



KNIGHT
WALL SYSTEMS



UPTOWN LOFTS

PITTSBURGH, PA

Architects: FortyEighty Architecture, Pittsburgh, PA
General Contractor: Mosites Construction Co., Pittsburgh, PA
Installer: Grafton Construction, New Castle, PA

The Uptown Lofts are a unique mixed-income housing project in Pittsburgh's Uptown neighborhood, which was chosen by the Pennsylvania Housing Finance Agency (PHFA) for its inaugural Innovation in Design Award, recognizing its energy efficiency, commitment to underserved populations, and its role as part of a broader vision for the neighborhood.

The project, whose construction costs totaled \$9.5 million, includes two buildings currently being completed in Uptown this year, which together will provide 47 new apartments: 23 affordable units in one and 24 units for young adults moving out of foster care in the other. Each will be three stories and 30,000 square feet but designed to different energy codes: one designed to the Pennsylvania Housing Finance Agency (PHFA)'s criteria of 10% better than Energy Star; the other will receive Passive House certification (PHIUS+), which mandates it be built airtight with heat recovery ventilation. This is estimated to reduce heating energy consumption by 60 percent per square foot per year.

For both buildings the façade system was critical for energy efficiency. The wall sections of each building are identical with the exception of the continuous insulation depth. The nominal R-values are R-33 (with 2" of polyisocyanurate + batt insulation) and R-40 (with 3" polyisocyanurate + batt insulation). While the Knight MFI-System is designed for mineral wool insulation, the contractors (Grafton Construction, New Castle, PA) found it easy to cut the Rmax ECOMAXci polyisocyanurate insulation around the MFI-System brackets. They also found the system easy to adjust for specific building conditions and tolerances. Three different size brackets (some S-series and some D-series) were used to accomplish the varying depths of the façade, in addition to some custom rails for areas with a cantilevered fascia.

FortyEighty Architecture of Pittsburgh, the firm that designed the project, was looking for a rainscreen cladding support system that was engineered by the

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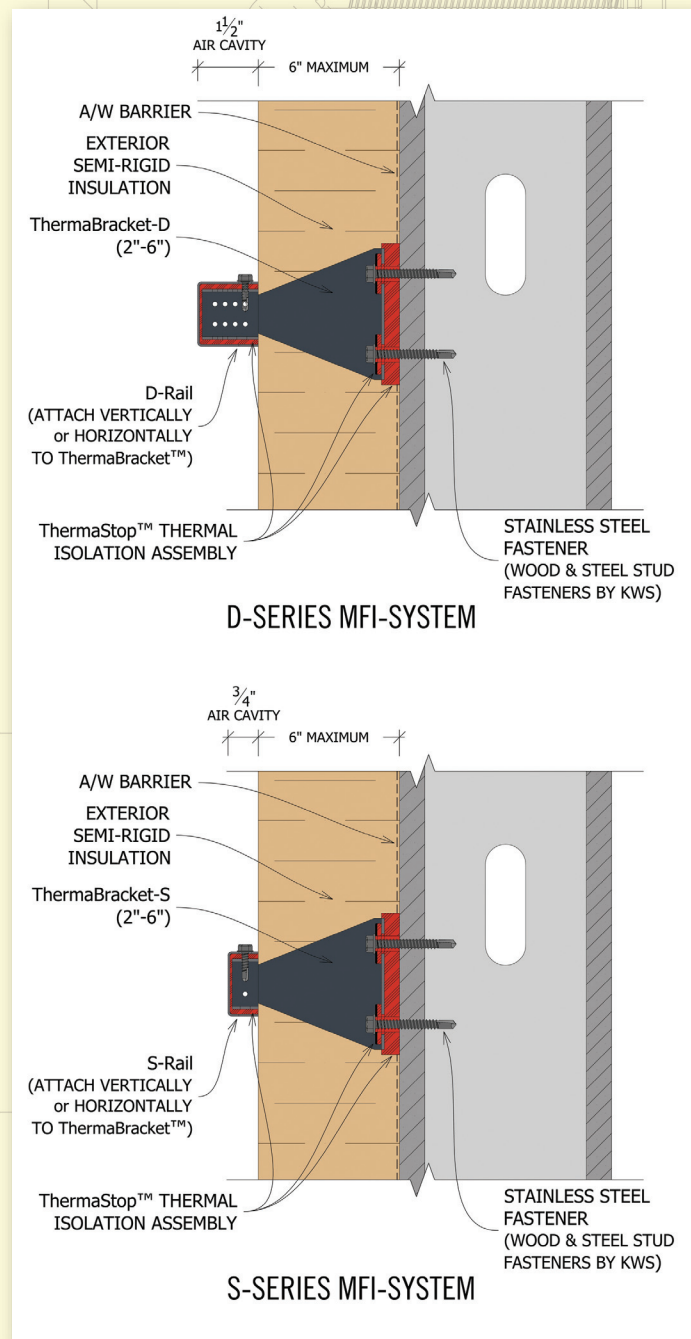
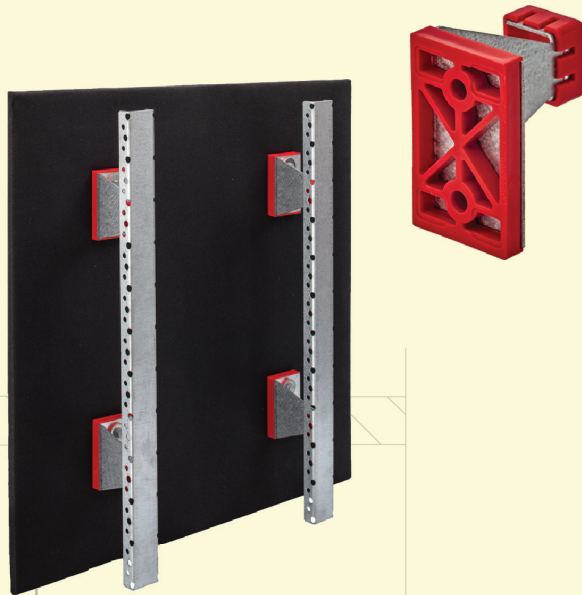
- Debbie Clark
FortyEighty project architect



manufacturer and could be installed completely on the outside of the sheathing air barrier, maximizing the continuous insulation and minimizing thermal bridging.

“We also wanted a system that would allow the rainscreen cladding panel joints to be independent of the wall framing locations, enabling us to vary the depth of the cladding support system by a minimum of four inches without needing to offset wall framing or insulation thicknesses,” FortyEighty project architect Debbie Clark said. “The Knight MFI-System fit all of our criteria. The project underwent an extensive value engineering process at the end of design, and another system could not be found that would give us the flexibility we were looking for at an affordable price.”

For both buildings the façade was comprised of Knight’s MFI-System, Rmax Thermasheath-3 and Nichiha fiber cement panels.



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