

**Eden of Vancouver
Bloedel Conservatory – Vancouver,
B.C.**

by Rich Porayko

Five years ago the City of Vancouver issued the Bloedel Conservatory a death sentence and ordered the building to be shut down. But the dome, located in Vancouver's Queen Elizabeth Park, was home to 500 plants and 170 species of birds. So, concerned community and business leaders weren't willing to let the ecosystem, which has been called a "horticultural, architectural, natural, green jewel at the pinnacle of Vancouver" die. They started the Friends of Bloedel Conservatory and not only successfully lobbied the city for a stay of execution, but also secured funding to rehabilitate the aging façade of the 45-year-old landmark. Bloedel is very much alive and thriving today thanks to their efforts

and to Spectrum Skyworks, the company tasked with completing the job.

"The biggest challenge we had was at the beginning," Spectrum's managing partner Ken Boyce said. "The company that built the dome back in 1969 only constructed one other like it, so there was nothing to explain how Bloedel was going to be rehabilitated. We had to figure it out."

Spectrum was familiar with the structure because it had been repairing the dome's panels for up to 12 years before the decision was made to do a full-scale rehabilitation. "The panels would break because teens used to climb on them at night," Boyce said. "Replacing one panel is a big deal. You need a lot of people. But nobody had ever taken the whole building apart."

The Bloedel Conservatory is a geodesic dome that consists of 1,488 quarter-inch-thick, acrylic panels in 32 different sizes. Spectrum installed thermal breaks into all 866 of the original cast hubs, which were then reused. Daylitter Skylights, a division of Spectrum based in Langley, B.C., has its own thermal formers. So Spectrum was able to manage the supply chain and blow the dome panels itself.

Spectrum removed up to 30 old domes and asbestos and then installed 30 new domes in one 10-hour shift every day. Once each panel was installed, it had to be face sealed. To allow for the thermal expansion/contraction of the acrylic, Spectrum had Tremco – a supplier of sealant, weatherproofing and passive fire control solutions – design special gaskets to fit into the existing extrusions and also

to achieve improved thermal performance of the overall system.

Safety was Spectrum's primary concern throughout the entire project and because Bloedel had low-grade asbestos in the old mastic, it had to take special measures. "First thing each morning, we'd suit up three guys in their Hazmat suits with full respirators and we'd do a clean with special vacuums approved for asbestos removal," Boyce said. "We hired Proactive Hazmat and Environmental Ltd. to oversee everything and take away the waste material every day." •

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Challenge: replace 1,488 acrylic panels without letting the tropical plants and birds on the other side get cold. And improve the thermal performance of the 45-year-old structure so the city can still afford to heat it.