

PROJECT PROFILE

THE COPPER PASS APARTMENTS, A CERTIFIED PASSIVE HOUSE
RMAX THERMABASE-CI™



PROJECT DESCRIPTION

Copper Pass Apartments is the first multi-family structure in South Dakota. This 30-unit apartment building, located in eastern Sioux Falls, was designed and constructed to achieve Passive House certification by following strict energy-efficient standards.

Passive House Institute of the United States is a standard for energy efficiency in a building, which reduces the building's ecological footprint. It results in ultra-low energy buildings that require little energy for space heating or cooling.

One of the five principles of achieving Passive House design is creating an air-tight construction. With this goal in mind, the developer, Costello Companies used 3" Rmax ThermaBase-CI™ continuous insulation to achieve the strict Passive House minimum R-Value of 38 instead of the Sioux Falls code minimum of R-21 for walls.

To ensure the building was air-tight, a whole-building blower door test was performed. To achieve Passive House certification, Copper Pass, at 33,108 square feet, needed a CFM (cubic feet per minute) exchange rate of about 1,800 CFM or lower. A typical 1,200 square foot house built to code averages 1,600 CFM. The final test concluded Copper Pass building far exceeded that with 1,036 CFM.





WHY RMAX THERMABASE-CI™

ThermaBase-CI™ is an energy-efficient thermal insulation board composed of a closed-cell polyisocyanurate (polyiso) foam insulation layer bonded to a nailing surface. ThermaBase-CI™ can be manufactured with Rmax Thermasheath® or Rmax Durasheath® as the insulation layer. Thermasheath® has reinforced aluminum facers on both sides, and Durasheath® has inorganic polymer coated glass fiber mat facers on both sides.

ThermaBase-CI™ is installed continuously to reduce thermal bridging and meets R-value requirements with a thinner profile. It provides a direct impact on savings throughout the life of the building and is an excellent choice for exterior wall design.

ARCHITECT

VanDeWalle Architects

www.vandewallearchitects.com

DEVELOPER

Costello Companies

www.costelloco.com



A conventional 2x6 exterior wall was utilized, then 3-inch Rmax ThermaBase-CI™ panels were installed over the exterior sheathing to achieve continuous insulation.

Location: Sioux Falls, South Dakota

Project Size: 33,108 sq. ft.

Insulation: 3" ThermaBase-CI™

Project Timeline: Completed



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