Multi-Residential

Houghton Place Apartments

The SolarWall® solar air heating system is located on the penthouse of Houghton Place Apartments

Close up of the SolarWall® system installed on the penthouse mechanical room

Background

Cambridge, Massachusetts is known for its long cold winters, typically clocking about 5,700 heating degree days. This is an ideal climate for SolarWall air heating systems, which typically displace between 20-50% of the conventional heating load. When the new Houghton Place Apartments was built, comprised of sixty five luxury apartments in central Cambridge, the SolarWall technology was specified to heat the ventilation air required in different parts of the building.

Solution

A dark bronze SolarWall system measuring 840ft^2 was installed on the penthouse of Houghton Place Apartments. The solar system is connected to the 5,000 cfm fresh air intake and used to preheat ventilation air for the common areas of the building. Penthouse walls are ideal for installing a SolarWall system, since they are adjacent to intake fans, which makes the connection to the building's mechanical system very easy.

Results

The building owner was entitled to a 10% Investment Tax Credit, and 5.5 year accelerated depreciation credit for the solar air heating system. Direct energy savings amount to $1,500 per year (at 1999 prices).

The environmental benefits of the solar heating system included a reduction in GHG emissions and an improvement in indoor air quality and comfort level throughout the building.

Full south view of the SolarWall® system

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