the challenge:

In order for Millikan Hall to achieve Pomona College’s first LEED® Platinum certification, it had to meet ambitious sustainability and user-comfort goals during its rebuild. For the sustainable design, the College turned to the building’s stakeholders, which included faculty, students, and staff from math, physics, and astronomy departments.

the solution:

Over 20,000 square feet of radiant ceiling panels serve the heating and cooling comfort in 60% of the building (45,000 SF) containing offices and classrooms. The team selected MetalWorks™ Airtite™ radiant ceiling panels to integrate with other ceiling design, lighting, and acoustical systems. For the higher load portion of the building (40%) with labs and machine shop, the team chose to apply active chilled beams for cooling with heating from a coil on the airside Variable Air Volume (VAV) box.

When compared to other mixed-use lab and office buildings with nearly equal ratios of these uses, and in similar climate zones, the Millikan Hall is using 75% less energy. Further, the building achieved significant savings (68%) compared to its pre-retrofit levels. Through a range of factors, including the selection of a radiant system for heating and cooling the office portion, Millikan Hall energy use is very low for its type and design.

“The radiant system was vastly more energy efficient than an ‘all-air’ solution. With the potential to drastically reduce ‘complaint calls’ due to thermal comfort issues during all seasons, and reduce energy costs, the radiant system became a win-win,” said Nate Eppley, Integral Group.

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