



ASU - INTERDISCIPLINARY SCIENCE AND TECHNOLOGY BUILDING 7 (ISTB 7)

Tempe, Arizona

APPLICATION:

ISTB 7 is a high-performance research facility covering 281,000 square feet over five floors. This facility is meant to create a multidisciplinary research hub focused on making life better on Earth. Collaboration between researchers of diverse disciplines drives the projects to resolve worldwide issues and enable sustainable solutions for food, water, and energy resources.

PROJECT TEAM:

Architect: Architekton
Engineer: Buro Happold
General Contractor: McCarthy
Mechanical Contractor: TDIndustries
Manufacturers: Dadanco, Enviro-Tec, AQC, and Krueger

DESIGN & PRODUCT SOLUTIONS

The project team prioritized reducing the carbon footprint throughout the design, construction, and life of the building. Innovative techniques were used to achieve this goal, including material selection, interior design considerations, improved energy performance, and water-reduction solutions. With this goal, the design team chose a decoupled hydronic 100% outside air system paired with passive radiant cooling and heating panels, sails, and Dadanco active chilled beams. Considered a "green" solution, decoupled hydronic systems commonly exceed ASHRAE Standard 90.1. This system is successful in minimizing energy consumption using water, a more dense heat transfer medium than air, significantly reducing fan horsepower inherent in all-air systems. Further enhancing efficiency, Krueger VAV terminal units were incorporated to regulate primary airflow to the active chilled beams via occupancy demand. Enviro-Tec Chilled Water Fan Coils were supplied to other areas. AQC BlueDuct®, an underground duct system made from ultra-durable, high-density polyethylene, which can contribute to LEED points, serve the underfloor air displacement diffusers in the Lecture Hall. The building is designed to LEED Gold requirements with design considerations for meeting higher certification levels.



- PHOENIX
- TUCSON
- ALBUQUERQUE
- EL PASO
- LUBBOCK
- SAN DIEGO

