

Super Spacer put to polar test at Alaska's new Cold Climate Housing Research Center

Alaska's polar region offers an excellent testing ground for cold climate technologies and products like Super Spacer®. The geography provides the full range of climatic conditions a researcher would encounter across the northern U.S. The challenging cold season lasts for six months or longer in any given year, allowing ample time for researchers to conduct experiments and evaluations of housing performance. **"What works here, will work anywhere,"** says Jack Hébert, owner of Hébert Homes/Taiga Woodcraft and President/CEO of the Cold Climate Housing Research Center (CCHRC), which opened on September 23 in Fairbanks. "It's the only lab like it in the world."

The Center is the new headquarters of an industry based, non-profit corporation created to facilitate the development, use, and testing of energy efficient, durable, healthy, and cost effective building technologies for Alaska and the world's cold climate regions. Conceived and developed by members of the Alaska State Home Builders Association, the Research Center is headed by Hébert, who has received numerous awards recognizing the quality and energy efficiency of his homes including the first State of Alaska Governor's Award for Excellence in Energy Efficient Design.

CCHRC has secured over \$4.2 million in public capital funds and almost \$550,000 in private cash, material, and in-kind donations to design and build the RTF. The 15,000 square foot facility located on 2.5 acres is comprised of two large test bays, office space, classrooms, a library, and space for power generation. Over 400 data gathering points around the building continuously collect scientific data.

According to Hébert, the new Research Center was designed with daylighting in mind, including window walls and clerestory windows. "We selected Capitol Glass's Northern commercial-rated vinyl windows for the Center because these

triple-glazed units are super-efficient, with U-values from 0.15 to 0.20," says Hébert, who uses Northern windows in all of the homes his company builds.

All of the Research Center's 60 fixed and casement windows were made in the 32,000 sq. ft. Anchorage plant of Capitol Glass/Northern, and carry AAMA commercial ratings of C60-C80. "We start with beefy King vinyl extrusions," explains Walt Murphy, Capitol vice president and



Walt Murphy, Capitol Glass/Northern (L); and Jack Hébert, Cold Climate Research Center (R).

general manager, "and build a 1-3/8" triple-glazed, argon gas filled window with Cardinal soft-coat low-e coatings on two surfaces. Super Spacer® has been an integral part of our cold-climate IG system since 1998. And since then, seal failures have been basically 'zero.' We also promote Edgetech's TrueWARM® technology for sound control, and for its HealthSmart® mold-and-condensation resistance. Indoor humidity is typically high here due to lots of boiled foods and the fact that Alaska builders construct a very tight envelope."

Capitol makes 120-150 Super Spacer IG units per day on a manual line combining a Lisec table and optimizer with a 72" Bystronic washer. Dual-sealed foam spacer is applied by an Edgetech Super Shuttle. "We're also starting to use Super Spacer TriSeal on some commercial jobs," says Murphy.

Capitol Glass/Northern, with annual sales approaching \$7 million, makes both



Photo: Paul H. McCarthy, Fairbanks, AK

CCHRC's mission encompasses product testing, new product development and certification.

residential vinyl and commercial (aluminum and vinyl) windows, marketing them across vast Alaska - from the North Slope to the Aleutian Islands. Commercial vinyl projects include rural school districts, health clinics, military base housing, medical office buildings, hotels and numerous Native American housing authority projects. Northern is the exclusive window for the Alaska Housing and Finance Corporation. Products are shipped by the company's fleet of 12 trucks, by barge and even by air, into remote regions of the state.

Specialty products include glass shower enclosures, including some with slump glass doors. Capitol also paints vinyl with the Royal Bond process and fabricates vinyl curtainwall systems. The environmentally sensitive company recycles glass, vinyl cutoffs, cardboard, and wooden crating materials. It even recycles the spools that hold Super Spacer!

Walt Murphy sees himself as Capitol's "team-leader" rather than the boss, and over the last several years has been able to ingrain the philosophy and practices of lean manufacturing with the company's 45 employees, who average from five to 35 years service. "With lean manufacturing we can build more windows in less space with fewer people - in less time." 