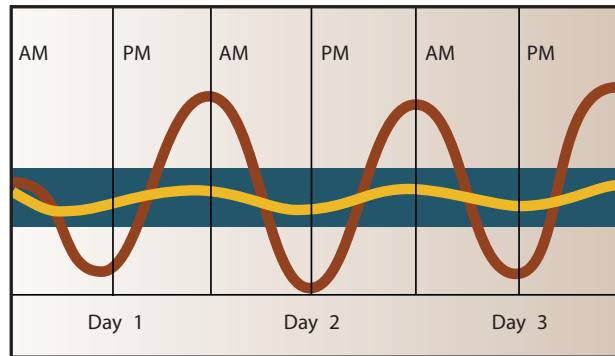


**Thermal Mass Effect can double material R-Value**

Concrete has the ability to store energy and dampen the effect of temperature change on heating and cooling systems, this is known as "Thermal Mass Effect."

**Thermal Mass Effect Can Double Material R-Value**

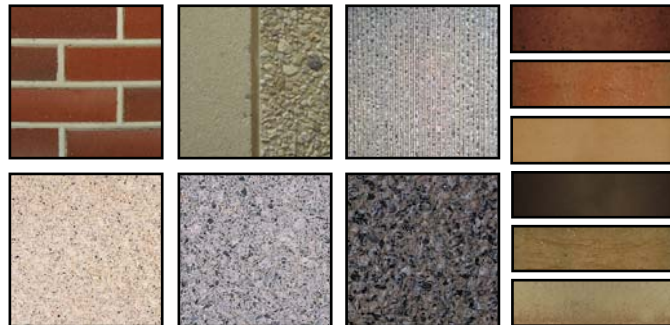


- Target Operating Temperature
- High Performance Building
- Conventional Insulated Building

**Metromont** gets involved early in the planning stage with the architect and owner which allows you to take advantage of our comprehensive expertise in designing shapes, connections, textures and finishes.

**Architectural Finishes:**

- Thin Brick
- Reveals
- Formliner
- Sandblasting or Retarders
- Special Aggregates
- Gray, White, or Pigmented Cements



Cover photo: University Commons Student Housing at Georgia State University-Atlanta, GA



**Nordstrom**  
 Callison Architecture, Inc. – Architect  
 Winter Construction – Contractor  
 Coffman Engineers – Engineer

Thermal Efficiency:		Precast Sandwich Wall Panels vs. Steel Stud Framing	
Wall System	Insulation R-Value (insulation only)	Effective R-Value (steady state)	Effective R-Value <sup>4</sup> %
7" Sandwich Wall Panel	R-7.20	R-8.97	125%
8" Sandwich Wall Panel	R-12.00	R-13.53	113%
9" Sandwich Wall Panel	R-16.36	R-17.81	109%
10" Sandwich Wall Panel	R-20.50	R-21.98	107%
6" Steel Stud at 16" O.C.	R-19	R-7.1	37%
6" Steel Stud at 16" O.C.	R-21	R-7.4	35%
8" Steel Stud at 16" O.C.	R-25	R-7.8	31%

- Notes:
1. Sandwich wall panel insulation R-values are for expanded polystyrene
  2. Sandwich wall panel effective R-values include concrete wythes
  3. Steel stud framing wall R-values and effective R-values are from ANSI/ASHRAE/IESNA Standard 90.1-2001, Table A-21
  4. Effective R-Value % = Effective R-Value/Insulation R-Value

**THERMAL EFFICIENT SANDWICH WALL PANELS**



CarbonCast® High Performance Sandwich Wall Panels deliver all the benefits of factory precasting with unprecedented thermal efficiency in a fully structural composite panel.

The thermal efficient mass wall system is comprised of two precast concrete wythes separated by continuous foam insulation (CI). The mass wall system can be designed to meet or exceed the ASHRAE® Energy Standard for the building envelope requirement in the various climate zones.

In addition to thermal efficiency, the durable, low maintenance wall system can incorporate an interior paint ready finish. High-end exterior architectural finishes are available, including brick, sandblasting, formliners and/or custom color concrete mix designs that emulate granite or limestone.

**End-Use Applications:**

- Schools
- Office Buildings
- Big Box Retail
- Healthcare Facilities
- Grocery Stores
- Warehouse and Distribution
- Refrigerated Storage
- Correctional Facilities
- Manufacturing Plants
- Data Centers
- Condominiums
- Dormitories



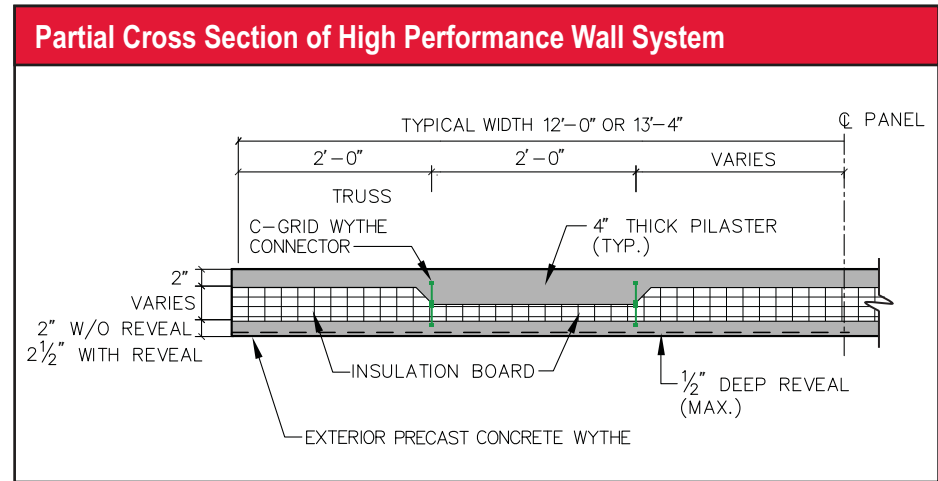
**Office Depot**  
 RBA Group – Architect  
 S2 Construction Co. – Contractor  
 Hunter Structural, P.A. – Engineer

**CarbonCast High Performance Sandwich Wall Panels provide:**

- Cost and energy savings
- Aesthetic freedom with architectural finishes
- Inherent fire resistance
- Low maintenance
- Fast occupancy
- Sustainable design – contributes towards earning LEED® points
- Potential reduction in HVAC equipment cost

**Benefits of C-GRID:**

- Energy efficient
- Steady state insulation values from R-8 to R-30
- Low conductivity C-GRID™ wythe connector greatly improves thermal performance
- Non-corrosive C-GRID provides a 100% structurally composite panel with load bearing capabilities
- Stronger than other connectors – over five times the tensile strength of steel reinforcing



**Woodmont High School**  
 Craig Gauden Davis and Perkins + Will – Architect  
 Institutional Resources, LLC. – Program Manager  
 Winter Construction – Contractor  
 Michael M. Simpson & Associates, Inc. – Engineer



**Budweiser of Greenville**  
 Roebuck Buildings Company – Architect  
 Roebuck Buildings Company – Contractor  
 Cary Engineering – Engineer



**Dorm room - design integrates thermal efficient, durable concrete wall system with painted finish**



**Four level, total precast student dormitory with a capacity of 120 beds**



**Media Center - 12' wide wall panels designed to create a segmented radius**