

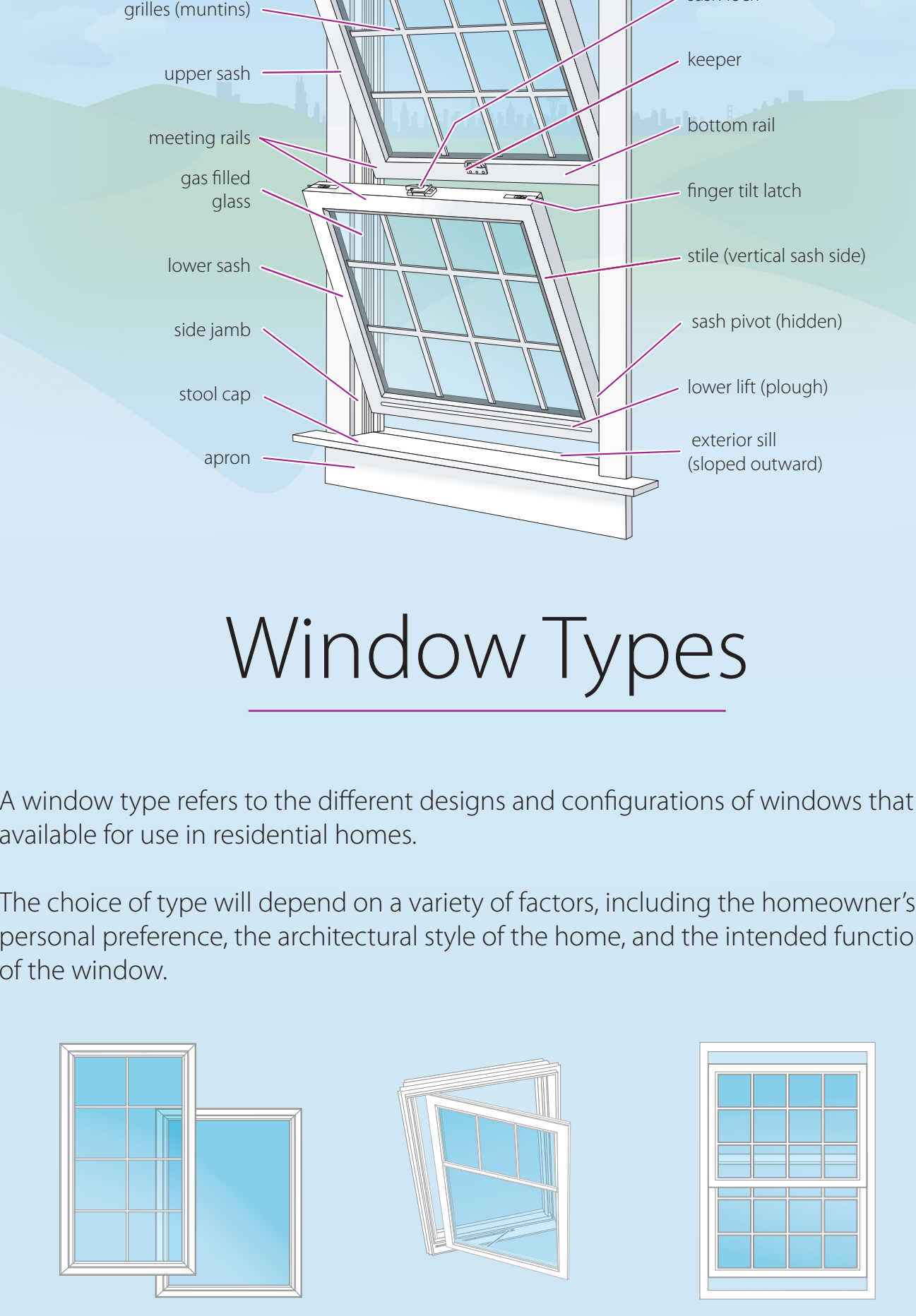
What's there to know about windows - the basics -

If you are in the market for replacement windows, and you want to know just about everything there is to know about windows, this infographic will get you started.

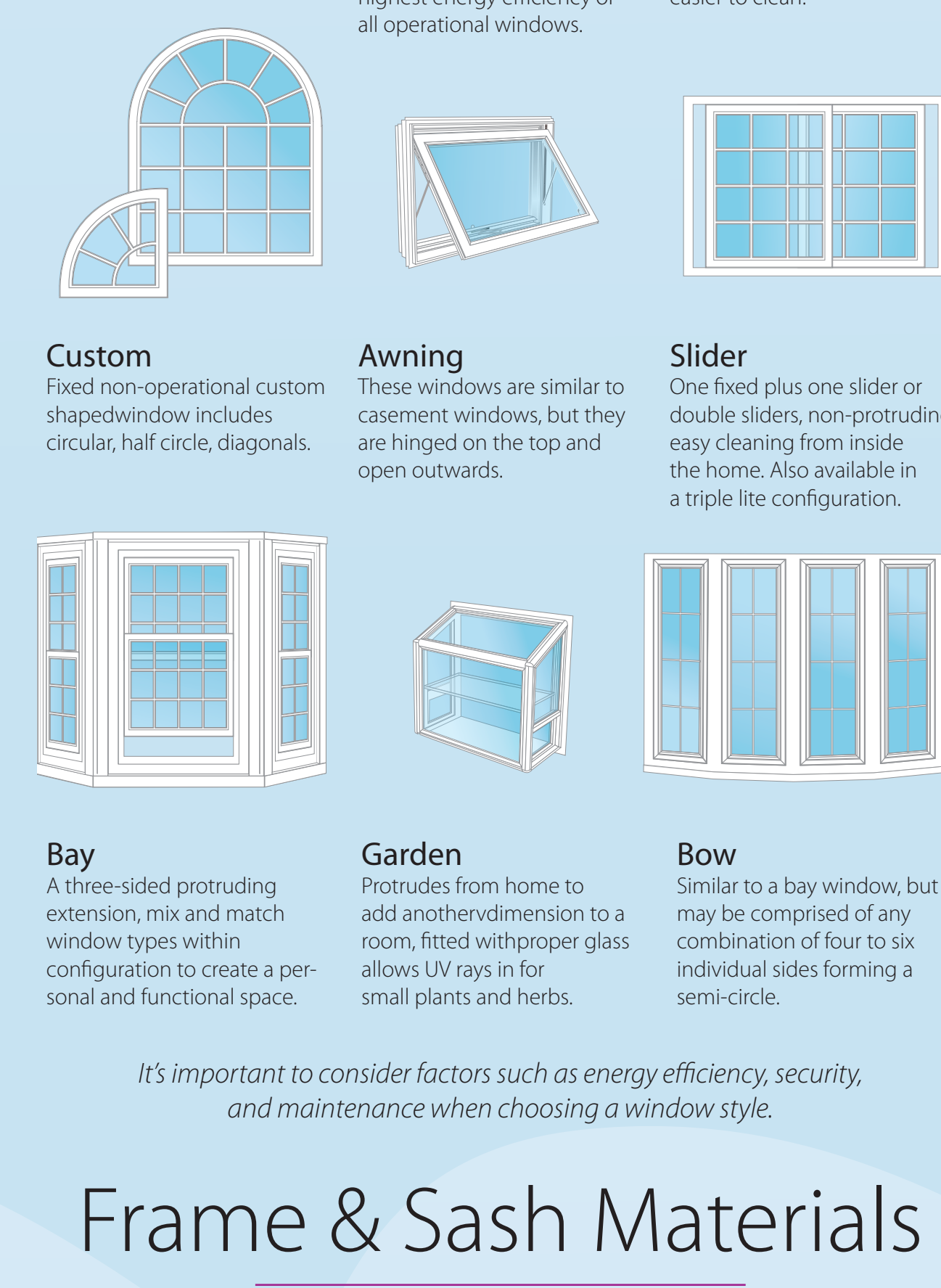
Understanding the basics will help you make informed decisions that could maximize the functionality and aesthetics of your windows, optimize energy efficiency, and save you money.

Anatomy of a Window

Exterior view



Interior view



Window Types

A window type refers to the different designs and configurations of windows that are available for use in residential homes.

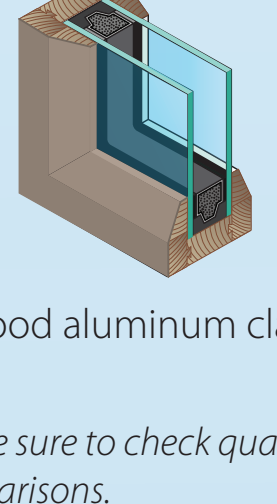
The choice of type will depend on a variety of factors, including the homeowner's personal preference, the architectural style of the home, and the intended functionality of the window.



Picture
Fixed non-operational window, most energy-efficient of all window types, offering largest possible surface area of all window types.



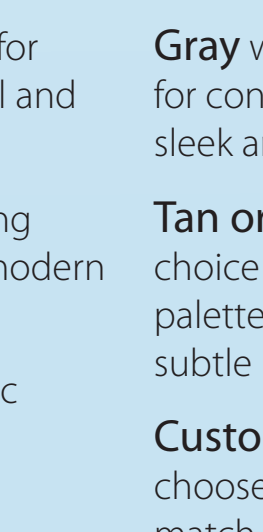
Casement
Opens outward horizontally, these windows are more economical than sliders or hung windows and allow for the largest surface area and highest energy efficiency of all operational windows.



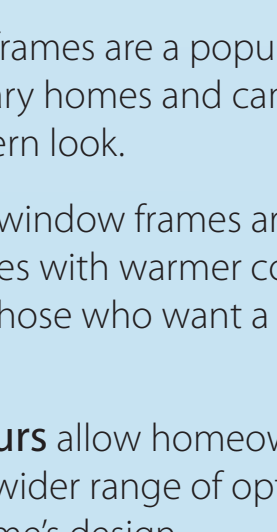
Hung
One or two operational windows, that slide up or down, non-protruding easy tilt-cleaning from inside the home. Also available in a triple lite configuration.



Custom
Fixed non-operational custom shaped window includes circular, half circle, diagonals.



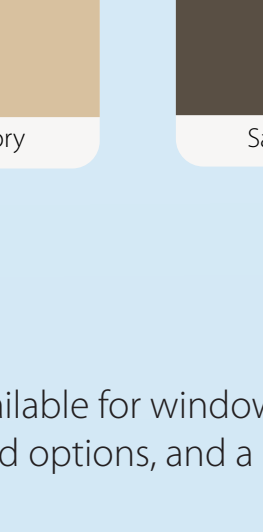
Awning
These windows are similar to casement windows, but they are hinged on the top and open outwards.



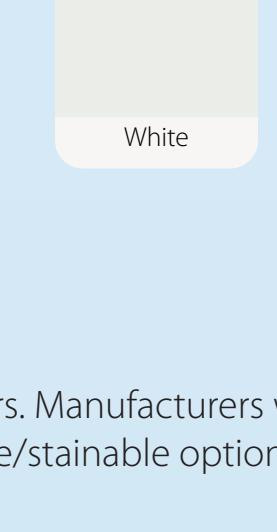
Slider
One fixed plus one slider or double sliders, non-protruding, easy cleaning from inside the home. Also available in a triple lite configuration.



Bay
A three-sided protruding extension, mix and match window types within configuration to create a personal and functional space.



Garden
Protrudes from home to add another dimension to a room, fitted with proper glass allows UV rays in for small plants and herbs.



Bow
Similar to a bay window, but may be comprised of any combination of four to six individual sides forming a semi-circle.

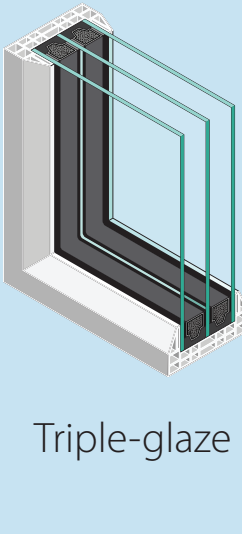
It's important to consider factors such as energy efficiency, security, and maintenance when choosing a window style.

Frame & Sash Materials

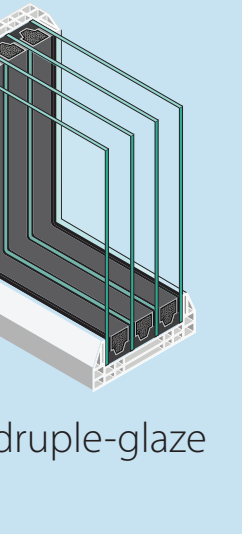
Residential windows can be made from a variety of materials, including wood, vinyl, aluminum, fiberglass, and composite materials. (sashes shown below)



Wood



Vinyl, fiberglass, composite

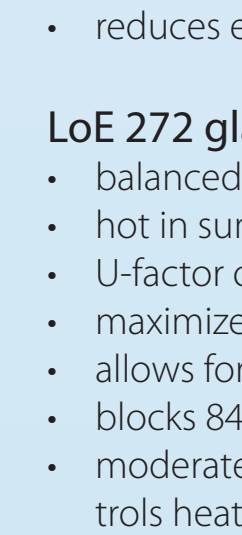


Aluminum

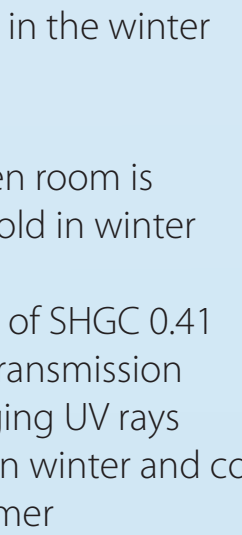
In addition to the materials above, window cladding can be applied to the exterior of the window frame to provide additional protection against the elements, improve energy efficiency and enhance the appearance of the home.



Wood vinyl clad



Vinyl aluminum clad



Wood aluminum clad

Not all windows of a certain material perform equally. Be sure to check quality and energy efficiency when making comparisons.

Window Colours

Window frames & sashes are available in a wide variety of colours to match any home's design and aesthetic preferences. Colours are usually applied as a laminant, or with a special paint.

Exterior Colours

White is the most popular colour for window frames because it's neutral and goes with any colour scheme.

Black window frames are becoming increasingly popular, especially in modern or industrial-style homes.

Brown window frames are a classic choice and blend well with natural materials like wood and stone.

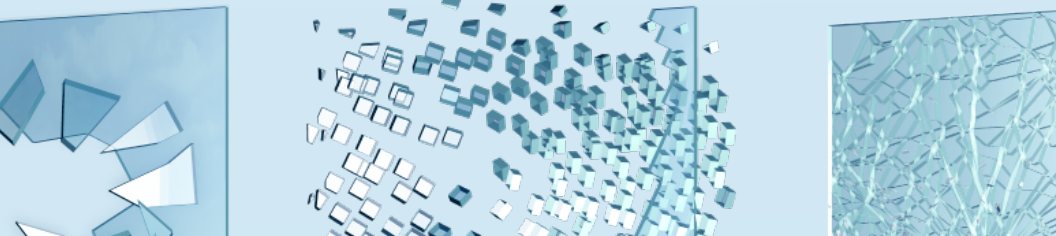
Gray window frames are a popular choice for contemporary homes and can give a sleek and modern look.

Tan or beige window frames are a good choice for homes with warmer color palettes or for those who want a more subtle look.

Custom colours allow homeowners to choose from a wider range of options to match their home's design.

Below are some of the most common colours - some manufacturers offer varying shades and tones.

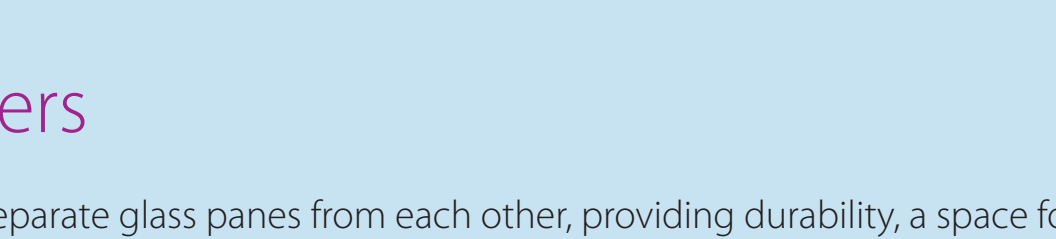
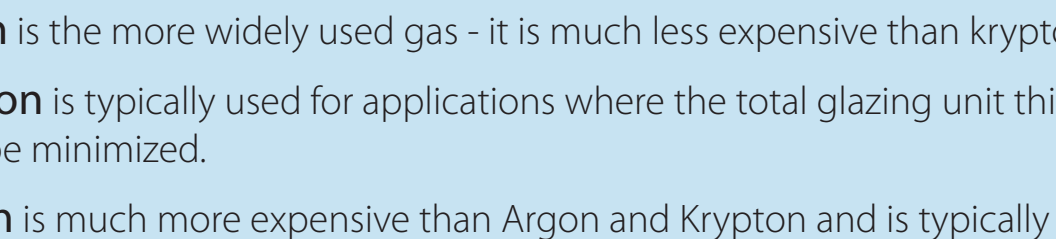
Exterior Colour Palette Example



Interior Colours

There are fewer colour choices available for window interiors. Manufacturers will typically offer white, a few faux wood options, and a paintable/stainable option.

Interior Colour Palette Example



Ultimately, the colour of window frame is a personal choice, and choosing the right colour will depend on the style of the home and the homeowner's personal taste.

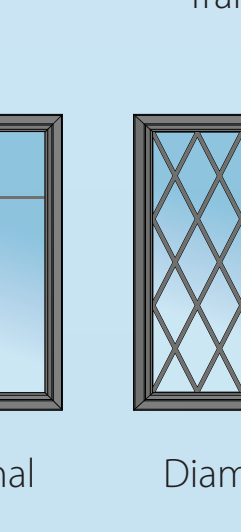
Glass Options

There are several types of glass options available for residential windows. Below are some of the most common ones

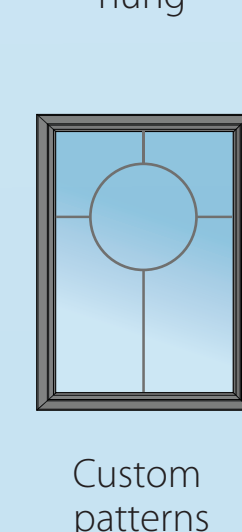
The choice of glass depends on your specific needs, preferences, and budget. It's important to consult with a professional to determine which type of glass is best for your home.

Glazing

Window glazing refers to the glass framed within a window (IGU's - insulated glass units). In Canada, double-glazed glass is pretty much the standard, but triple-glazed windows are also available. The more layers of glass the higher the thermal insulation factor, (R-value) which can save money on energy costs.



Double-glaze



Triple-glaze

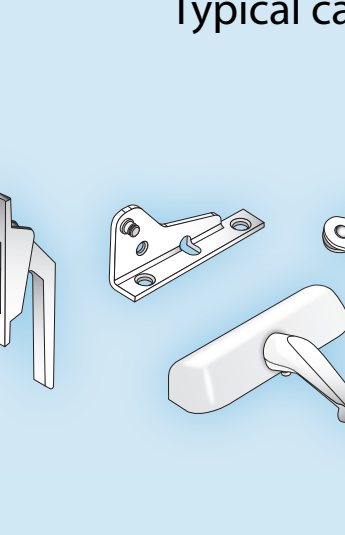


Quadruple-glaze

Not all insulated glass windows are created equal, be sure to compare ratings.

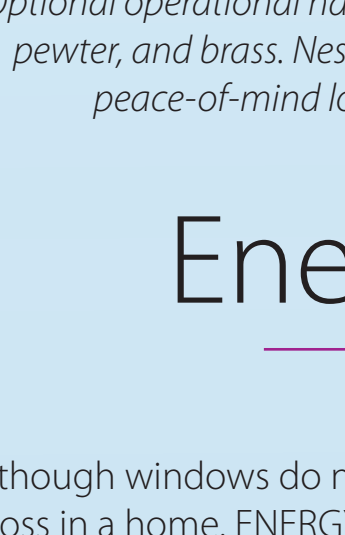
LoE Glass

Low Emissivity glass has a special microscopically thin layer of silver applied to the surface which acts to reduce the amount of heat that can flow through the glass itself. It reflects heat in both directions keeping heat out in the summer and in during the winter.



LoE 180 glass

- highest Energy Star energy rating
- U-factor of 0.31
- maximized solar gain of SHGC 0.68
- allows for 79% light transmission
- blocks 70% of damaging UV rays
- reduces energy costs in the winter



LoE 272 glass

- balanced option when room is hot in summer and cold in winter
- U-factor of 0.30
- maximized solar gain of SHGC 0.41
- allows for 72% light transmission
- blocks 84% of damaging UV rays
- moderate solar gain in winter and controls heat in the summer



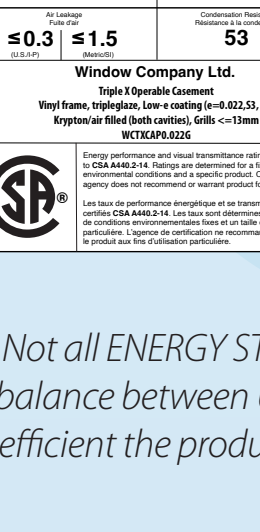
LoE 366 glass

- best insulation option, keeps heat and sun out of home and hot/cold inside the home
- U-factor of .29
- maximized solar gain of SHGC 0.27
- allows for 65% light transmission
- blocks 95% of damaging UV rays

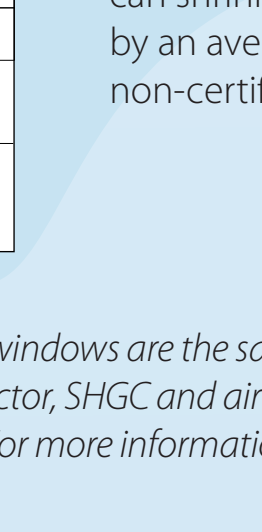
LoE glass is available in several other configurations to produce a desired balance between solar gain, light transmission and UV blocking.

Tints

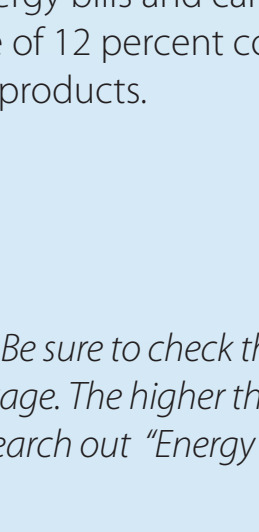
Tinted glass (gray, green, bronze & blue) is produced by adding metal oxides to float glass (untreated glass) during manufacture. Tinted glass absorbs and re-radiates light and solar energy reducing heat, brightness and glare in the summer, but lose heat in the winter at the same rate as untinted windows.



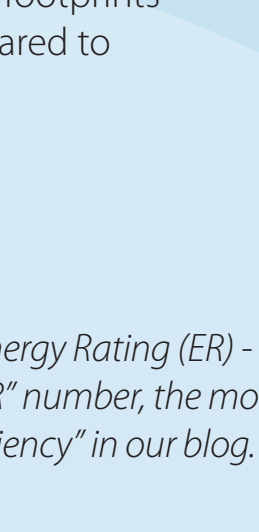
Gray



Green



Bronze



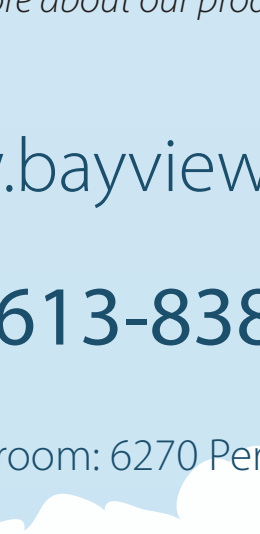
Blue

Frosted & Textured

Many window manufacturers offer an assortment of obscure glass options to provide privacy. There are 4-5 standard patterns, but many manufacturers offer more.



Rain



Glue Chip



Floral



Frosted

Acid-Etched

Impact Resistant & Secure

In today's window market, dual pane glass is pretty much the standard for new home and replacement windows. Dual pane, also known as double-glazed makes entry into a house difficult and loud.

If security is a concern toughened tempered glass or laminated safety glass is available from most window manufacturers.

Regular float glass

Safety glass

Laminated glass

Between the Panes

Inert Gases

Inert odourless, colourless, non-toxic gases such as Argon, Krypton and Xenon are used to fill the spaces between glass multi-paned windows. These gases displace the air between the glazed windows making them less conductive than air and more effective in reducing heat transfer from one pane to another.

- **Argon** is the more widely used gas - it is much less expensive than krypton.
- **Krypton** is typically used for applications where the total glazing unit thickness must be minimized.
- **Xenon** is much more expensive than Argon and Krypton and is typically used in large expanses of glass.

Spacers

Spacers separate glass panes from each other, providing durability, a space for gas fills and increased thermal performance (reduction of temperature transfer from one window pane to another).

There are many different spacer technologies available and although some may perform better than others - it should be noted that windows are rated by the sum of all parts rather than individual components.

Intercept® Spacer

Swiggle® Spacer

Super Spacer®

Aluminium Spacer®

TPS Spacer®

TGI® Spacer M

When comparing windows, look at Condensation Resistance (CR) and Energy Rating (ER) values which indicate the overall performance of the window.

Grills

Grills are a great way to add style and elegance to a windows. With today's multiple window pane technologies, many manufacturers offer standard and custom grill configurations between the panes of simulated divides on the exterior of the glass to provide a more traditional look.

Colonial

Prairie frame

Prairie glass hung

Traditional hung

Simulated hung

Fractional

Diamond

Custom patterns

Simulated divide hung

Simulated divide

A standard white grill has a 3/4" contour, but many manufacturers also offer 1" as well as 5/8", 7/8" flat, 1/4" square and simulated divide lite (SDL) in a variety of colours and metallic options to help you create a perfect custom style that suits your home, or your taste.

The Hardware

Standard and optional operational window hardware is usually offered by most window manufacturers. Standard hardware is typically available in white only. Quality varies from brand to brand, so be sure to compare, and ask about upgrades.

Typical hung & sliding window hardware

Typical casement & awning window hardware

Optional operational handles are often available in metallic finishes such as nickel, pewter, and brass. Nested handles remove clutter, and self-locking locks ensure peace-of-mind locking with the sound of a click, or colour indicator.

Energy Efficiency

Even though windows do not consume energy, they can be a significant source of heat loss in a home. ENERGY STAR qualified windows will save you money by reducing overall annual energy costs. ENERGY STAR windows will also help keep your home more comfortable all-year-round and may have less condensation in cold weather compared with a conventional non-certified product.

The New Energy Star Climate Zones Jan 2020 - One Zone for all of Canada

Over the years ENERGY STAR Climate zones have evolved from multiple zones with corresponding minimum requirements to a single zone that encompasses all of Canada. If you are looking for maximum efficiency be sure to search out "ENERGY STAR's Most Efficient Windows" available at the Natural Resources Canada website.

When you buy ENERGY STAR certified windows, you are getting a product that has been tested against current standards by an accredited Canadian laboratory - test results are verified by an independent third party.

Installing ENERGY STAR certified windows can shrink energy bills and carbon footprints by an average of 12 percent compared to non-certified products.

Not all ENERGY STAR windows are the same. Be sure to check the Energy Rating (ER) - a balance between U-factor, SHGC and air leakage. The higher the "ER" number, the more efficient the product. For more information search out "Energy Efficiency" in our blog.

Want to know more

Visit the Bayview Windows website - you'll find plenty of resource material at both basic and technical levels.

As a window replacement company we are committed to bringing our customers a broad selection of quality window and door products at competitive and affordable prices

We've served 1000's of satisfied customers in the Ottawa and surrounding areas, we've made it our business to offer expert advice, superior products, flawless installations, and an unbeatable Bayview Windows Lifetime Labour and Materials Warranty.

Contact us today for a free in-home consultation and quote!
Better still come visit us at our showroom to learn more about our products and services.

www.bayviewwindows.ca

613-838-2211

Visit our showroom: 6270 Perth St., Richmond (Ottawa)

