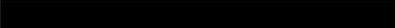
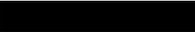


Market and consumer viability report: Wood-plastic composite versus vinyl replacement windows

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Consumer Perspective and Comparisons

Research indicates that homeowners choose to replace their windows for a number of reasons, but primarily to post improvements in the following areas:

- **Aesthetics** (outdated looks or failing finishes);
- **Energy efficiency** (draftiness, excessive heat gain and/or loss);
- And **function** (obstructed views from seal failure, stuck or stubborn sashes, difficulty cleaning and maintenance requirements).

Interviews among a random sampling of [REDACTED] past clients shows that—in all cases—function and efficiency were primary causes for window replacement, with all citing inadequate performance from outdated windows.

Consumer perspectives

Consumers' views pertaining to replacement windows may be derived from numerous sources, including: word of mouth, marketing and advertising claims, experience (witnessing products), published information and brand familiarity. However, according to at least one expert marketing consultant who serves the replacement windows industry, all of these matters are superseded by one factor: the efforts of salespeople. **Among past [REDACTED] clients:**

1/2 of those interviewed for this report say that they contacted [REDACTED] in direct response to one of the company's advertising efforts.

1/3 say they contacted [REDACTED] based on word of mouth referrals from within their communities.

4 out of 6 say, in addition to meeting with [REDACTED] sales staff, they also investigated vinyl windows from another source.

4 out of 6 say they were familiar with the [REDACTED] brand prior to meeting with [REDACTED] and that the manufacturer's reputation influenced their decisions.

Only 1 past client was familiar with [REDACTED] windows prior to meeting with [REDACTED]

Market Analysis and Overview

Market analysis derived from numerous reports shows that shipments of windows used for residential replacement purposes declined steadily between 2006 and 2012, by an overall measure of 26.38 percent. Though official numbers for 2013 aren't yet available, forecasts predict the year will mark a starting point for rebound, with an expected increase of 8.66 percent, followed by similar increases over the next few years.

By material types

Among material types, sales of vinyl windows decreased the least between 2006 and 2012, which analysts say is partly due to a natural growth progression, combined with an increased interest in the material based on its lower costs when compared to wood, especially amid tighter spending patterns.

Vinyl windows led the replacement markets with a 74-percent share in 2012, which is expected to reach more than 75 percent by 2015.

Wood replacement windows, which declined the sharpest between 2006 and 2012 (by nearly 50-percent), are expected to rebuild modestly, likely reaching a 17-percent market share by 2015.

Fiberglass replacement windows continue to hold less than 3 percent of market share, which is expected to reach approximately 3.25 percent by 2015.

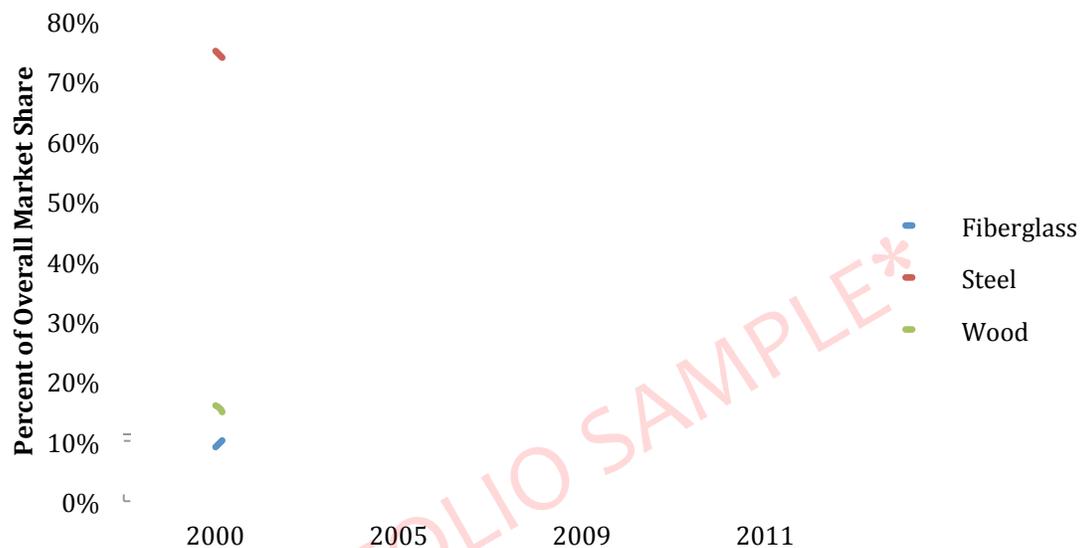
WPC windows are grouped with other alternative materials, which combined held just 2 percent of overall market share for all window sales (replacement and otherwise) in 2011.

Case study: Fiberglass entry doors

Though no direct correlations can be drawn between market growth patterns for various building products, the adoption of fiberglass as an alternative material among wood and steel entry doors provides a case study that loosely relates to WPC windows.

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Market Growth: Fiberglass Entry Doors



In 2000, fiberglass entry doors comprised 9 percent of market share, but by 2005 held 23 percent. In 2009, that number rose further to 34 percent, then to 35 percent in 2011. Over the same period, market share among steel doors eroded from 75 to 54 percent, while wood decreased more modestly from 16 to 11 percent. Over the same period, market share among steel doors eroded from 75 to 54 percent, while wood decreased more modestly from 16 to 11 percent.

Positive reinforcement:

By eroding the market share for wood doors at a much more modest rate than steel doors, market penetration data for fiberglass doors supports analysts' suggestions that consumers who are primarily interested in wood products stand by their selections. At the same time, higher price tags among fiberglass doors, when compared to steel doors, indicates that consumers will migrate toward materials that better replicate the aesthetics of wood (a primary feature in fiberglass that's progressed significantly over the past decade), even at a cost. It is also worth noting that, unlike WPC windows (at least to date), over the course of its growth period, the number of manufacturers producing (and promoting) fiberglass doors increased.