



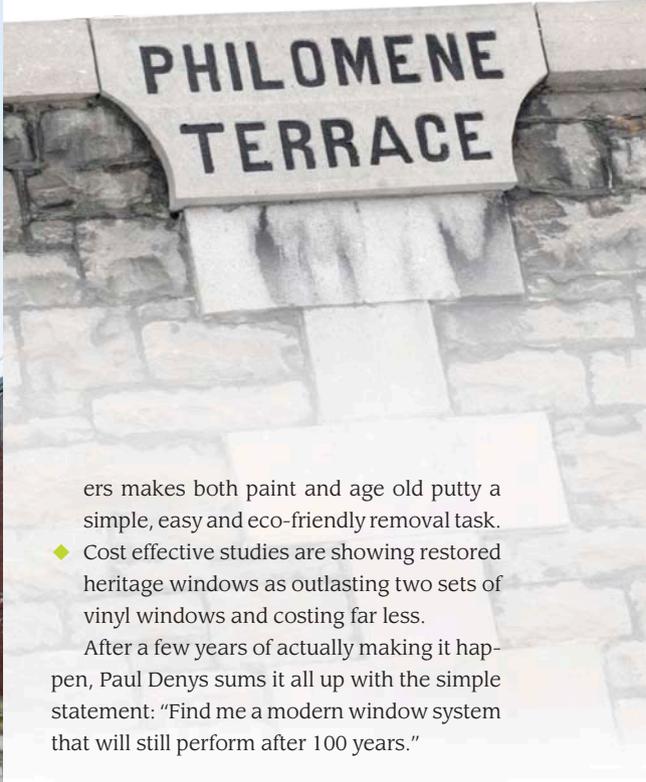
Heritage Window Restoration

BY JON EAKES

Most of us who have worked in older neighbourhoods have at one time or another thought about or dabbled in restoring old building components rather than ripping out and installing new product. Generally we only did it when we had to: such as a small repair that had to match the rest, or a client who was willing to pay for the heritage look.

PAUL DENYS from **Denys Builds Designs Renovations** in Ottawa has discovered a number of developments that have changed the whole question:

- ◆ With clean up and \$80 of weatherstripping and air sealing, a heritage window is surpassing the CSA air tightness standards for new vinyl windows in actual blower door testing.
- ◆ Winter storm windows can now be made with a hard coat Low-E coating.
- ◆ Heritage replacement hardware is more available today and now includes such elements as airtight counter balance cord pulley seals.
- ◆ Double hung chain pulley windows are being manufactured once again.
- ◆ The use of steam and hollow core scrap-



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ers makes both paint and age old putty a simple, easy and eco-friendly removal task.

- ◆ Cost effective studies are showing restored heritage windows as outlasting two sets of vinyl windows and costing far less.

After a few years of actually making it happen, Paul Denys sums it all up with the simple statement: "Find me a modern window system that will still perform after 100 years."

Understanding the Science

Understanding that air sealing is more important than insulation allows for maintaining rather than replacing the cable hung counterweights. In the 1980s the very first thing we did in a restoration job was to pull out

The restoration secret is steam.

the counterweights and fill the hollow space with insulation. Then we had to router spring slots into the sides of the glass frames, which required having a variety of sizes and lengths of spiral springs on hand.

Complete air sealing of the counterweight cavity and cord entry is easy to do once you understand its importance. Leaving this wood framed empty space air sealed, although uninsulated, barely reduces the overall window performance. Quality weatherstripping that fits the needs of wooden double hung sliders does exist and is easy to install: PolyFlex V-Strips plus stainless steel or Monel staples.

Many double hung heritage windows are already two deep; you can add a Low-E storm window over the top and the triple-glazed window with good glass spacing starts to measure

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Paul Denys

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Getting Down to Business

Now we need to get that “old paint off and the rock hard putty gone” without shattering the glass. The restoration secret is steam. Steam at about 200°F loosens the paint and penetrates the putty, turning that impossible hard stuff into mush. You can actually just use a commercial laundry steam machine directly on the window, or put the window into a steam box. Stainless steel steam boxes are available, but Styrofoam, aluminium duct tape and a laundry steam machine work just as well—with a meat thermometer to monitor what is going on inside the box! One to 3 hours under steam and it is all ready to come off. Denys recommends the Jiffy Steamer J-4000 Pro-Line commercial Garment Steamer for about \$400. And scraping just got easy by using a hollow vacuum scraper created for boat hulls: the

ProScraper from www.hotvac.com.

I have cracked old glass by trying to use old glass putty and glazing points. Denys uses acrylic latex caulking to bed the glass and that is sticky enough to hold it in place without glazing points at all: no more stress points on that old glass. Then he bothers to use Eco-Solve AquaGlaze putty—which stays slightly flexible—to finish off the glass installation.

“Find me a modern window system that will still perform after 100 years.” Paul Denys

You can see Paul Denys work at www.denys.ca, and he is generous with links to his resources. He really is on a mission to show that heritage restorations can be cost effective for your clients AND profitable, all while setting your company apart from the others. 🏠

24 ▶ up to the best of modern windows.

Many years ago I had a chart that I used when I delivered window installation courses that indicated that 5/8” spacing between glass was optimal—less than that and conduction allowed heat across from one glazing to the other—more than that and convection currents carried the heat across. I found 1/2” spacing was almost as good and cheaper than 5/8”, and on the other side, ironically, it was discovered that 3-1/2” spacing was just as good as 1/2”. More than 3-1/2” and efficiency went way down. Because of the use of full-sized 2x4s in old construction, heritage windows commonly have about 3-1/2” between glazings—right up there with modern technology!

There is no argon gas in a restored heritage window system, but there are no reductions in R-value with time either.



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