

# Condo Living

P SECTION » TORONTO STAR « SATURDAY, JANUARY 31, 2004 ★ thestar.com

## They do windows

**New system repairs foggy, defective thermal-pane units.**

**Process can save condo boards huge replacement costs**

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STAFF WRITER

A process designed to eliminate fogging in defective thermal pane windows has the potential to save condominium corporations hundreds of thousands of dollars and benefit the environment to boot. By repairing rather than replacing failed windows, Crystal Clear Window Works says tonnes of glass will be kept out of landfill sites.

The Ottawa-area company, which launched its Toronto operation last June, is so confident of its patented process, it's offering a 30-year guarantee, says sales and marketing director Daniel Legere. Crystal Clear, which bought the technology and patents from Ottawa inventor Stephen Collins (now a company consultant), works with condo corporations, property managers, homeowners and even window companies, Legere says.

Under pressure from rising energy prices and insurance premiums, condo boards are seeking ways to trim expenses and build up reserve funds. Window replacement costs represent a big reserve fund item for condos, says Catherine Murdock, a district manager with Del Property Management Inc. "If we can do this to prolong the life of a window, it will certainly help a lot of condos that are finding themselves a little short-funded," Murdock says. Rick Campbell manages two condo high-rises for Del, both about 13 years old: The Jockey Club at 21 Overlea Blvd., and Leaside Park, at 11 Thorncliffe Park. He recently had almost 70 windows repaired by Crystal Clear, saving \$90 to \$100 each by not having to replace them. Only two repairs didn't work the first time and needed to be redone. Campbell is very happy with the work and says he will never replace a window again without trying to repair it first. He notes the piecemeal approach is less disruptive to



Sid Nayel, right, Eastern Ontario operations manager for Crystal Clear Window Works, makes repairs to a fogged thermal-pane window with Tom Conwayleft.

residents and easier on the budget. He also says that with the warranty, future condo managers can be confident of repairs long after he has retired. Legere says the minimum charge for a window under eight square feet is \$125. Volume discounts are offered, based on the number of windows involved. At The Vogue, on Bishop Ave. near Yonge and Finch, property manager Pauline Kelley had about 24 windows of various sizes repaired by Crystal Clear, including some four-by-eight foot windows around the building's swimming pool. The cost was just under \$6,000, half of what her regular supplier quoted for replacement. The job took 11/2 days and she intends to continue with other window repairs in the 15-year-old building.

So, how exactly does the process work?

A thermal pane window is a sealed unit of two pieces of glass with air or argon gas between them. The trapped air or gas acts as an insulator, reducing heat loss. Sunlight causes the airspace to heat up and the window expands, letting in air and moisture. Silica pellets in the frame absorb the moisture, but, over time, they become saturated and the window fogs (usually in seven to 10 years).

This is called window failure. Residue from the silica pellets can actually etch the glass, causing a cloudy film or "scumming" that may be impossible to remove, says John Hennessy, who became the company's chief executive officer Jan. 1. In that case, he recommends that the window be replaced.



Crystal Clear CEO John Hennessy at his company's Ottawa office.

During a repair at Almise Cooperative Homes Inc., a high-rise seniors' complex in North York, Hennessy describes the process for a bedroom window, repaired from the inside. Two technicians, wearing booties over their shoes to protect rugs, work in tandem.

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## Process saves big on waste

First, a template is set over the bottom right corner of the inside window. Then, using a high-speed rotary drill, technician Sid Nayel drills a tiny hole for drainage. (The window dictates which corner is used, he says.) His partner immediately floods the area inside to rinse any debris, and then drains it. A hole in the opposite top corner of the interior pane is then drilled. Drill bits are changed and a second hole is made in the outside pane. A combination of up to three solutions is sprayed from top to bottom to further clean between the panes.

Nayel uses a tiny magnet to remove a fingerprint on the interior pane's outside face. A small siphon drains the liquid. If necessary, vacuums can be attached to the siphons. The bottom hole is sealed with a silicon patch. Using a special applicator, Nayel installs a tiny micro filter in the top outside window, flush with the glass so pressure cleaning can't dislodge it. The top hole in the inside pane is then sealed. Changes in air pressure force the micro filters to open and expel any vapour. A one-way valve prevents its re-entry. The company designs and engineers the valves, applicators and drill bits. "We're really defining a whole new industry here," Hennessy says. But convincing potential clients that the process really works may take a bit of time.

Dale Kerr, owner of Kerr Associates Technology Transfer, is an engineer who specializes in building exteriors. She also wrote the Canadian Standards Association specifications involving energy performance of windows. "The raw theory sounds like it has potential," Kerr says, but after reviewing lab tests done for Crystal Clear by Semoptics Ltd. Under the direction of the inventor, she doesn't feel the tests were sufficient. She would be more comfortable if a recognized window-testing lab had conducted the trials. For her to recommend it to clients, she'd want to see a few windows tested in an existing building and monitored over a period of a few years. "If this could work, that would be terrific, because right now we've got no option once sealed units fail, other than totally replacing them," Kerr says. She notes it can cost condo corporations more than \$1 million to replace all windows.

Hennessy acknowledges that people are skeptical. He was, too. He has been involved for the past eight years in high-tech start-ups and had to be convinced the Crystal Clear repair process worked before climbing aboard first as the Quebec distributor a few months ago and, now, as the CEO. He understands

people want a process that stands the test of time, and offers a few Ottawa locations as examples of its success.

Kimberlee Brush, manager of a McDonald's on Meadowlands Dr. in Ottawa, confirms that a window repaired about five years ago "still looks great." And Jane Foyle, director of airside operations at the Ottawa Macdonald-Cartier International Airport Authority, confirms that a large window Hennessy says was repaired in 1997-98 and had held 2.5 litres of water "looks fine to me."

Another 17 windows were dismantled during an expansion.

Hennessy says the company has devised a training and certification program for technicians, which began Jan. 19 at its new Ottawa facility. The 10-day program involves 2 1/2 days of theory and physics, then practical testing on different types of glass.

### **'We're really defining a whole new industry here'**

**John Hennessy,**  
CEO, Crystal Clear Window Works

Lest students get too cocky, tempered glass is substituted during the practical session to test their mettle it will shatter when drilled. This drives home the importance of properly assessing each window and making no assumptions. Special glasses with polarized filters help identify it.

Drilling through the spacer bar can repair tempered glass windows, Hennessy adds. If done correctly by trained technicians, Hennessy insists the process works. One of his best workers, he says, is a woman who is a former artist. Estimates are free and, so far, more than 7,000 windows have been repaired in the GTA, both in homes and high rises. One added advantage for businesses is there's no need for scaffolding or cranes, keeping disruption to a minimum. Homes, too, can be repaired from the outside.

Fran van Leeuwen, property manager for the Almise Co-operative Homes seniors' complex, is happy with the work and says it would have cost twice as much to replace the 17 windows.

Replacing windows in residential high-rises requires good weather, access to the units and swing stages for the workers. Stages, which

must be reset for each row of windows around the building, can cost thousands of dollars per week to rent and can quickly eat into a condo corporation's budget. Hennessy stresses the warranty is on the process, not the window itself, because the failure could be elsewhere in the unit. One happy Crystal Clear client is FM Industries, which manufactures and installs replacement windows in the GTA. Vito Mastrotrillo, vice-president of operations, says he contacted the company this summer after seeing their advertisement on a lawn sign in Richmond Hill. He arranged for Crystal Clear to do his warranty work and says, "it's been really good for us."

He explained his customers often call about failed windows even after the warranties have expired. For goodwill purposes, he used to charge only for the labour and would give people a new sealed glass unit for free. Now, he gets Crystal Clear to repair the window for less than \$100 per unit. His customer is happy and he saves time and money by not having to measure the glass, manufacture it, install it and removed the failed unit.

The process is significant "from a cost point of view," Mastrotrillo says, "because it's very expensive to dump construction materials." It costs him \$70 to \$80 per tonne to dispose of glass at landfill sites. He estimates that by repairing the windows in five or six houses (at an average of 15 per home), he saves about a tonne of glass.

In time, Hennessy hopes to convince window manufacturers to install the valves at the factory level, as a preventive measure.

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#### *About Crystal Clear Window Works*

*Crystal Clear Window Works (Ottawa, Canada) has revolutionized the manner in which homeowners and property managers handle failed windows. Since 1989, the company's proven process for restoring thermal functionality and the aesthetic qualities of residential and commercial windows, has also provided a cost effective, environmental alternative to replacement. The company established a dealer network in 2003, and now serves over 150 markets across Canada and in the United States.*

**For more information contact Marc Wolvin at 613-727-6900 ext 113**