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CASE STUDY

Port of Alaska | Anchorage, Alaska

Critical project in Alaska features innovative use of BILCO hatches

The Port of Alaska has been described as the “economic heart” of the nation’s 49th state. More than 3.5 million tons of products flow into the state each year via the port, including jet fuel for Ted Stevens Anchorage International Airport and a critical military installation, the Joint Base Elmendorf-Richardson, which is home to Army and Air Force personnel.

The port, however, has seen better days. It opened in 1961 and needs attention. An infrastructure report card awarded a “D” grade to Alaska’s ports, and the Anchorage facility was cited in particular for its state of disrepair. “This situation imperils Alaska’s economy, because the state does not have the cargo import capacity that could adequately substitute for the port if it is significantly damaged by an earthquake or other disaster,” the report said.

In 2020, the port started a five-stage modernization project that is expected to take a decade to complete. The total cost could reach \$1.8 billion. Primary goals are to improve port operations, safety and efficiency; accommodate modern shipping operations; and improve resiliency to earthquakes and other disasters. Alaska has more earthquakes than any other region in the United States.

The first project in the modernization plan is the construction of Petroleum and Cement Terminal (PCT). It will replace a terminal that opened in 1965. Pilings that already showed signs of corrosion were further damaged in a 2018 earthquake.

The project included constructing the PCT trestle and loading platform, building the mooring dolphins, and installation of utilities as well as the petroleum and cement handling infrastructure.

The PCT trestle and platform are supported by 123 precast concrete units and 2,903 cubic yards of concrete. Several of the precast concrete units weigh more than 250,000 pounds.

One of the most innovative features of the trestle is the use of three custom-made roof hatches manufactured by BILCO. The hatches are 10-feet by 20-feet and allow access to fuel piping expansion joints. The double-leaf hatches were so large – one fully-assembled hatch weighs about 2,500 pounds – that each leaf was shipped separately. The units were then assembled on site.

“The hatches were specified to shelter containment pans, which are installed to protect against environmental contamination should the piping expansion joints fail in a seismic event,” said Brett Gunderson



of Haskell Corporation, a mechanical and structural subcontractor. “The hatches also allow access to the expansion joints should they need to be replaced.”

Gunderson added: “The stainless steel construction was important, but we also chose BILCO because the hatches were very large, and we knew that BILCO would design and fabricate them to operate easily and safely.”

In most applications, the hatches are used on rooftops for installing and removing large equipment. The Port of Alaska project is one of the rare instances in which the hatches are not on a roof.

Pacific Pile & Marine is building the PCT, which is expected to open by the end of 2022. Anderson Specialties procured the hatches and Great Northern Engineering designed the project.



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