

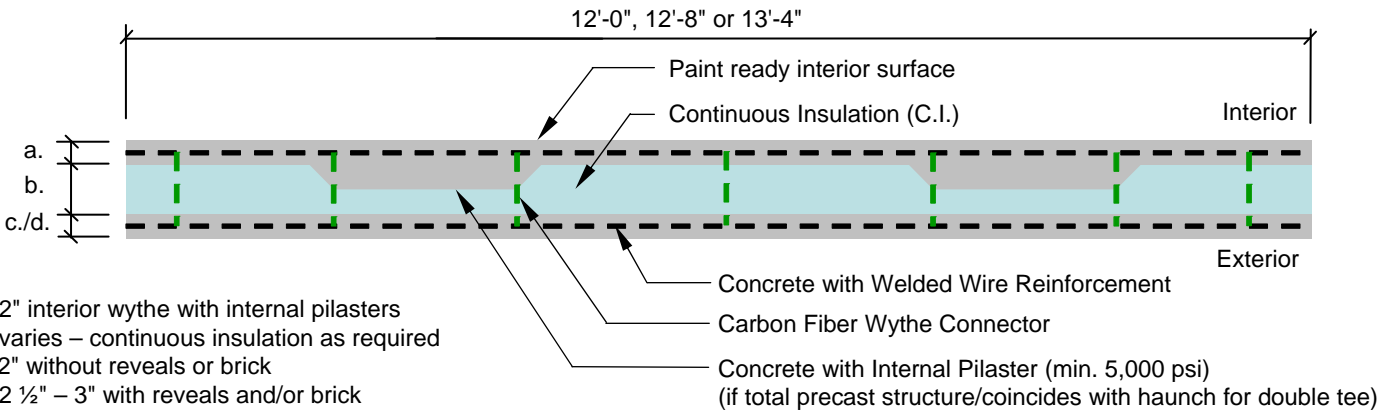
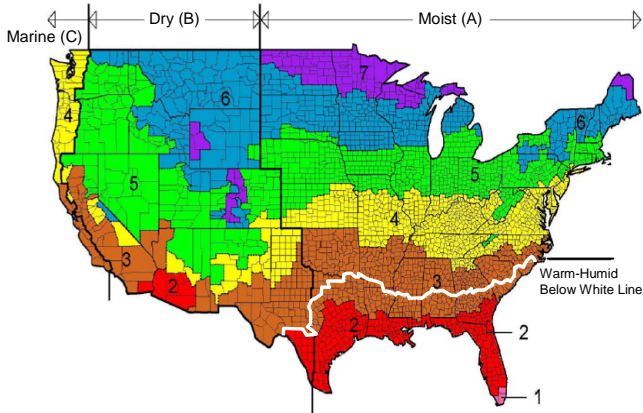
ENERGY & ATMOSPHERE: THERMAL EFFICIENT PRECAST WALL SYSTEM THERMAL IMAGING - TWIN RIVERS MIDDLE SCHOOL

The ASHRAE Energy Standard provides minimum requirements for the energy efficient design of buildings. To support our innovation and advancement of building systems, a thermal imaging survey was conducted by Atlantic Southeast Infrared on the Twin Rivers Middle School in Gwinnett County Georgia (see images on back). The project specified a thermal efficient precast concrete mass wall system with integral architectural finishes and continuous insulation.

Calculations by infrared imaging found an R-14 value for the wall system. This value exceeds the ASHRAE 90.1-2007 Energy Standard for non-residential above grade mass walls in Zones 1 to 6. The results show that the thermal efficient precast/prestressed concrete mass wall system has "excellent and uniform thermal characteristics."

The system is made possible with the utilization of CarbonCast® technology and C-Grid®. The low conductive C-Grid connects the inside concrete wythe to the outside concrete wythe, reducing thermal bridging, while providing a structurally composite panel with load bearing capabilities.

Below is a typical section of a high performance precast concrete mass wall panel with continuous insulation.



Section - High Performance, Structurally Composite Precast Wall Panel

THERMAL IMAGING - TWIN RIVERS MIDDLE SCHOOL

TWIN RIVERS MIDDLE SCHOOL

Gwinnett County - Buford, GA

ARCHITECT:

Cunningham, Forehand, Matthews & Moore, Architects, Inc. - Atlanta, GA

ENGINEER:

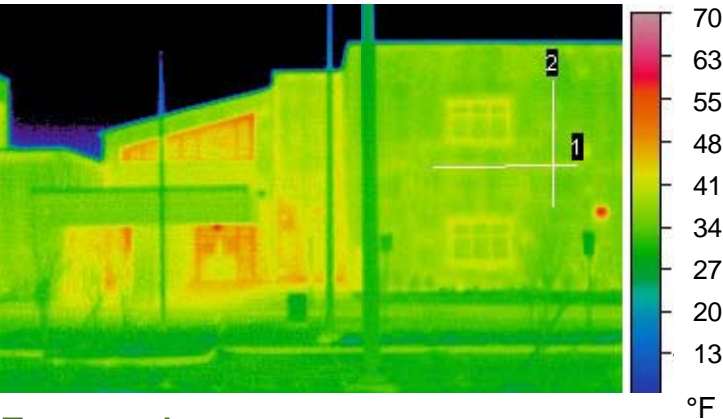
Pruitt Eberly Stone Structural Engineers - Atlanta, GA

CONTRACTOR:

Saliba Construction - Buford, GA

PROJECT DETAILS

- Total precast concrete building envelope and shell
- Thermal efficient precast concrete mass walls with continuous insulation and integral architectural finishes, including cast-in brick, reveals, sandblasting, pigmented concrete and interior walls with a trowel finish ready to paint
- Structural system includes: double tee floor/roof system and precast column/beam lines with concrete block demising walls
- Precast erected in three months
- 238,000 square feet
- Total project building cost: \$97.40 per sq. ft.



THERMAL IMAGING

The building envelope utilizes a thermal efficient precast concrete mass wall system with continuous insulation. Calculations by infrared imaging found the system to be an R-14.



The precast concrete wall system has "excellent and uniform thermal characteristics."

Jerry Wilkinson - Atlantic Southeast Infrared



Three story classroom wing - zero site waste and minimal site disturbance



Column/beam line with CMU demising wall



Precast accommodates daylighting



View across four classrooms - ready for other trades to begin work

