

COREFLEX® PROVIDES BUILT IN REDUNDANCY, CONFIDENCE IN DIFFICULT CONDITIONS

The Helios Energy Research Facility, located at the University of California, Berkeley, is a five-story, 112 800-gross-square-foot building designed to house the Energy Biosciences Institute and the UC Berkeley Bioengineering Program.



PROJECT

Helios Energy Research Facility

LOCATION

Berkeley, California, USA

PRODUCTS

COREFLEX®, STRATASEAL HR

HydroShield™ Quality Assurance Program

CHALLENGE:

The structure was originally designed as two separate, rigidly connected structures, one of which was located entirely below grade with a landscaped courtyard above. This design, however, was later revised to have the two buildings separated by a one inch expansion joint. The foundation walls of the structure were placed via shotcrete, which posed additional waterproofing concerns. Fifteen feet of hydrostatic head pressure was present at the structure's lowest level. Approximately 128 tie down anchors, employed to counteract ground water pressure and prevent the building from "floating," penetrated through the existing waterproofing into the mat slab. Because the anchor assembly allowed for up to one inch of vertical movement, the new waterproofing membrane would have to do the same.

COREFLEX® PROVIDES BUILT IN REDUNDANCY, CONFIDENCE IN DIFFICULT CONDITIONS

SOLUTION:

COREFLEX® was chosen because of its redundant approach and usability in the blind side application. The fully welded thermoplastic element did not rely on compaction to provide waterproofing, so it was an ideal choice for the shotcrete. To accommodate the one inch of potential movement at each soil anchor, a membrane termination detail was devised using the reinforced and unreinforced COREFLASH flashing membranes. Likewise, a four-sided detail was designed for the expansion joint using a combination of the COREFLEX® membrane and the COREFLASH flashing membranes. Finally, STRATASEAL HR provided a single source approach to the planter conditions, which required hot, rubberized asphalt.

RESULT:

Throughout design development and into construction, CETCO provided details, on-site support and applicator shop training to aid the project team. The dual membranes of the COREFLEX® material supplied the added security of two systems without the labor of installing two separate membranes. To date the building is dry – no small feat for a project with shotcrete in the water table. All customers were pleased, and additional work for the University of California at Berkeley has been secured.