

Research Concludes Clay Paver Surface Similar to Poured Concrete for Wheelchair Users

Recent testing on sidewalk surfaces at the University of Pittsburgh's Human Engineering Research Laboratory has demonstrated that clay paver surfaces perform as well or better than poured concrete surfaces.

"Evaluation of Selected Sidewalk Pavement Surfaces" reports on the research conducted in the spring of 2002 by Rory A. Cooper, Ph.D., one of the world's foremost authorities on the interactions between wheelchairs and the people who use them. The testing was funded by the Interlocking Concrete Pavement Institute, the Brick Industry Association, the National Concrete Masonry Association, the VA Rehabilitation Research and Development Service, the Veterans Health Administration, U.S. Department of Veterans Affairs, the U.S. Department of Education, National Institute on Disability and Rehabilitation Research, and the Rehabilitation Engineering Research Center on Wheeled Mobility.



Dr. Cooper testifies before the U.S. Access Board on his research findings.

The research investigated six sidewalk surfaces which included one made of poured concrete and five made of segmental pavements. Two of the segmental pavements had clay paver surfaces and three were concrete paver surfaces. The test involved ten participants propelling both manual and electric powered wheelchairs across the surfaces while vibration and shock measurements were recorded. The objectives of the research were to collect data relating to the amount and frequencies of vibrations occurring at the footrest and seat of the wheelchairs (and thus transferred to the rider's body) while traversing each pavement, as well as the amount of work required to travel across each.

Results from these tests demonstrated conclusively that the clay paver surfaces "yielded results that were similar to the poured concrete sidewalk, and should be considered acceptable as a pedestrian access route for wheelchair users." In fact, some of the measurements showed that the vibration encountered by a wheelchair user traversing a pavement with a surface of clay pavers was actually lower than that of a poured concrete sidewalk.

Dr. Cooper's research has proved instrumental in the advancement of accessible sidewalks and streets and in assisting the U.S. Access Board in their rule making process.