



ABOUT THE ENGLEKIRK STRUCTURAL ENGINEERING CENTER UNIVERSITY OF CALIFORNIA, SAN DIEGO

Facility Overview

The Englekirk Structural Engineering Center is a large and full scale structural test facility within the Department of Structural Engineering's Powell Structural Research Laboratories at The University of California, San Diego Jacobs School of Engineering.

The Powell Laboratories are one of the world's largest collections of experimental structural research facilities conducting internationally recognized programs in earthquake engineering and advanced composites structural systems. The Englekirk Center began operations in 2005. The Center houses the National Science Foundation-funded Large High Performance Outdoor Shake Table (LHPOST), a component of the Network for Earthquake Engineering Simulation (NEES) Program. The NEES Program is a consortium of research facilities located at 15 universities within the United States providing an unprecedented, networked infrastructure for earthquake engineering research and education.

Shake Table Overview

The UCSD-NEES Shake Table at the Englekirk Center is the largest shake table in North America and the only outdoor shake table in the world. The facility enables researchers to perform dynamic earthquake safety tests on large and full-scale structural systems.

Additional information:

- Table Top Size: 25 feet x 40 feet
- Equipped to handle full-scale buildings and structures weighing up to 2,000 tons and as tall as 100 feet
- Equipped with powerful hydraulic actuators capable of driving the table at velocities of up to 6-feet per second
- Features a honeycomb steel table platen; tubular reinforced concrete reaction mass; servo-controlled dynamic actuators with high flow servo-valves; nearly frictionless platen sliding system (hydrostatic pressure balance bearings); overturning moment restraint system (discrete tension cylinder pre-stressing system); real-time multi-variable controller; over 600 channels of high speed data acquisition and weatherproofing system
- Computer systems reproduce accurate near-fault ground motions, recreating realistic simulations of actual earthquake input motions
- Researchers select input motions from more than 1,000 previously collected earthquake recordings allowing reproduction of actual ground motions. Researchers can also "create their own" earthquakes or use any combination of existing earthquake records.