

deceuninck

PVC Versus Aluminum

*Performance.
Sustainability.
Versatility.*



Durable. Safe. Energy efficient.

PVC has added versatility and value to products for more than 50 years – especially in the building and construction industry.

PVC is the material of choice for residential windows in the U.S., making up 70 percent of the residential window market.

Now, PVC windows are gaining traction in commercial projects – both new construction and replacement windows.

So why are building owners, architects, contractors and specifiers choosing PVC over aluminum?

It's simple.

*PVC outperforms
aluminum, and is
just as versatile in
commercial projects.*



PVC for *performance.*

Deceuninck PVC windows are made with SunShield®, a proprietary high-performance vinyl compound developed by our material scientists.

SunShield is uniquely formulated and laboratory-proven to perform better than alternative building materials like aluminum in both Southern and Northern climates.

Unlike aluminum, PVC provides better performance without the need for thermal breaks to minimize heat transfer – creating less condensation and better energy efficiency.

- Superior weatherability
- Excellent color retention
- Energy efficient
- Impact resistant
- Low maintenance
- Resistant to rot and insects
- Fusion welded corners ensure improved water and air performance

Frame Effect on Whole-Window U-Values

	Center of Glass U-Value	Whole-Window U-Value*				
		Insulated Vinyl or Fiberglass Frame	Hollow Vinyl Frame	Wood or Wood-Clad Frame	Aluminum Frame with Thermal Break	Aluminum Frame
Moderate Solar-Gain Low-E (Double Glazing)	.27	.27	.35	.35	.48	.60

*Based on the average of many windows.

SOURCE: A Guide to New Technologies and Energy Performance: Residential Windows, Third Edition, By John Carmody, Stephen Selkowitz, Dariush Arasteh, Lisa Heschong



The mechanical joints used in aluminum windows can fail over time, allowing air and water to penetrate. The welded corners in PVC windows (both in frames and sashes) add strength and provide better air and water performance that does not deteriorate over time.



CASE STUDY Chicago Hotel

WHO: Deceuninck North America, Lindsay Windows, and Guaranteed Exteriors

WHAT: Installation of windows in Midwestern hotel

WHY: To meet energy efficiency specifications, and provide high performance and a metallic look.

PRODUCT: 415 Revolution Tilt & Turn® windows

THE RESULTS: When Lindsay Windows needed to do an installation of 415 replacement windows at a hotel in a cold, Midwestern climate that offered the look of aluminum with high performance, they knew Deceuninck North America would have a solution.

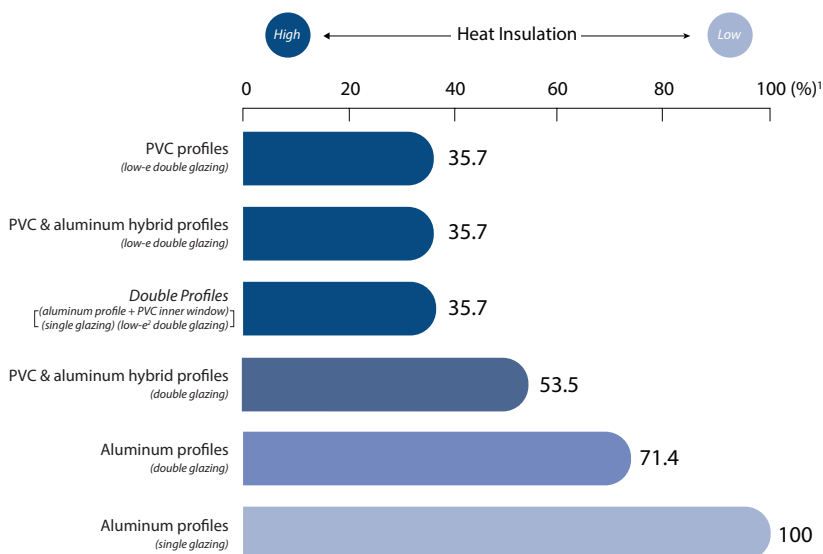
The Revolution Tilt & Turn's seven-chamber thermal structure and multifunctional operability can achieve an R-value of 7+ and a commercial performance of DP-100. The window system offers a range of colors, too. In this case, the Revolution metallic silver (Silver D) laminate matched the look of anodized aluminum.

PVC for *sustainability.*



When you choose PVC windows over aluminum, you're making the choice that's better for the environment.

- Fifty-seven percent of PVC is made from chlorine, which is derived from common salt that is abundant on earth – contributing significantly to saving oil and gas, which are non-renewable resources.
- PVC is proven as a material with minimal CO2 emission, especially compared to aluminum or glass windows.
- PVC window profiles have three times the heat insulation efficiency of aluminum profiles, cutting down on energy consumption for heating and air conditioning.
- PVC doesn't rust or corrode like aluminum, making it exceptionally durable and 100 percent recyclable.
- PVC is self-extinguishing and will not normally continue to burn unless a source of a sizable fire exposure remains present.
- Deceuninck is the only U.S. Green Circle-certified extrusion company – and have been certified for five consecutive years – because our products are designed to be recycled at the end of their useful life and eliminate waste.



¹ The heat loss through single glazing aluminum profiles is defined as 100 for comparison.

² Low-e: low emissivity

CASE STUDY

Buffalo Charter School

WHO: Deceuninck North America and PVC Industries Inc.

WHAT: Window-replacement project for Buffalo Academy of Science Charter School

WHY: To achieve greater energy efficiency and an updated look.

PRODUCT: 460 Revolution Tilt & Turn® windows

THE RESULTS: PVC Industries chose Deceuninck's Revolution Tilt & Turn® for the project. The Revolution window created the optimal solution because of its overall appearance and its energy-saving and thermal ventilation capabilities, all of which exceeded that of other aluminum alternatives.

The bronze exterior color was selected with a white interior over the one-color aluminum extrusion. This was a better blending of the building's existing aesthetics, and the Revolution window was more cost-competitive than similar aluminum options.

PVC for *versatility.*



USES

Windows are just the beginning when it comes to PVC in commercial building.

- Flooring
- Roofing
- Siding
- Wallcoverings
- Piping
- Railing

INDUSTRIES

It's a low-maintenance material that lasts long with little attention, making it a go-to material.

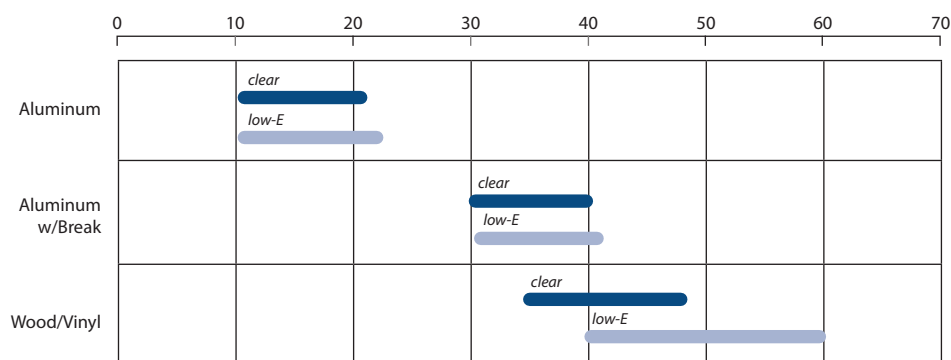
- Construction
- Water infrastructure
- Electronics
- Healthcare
- Packaging
- Transportation

STYLE

PVC provides the look of aluminum with improved performance – and can take on unique shapes, a stylish palette of colors and premium curb appeal.

A superior selection of solid interior color preferences is also available and can be combined with heat reflective exterior laminate for curb appeal, color retention and weather resistance.

CONDENSATION RESISTANCE



Condensation Resistance Ratings (CR) for various frame and glazing types.

CASE STUDY

FaverGray Headquarters

WHO: Deceuninck North America Ventana Windows New South Windows

WHAT: Renovation of commercial contractor FaverGray's corporate offices

WHY: Structural and thermal performance, modern appearance

PRODUCT: Revolution Tilt & Turn® Windows

THE RESULTS: FaverGray chose Deceuninck's Revolution Tilt & Turn® for its structural and thermal performance. The company's headquarters is four blocks from the ocean in Jacksonville Beach, Florida.

Revolution was the optimal solution because of its resistance to environmental exposure, as well as its modern appearance and energy-saving capabilities. Revolution also provides ventilation through its tilt operation and the ability to easily clean the windows through its in-swing operation.

PVC in color.

PVC is available in a range of standard extruded colors, including white, clay and sandstone.



White



Clay



Sandstone

Deceuninck's lamination technology, Solex, provides additional color options featuring curb appeal, color retention and weather resistance.

Laminated colors can be mixed and matched, allowing for different colors on the interior and exterior of the window. Choose from one of our standard colors, or view the extended custom options available.



Bronze



Chocolate Brown



Metallic



Midnight



Wicker

ABOUT DECEUNINCK

Deceuninck North America is part of Deceuninck NV, a global leader in vinyl and composite products for the building industry for over 80 years. Deceuninck is committed to continuous innovation and unrivaled quality, ensuring that when you choose Deceuninck, you enhance your living spaces with beauty and value. Our products and technologies continually set new standards for performance and durability. We hold more than 200 patents on processes, technologies and material science.



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