EPS Helps Keep Rural Education Afloat

When a new schoolhouse was built for Kina Cove, AK, all the usual amenities were included—classrooms, computer and science centers, a conference room, a library—and one that was less-than-usual. Namely, a pontoon.

Kina Cove is a Gildersleeve Logging Company town which floats at the edge of Alaska’s Southeast Island School District. Because the town weighs anchor and floats to a new site in the Tongass National Forest every few years, school officials commissioned a schoolhouse that the town of 100 would be able to take along.

Designed by ABAM Consulting Engineers, the new school is a two-story structure that floats on a concrete pontoon filled with blocks of DYLITE® expandable polystyrene (EPS) from ARCO Chemical Company (NYSE:RCM). The blocks were molded by Premier Industries of Tacoma, WA a leading manufacturer of EPS flotation and insulation products, as well as of custom molded packaging. Premier operates 14 plank across the Western U.S.

The pontoon measures 80 feet x 68 feet, and has ten cells that are 13 feet wide, 40 feet long, and 94 inches high—nine of which are filled with EPS blocks. (The remaining cell is a mechanical area.) According to Steve Thompson of Premier Industries, the primary function of the foam in the pontoon is to prevent water from filling up the cells by taking up the space where the water would go. “You can think of the EPS in this application as a back-up for the sump pump,” he said.

EDUCATION — cont’d on page 25
The foam blocks also served as forms for the cells they fill. After the 10½-inch thick concrete keel slab was poured, the EPS was put in place, and steel-braced forms were erected around the outside of the slab. The concrete that forms the walls of the pontoon was then poured between the foam and the formwork. Rebar, which is electrified to prevent rust, was added, and the school was built on top of the pontoon.

After completion, the 2 million pound structure was jacked up with hydraulics, and—in just six hours—moved the 50 feet it needed to go to be skidded into the sea. The school will house its teachers in a second floor apartment, and serve 25 students in kindergarten through 12th grade.

—Photos courtesy of ARCO Chemical