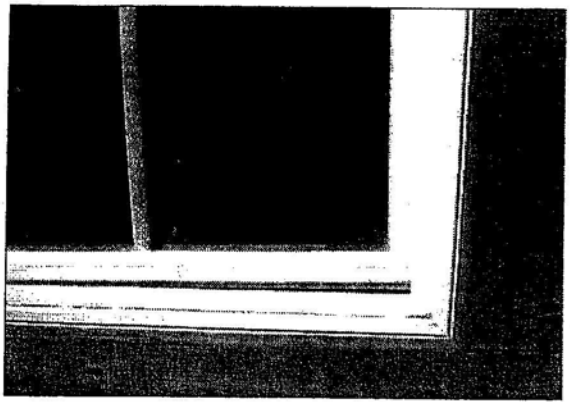

Warped vinyl window after two summers.

One year old vinyl windows being replaced again after severe window leakage.

Government

U.S. Dept. of Agriculture - Overview of Siding Materials for Forest Service Facilities 2000 - "Plastic siding can buckle in hot weather if not installed properly. It can become brittle and crack if it is struck. Where hail is common, vinyl is not the best choice."

Alberta Infrastructure Data Sheet infras.gov.ab.ca 2006 - "Vinyl components can absorb enough solar energy to heat up, causing unacceptable dimensional instability. Some heat reflective paints are available, but this is a new, unproven technology. Due to expansion of plastic windows, do not form combination units of more than three single units."

Rocky Mountain Institute, Home Energy Briefs 2006 - "With vinyl windows, make sure you have a guarantee against sun damage, peeling, warping, and discoloration. Vinyl expands and contracts with temperature changes."

biversities

University of Massachusetts Building Technologies Website 2006 - "Vinyl window frames fade, are unpaintable, gets brittle and is thermally unstable, especially in dark colors. It expands and contracts more than aluminum or wood, or even the glass it holds. Vinyl frames have the potential for causing increased air leakage over due to this differential."

Brown University Website 2006 - "PVC's resistance to heat is so low even just on an average sunny day, window frames made from the material emit a slight odor known to irritate hypersensitive individuals."

Brown University Environmental Studies 1998 - "PVC (vinyl) frames require no maintenance but raise questions of durability. Since they are relatively new on the market and virtually untested."

University of Alaska 2006 - Building in Alaska - "PVC is not an ideal choice. This is particularly so for the colder climates of the far north, where greater temperature differences are a concern. PVC expands (or contracts) four times faster with temperature changes than does either wood or fiberglass.. This stresses the external caulk weather seal. During times of extreme cold, the window literally shrinks away from the wood rough opening."

University of Kansas, Energy Conservation Dept. 2006 - "Over time Argon gas leaks out of the space between the panes of glass."

Napier School of Engineering Website 2006 - Life Cycle of Window Materials - "PVC windows have a high coefficient of thermal expansion, (two to three times higher than aluminum). PVC is very sensitive toward high temperature and UV radiation, which can break down it's molecular bond resulting in embrilttlement and discoloration."