



FLORIDA SOLAR ENERGY CENTER

Energy Efficient Portable Classroom at
Shingle Creek Elementary School, Orlando, FL

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Contact

David Terry
Exec Director
ASERTTI
1615 M Street,
Suite 900
Washington, DC
20039
202.558.6096

Robin Viera
FSEC
(321) 638-1404

The Challenge

Portable classrooms have become a common and acceptable low-cost solution for school districts dealing with shrinking school budgets and expanding enrollments. In many instances, this short-term fix often becomes a permanent classroom. While initial costs of portable classrooms are low, their on-going operating costs are high. Portable classrooms usually have minimal insulation. Other major problems with portables include poor indoor air quality, inadequate natural light, and an unstable room temperature.

Technology Demonstration

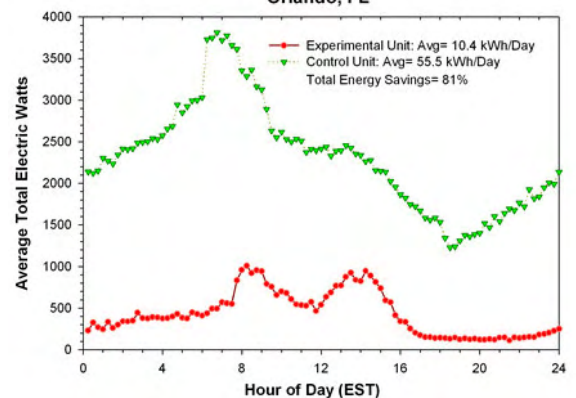
Standard baseline and energy efficient portable classrooms were monitored and evaluated at Chapel Hill Middle School in Chapel Hill, North Carolina. The improved modular built classroom, Performance Enhanced Relocatable Classroom-PERC) was tested to determine the benefits of enhanced system and construction practices of relocatable classrooms in a hot/humid climate.

The FL PERC, built by Resun Leasing and South East Modular, was sited in September 2003. Dimensionally, it is a 24'x0" x 36'-0" classroom with a bathroom totaling 864 sq. ft. The PERC was located 16 ft. south of the control unit. Each classroom was occupied during testing. Energy performance data was downloaded daily to FSEC via modem.

Project Results

- 65% overall energy savings
- 45.1 kWh/day) HVAC savings
- Enhanced natural lighting
- Improved indoor air quality

Total Electric Energy Demand Profile
November 1, 2003- May 12, 2004
Experimental vs. Control Portable Classrooms
Orlando, FL



Shingle Creek Elementary School (Performance Enhanced Relocatable Classroom)

May 2006