

Upgrading an Icon: Carnegie Hall Expands Usable Space

Carnegie Hall's \$200-million Studio Towers renovation project will create new spaces for music education on the historic building's upper floors and refurbish the venue's backstage areas. The New York City icon will not only be upgraded but will offer even more opportunities for effective building use. "With the creation of these newly expanded facilities, we seek to build on Carnegie Hall's amazing history, ensuring that our building continues to revitalize itself to meet the needs of the 21st century, remaining a place as important to the future of music as it has been to the past," says Clive Gillinson, Carnegie Hall's executive and artistic director.

Major renovation of this famed concert hall, whose events and activities will not be halted during construction, requires significant planning. One major concern is the flooring throughout the building. For the South Tower, the floor defines the office space that is suspended at mid-height between top and bottom flanges of an existing truss. In the North Tower, the floor adds lounge areas to existing rehearsal halls.

Lightweight Solution

SPS Floors, developed and marketed by Intelligent Engineering of the UK and its subsidiary SPS Canada, are being used on the mezzanine floor of the South Tower and in four of the additions to the North Tower. SPS is a structural composite with two metal plates bonded by a polyurethane elastomer core, making the flooring lighter. The connectable pieces reduce installation time while providing equivalent performance to an 8-in.-thick precast concrete slab. The lightweight, prefabricated panels were delivered to the site ready to bolt onto



Construction constraints were many for this tight site in Manhattan.



The flooring is a structural composite with two metal plates bonded by a polyurethane elastomer core.

supporting steel framing members. The floor panels were lifted in place via weight-restricted freight elevator.

The installation process substantially reduces the construction schedule because no wet work is required when installing the SPS Floors. Each panel weighs a fraction of a comparable concrete unit.

Once in place, the panels are bolted through shop-applied holes using countersunk tension-control bolts to provide full composite action with the supporting steel framing while maintaining a flat surface. Standard



For 120 years, Carnegie Hall has been known as one of the world's greatest concert halls and as a premier destination for the world's finest artists.

joint seals are applied along the SPS Floors joints to provide a watertight floor system. A carpet finish will be applied directly to the floor.

"The construction process is safe, quiet and dust free," says Robert Maier, president of SPS Canada. "The product offered minimal disruption to the music hall, provided immediate load capacity on installation and allowed an ease of installation in such a site-restricted area."

Full renovation of the 120-year-old concert venue is expected to be completed in 2014. ■