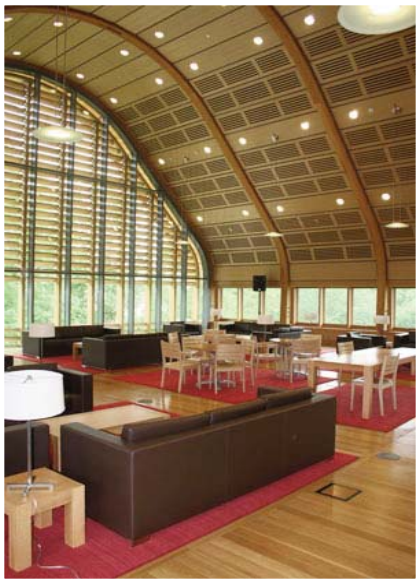
Underfloor Service Distribution
by Tate Access Floors

Kroon Hall
New Haven, CT
Completed 2009

Higher Education Project
58,200 sq ft
4 stories

Products Used:
ConCore 1250
Underfloor HVAC
Modular wire & cable



When used in conjunction with underfloor air distribution (UFAD), the exposed concrete ceilings provide passive thermal cooling or heating for the interior space, helping to reduce overall energy costs. "We like this notion that one element of the building can provide multiple functions," Mike Taylor, Hopkins Architects

Tate Authorized Dealer
CRF Interior Systems
Dayville, CT

Architectural Firm
Hopkins Architects
London, England

Centerbrook Architects
Centerbrook, CT

General Contractor
Turner Construction
Milford, CT

Engineering Firm
ARUP
Boston, MA

Subject

Kroon Hall
Yale School of Forestry and Environmental Studies

Since the founding of the Yale School of Forestry and Environmental Studies in 1900, the School has grown from the first professional forestry program in the U.S. to a leading institution for the study of the environment. Because of this growth, F&ES activities had spread across 8 buildings of the Yale campus. In order to bring together the different programs of the School, Yale's project team has created its greenest building yet using a two-pronged design approach: first, minimize the building's energy needs through environmentally sensitive design, then design for renewable and alternative energy sources.

The new home for the School of Forestry & Environmental Studies joins with two adjacent buildings to create a new unified campus within a campus. It includes faculty offices, conference rooms, lounges, a library, classrooms, seminar rooms, a cafe, and a large auditorium. A great deal of effort was devoted to efficient heating and cooling. The major strategies include ground-source energy derived from four 1,500-foot deep looped wells that hold a constant-temperature medium to help reduce heating and cooling loads without boilers, chillers, and cooling towers. Heat pumps extract the water's warmth in the winter, and in the summer the water helps cool the indoor environment. The building then uses Tate's underfloor service distribution: a raised floor for displacement ventilation, delivering air through grilles in the floor panels. This technique increases comfort by "enveloping" building occupants with conditioned air from below, instead of blowing it at them from above. Low-velocity fans in the basement propel the air. The plenum floor also doubles as a wire raceway providing flexibility should future changes to the layout be required. Kroon Hall is designed to use 50% of the energy of a comparably sized, efficient modern building. With its many sustainable design features, Kroon Hall is Yale's greenest building, LEED Platinum certified, and a flagship for the university's commitment to sustainable ideals.

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