

Ask Jon Eakes

Fiberglass Window & Door Frames -- the future is now.

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Fiberglass is a very interesting option in window frames in that it combines many of the best characteristics from the other window frame choices. In their energy efficiency they are similar to vinyl with the many dead air spaces and far better than the cold conducting metal frames. Their strength can be equal to or better than metal, yet without the tendency to dent. There is less expansion and contraction with fiberglass, hence frame movement, than with either metal or vinyl. The material is inert and the moulding process is irreversible in that it cannot be melted. The longevity and durability of fiberglass is better than vinyl and equal to or better than aluminum. Fiberglass is free from the ecological criticisms about vinyl and PVC plastics as construction materials. I have two patio doors on the same wall in my house -- hence the same weather exposure. The third photo above shows that my weather station is indicating minus 21.6 degrees C outdoors. My aluminum framed door shows -11C on the inside surface, building up ice. My Fiberglass framed door is actually above freezing, showing 13 degrees C (23.4 deg F) warmer -- same weather outside -- no frost. Just better frames. The reason you haven't seen a lot of fiberglass windows on the market is that they have been expensive. Raw material for fiberglass has always been cheaper than vinyl or aluminum and the energy to convert it was less expensive. The high cost comes from the yield -- how many feet of frame can you make per hour. But that is where the changes are happening. InLine Fiberglass Windows in Toronto have found the way to double the yield of the machines recently, and expect further significant increases in yield soon, which will bring their cost right in line with all the other windows, while keeping their properties superior. Fiberglass windows may just become the standard quality window in the not too distant future. The process is called protrusion -- they pull the strands of fiberglass through moulds while adding in the resins and heat. All the raw materials flow into the forming head, as you can see in the first photo, and about three feet away the final product is just flowing out in a continuous run, as you see in the second photo. The complexity and detail in the frame profiles is impressive, as is watching them pull these things right out of nowhere. A recent shift from polyester resins to polyurethane resins to bind the fiberglass threads together is part of InLine's technological progress. I think you will be hearing more about InLine Fiberglass Windows & Doors as their machines speed up, breaking the cost barriers.

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www.joneakes.com