selection kits and sample units

OneStep Building System

www.onestepbuildingsystem.com

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