SAINT-GOBAIN
GLASS

Glazing Options

Choose a high performance glazing option, perfectly matched to your living space, comfort and safety needs

Incorporating
PLANITHERM®
a brand of SAINT-GOBAIN GLASS

Glazing Options, from Saint-Gobain Glass, is an exciting new concept that introduces a flexible range of high performance window glass configurations that deliver enhanced comfort, security and energy efficiency for your home.

The creation of the Glazing Options range has been made possible by developments in modern glass coating technology. Saint-Gobain Glass has pioneered these advancements, which include the use of microscopic coatings to control the amount of light and heat that passes through, or is reflected away from, the glass in your windows.

This technology was first used in our PLANITHERM series of energy efficient window glass, which set new standards for energy saving windows - helping to create warmer, more comfortable and more energy efficient homes.

The launch of Glazing Options recognises that the best choice of window glass will vary according to the orientation, size and lifestyle criteria of each home and its owner. You can now choose glazing options to achieve higher acoustic protection, greater security and safety, or enhanced comfort or efficiency, to suit your individual requirements.

In fact, with Glazing Options you can even have different glass configurations in different windows in your home. For example, on any given pack you might opt to change the glass for any large south facing windows to reflect away more heat in summer.

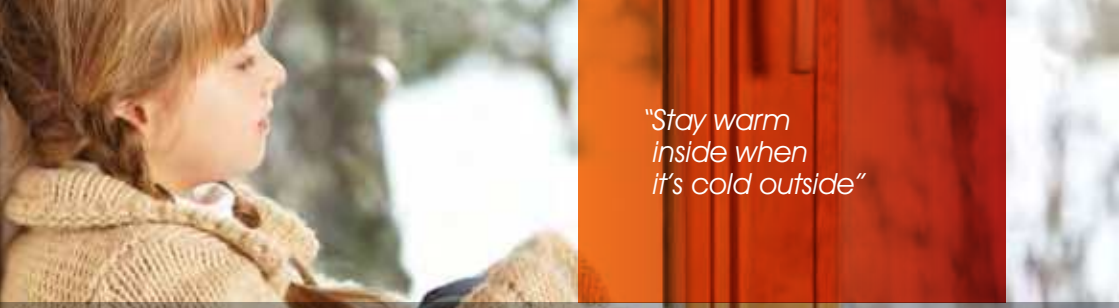
Glazing Options enables you to make an informed choice when you replace or install new windows to get the best possible combination of comfort, safety and energy efficiency.

Advice is available from your local member of the PLANITHERM Installer Network, all of whom have access to our SGG Glass Compass app (see page 13), to help you choose the best Glazing Options for your home.

The matrix below illustrates the features of each Glazing Options pack. Within this guide you will find information on each of the performance criteria and each available pack option.

Performance Criteria	Glazing Options Packs					
	Standard	Comfort	Energy	Security	Platinum	Ultimate
Energy Savings	✓	✓	✓+	✓	✓	✓+
Winter Comfort	✓	✓+	✓+	✓	✓	✓+
Daylight Comfort	✓+	✓	✓	✓	✓+	✓
Security			✓	✓+	✓+	✓+
Acoustic Comfort				✓	✓+	✓+
UV Reduction				✓	✓	✓
Easy Maintenance						✓

✓+ = Advanced Option



ENERGY SAVINGS

Estimates suggest that up to 26% of all the heat lost in the home escapes through the windows. Modern energy-efficient windows help to reduce this heat loss, capture heat from outside and lower the amount of energy needed to heat the home.

Energy efficient glass works in two ways to lower the heating required to maintain your home to your desired temperature. Firstly, it allows more warmth from the sun ("free energy") and natural daylight to pass through the windows. Secondly, it retains more of the heat within the room.

Choosing an energy efficient glass optimises the potential saving on your heating bills, reducing heat loss by as much as 50%.

The achievable energy savings for each home will depend on a number of factors but can be in the range of 20-30%. Your window installer can provide you with calculations using our SGG Glass Compass app. All replacement windows are also rated under the Window Energy Ratings scheme (see page 12). You should specify an A or A+ rating for the maximum savings.

ADVANTAGES

- **Optimises the balance between comfortable warmth and energy consumption**
- **Lower heating bills**
- **Lower CO_2 emissions for a more sustainable environment**

SPECIFICATIONS

All the glass combinations within the Glazing Options range will improve the energy performance of your home compared with single glazed windows or older double glazed units.

We have identified two levels of high-performance energy efficient glazing. Look for these icons within the Glazing Options range:

High levels of energy efficiency performance to reduce your heating bills

The extra pane in triple glazed units helps create the most energy efficient window solutions

"Benefit from a warm, comfortable home and reduce your heating bills too"

WINTER COMFORT

Keeping warm in winter is probably the most important factor to consider in terms of comfort within your home. Choosing a Glazing Option with winter comfort benefits maximises heat retention in the season when you need it the most. Your home will benefit from energy efficient heating without sacrificing warmth.

The amount of heat lost through your windows is significantly reduced as the coating on the glass keeps heat from escaping and also captures warmth from natural daylight to help maintain your home at the desired temperature, whilst reducing energy consumption and cost.

ADVANTAGES

- **A warm home interior during the coldest winter days**
- **Enhanced comfort and well-being**
- **Reduced heating bills and CO_2 emissions**

Even in rooms with large windows, high performance glazing with Winter Comfort will retain internal heat and eliminate cold spots nearest to the windows.

SPECIFICATIONS

Winter Comfort is achieved by reducing heat loss - so it is warm inside even when cold outside.

Glazing options with this icon will achieve greater winter comfort than standard double glazing

Glazing options with this icon provide superior winter comfort by minimising heat loss

DAYLIGHT COMFORT

Enjoy more natural light and a feeling of increased space within your home by choosing Glazing Options that maximise light transmission.

Daylight is commonly defined as the combination of all direct and indirect sunlight during daytime hours. Choosing windows that let more natural light in contribute to your comfort and well-being by reducing your dependence on artificial light sources.

This can be achieved by choosing larger windows but often this is impractical. Selecting a window glass that is optimised for light transmission, and has a neutral appearance, will help you to meet this need.

ADVANTAGES

- **Reduces the need to use artificial lighting**
- **Has a positive impact on your health and well-being**
- **Improves the quality of your sleep**
- **Reduces lighting costs**

SPECIFICATIONS

We achieve an ultra clear finish by specifying DIAMANT low-iron glass for the outer pane. Low-iron glass does not have the natural green tinge of other window glass.

Clear finish ensures crystal clear views and pure, natural internal light

Ultra neutral aesthetics deliver the purest, most natural internal light environment

SECURITY

If security is an important issue for you, choose a pack with higher security performance. All triple glazing options are inherently more secure due to the extra pane of glass. For optimal security choose a double or triple glazed unit with laminated glass.

Choosing a pack with enhanced security will help protect you, and your family, from the risk of serious injury caused by accidental breakage or impact. This functionality will also delay intruder break-in and can actively discourage burglars.

High security glazing helps you feel safe and secure in your home.

ADVANTAGES

- **Reduced injury risk in case of glass breakage**
- **Protection against burglary or vandalism**
- **Feel safe and protected at home**
- **Achieves Secured by Design standards, helping to protect your home against crime**

SPECIFICATIONS

Triple glazed windows provide enhanced security by virtue of the additional pane of glass

Laminated safety glass includes a layer of plastic film sandwiched between two pieces of glass. If the glass does break, the pieces of glass remain adhered onto the integrated film so the pane remains intact

"Creating a peaceful indoor environment"

ACOUSTIC COMFORT

Make your home a peaceful respite from the bustling world outside. High performance Glazing Options can include an acoustic control layer to keep disturbing outside noise where it belongs – outside!

Enjoy a quieter, more relaxed living environment for enhanced well-being and comfort.

ADVANTAGES

- **A peaceful and relaxing internal environment**
- **Enhanced comfort and well-being**
- **Improved sleep patterns and quality of sleep**
- **Reduced stress**

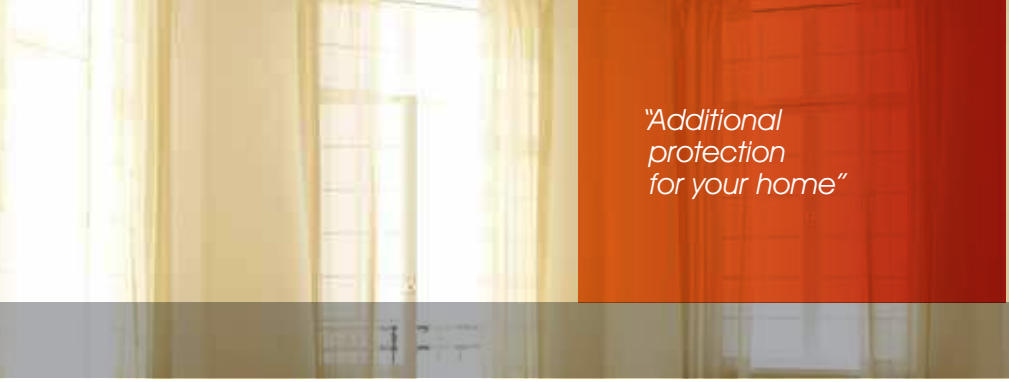
SPECIFICATIONS

Compared to standard glazing, a Glazing Options pack featuring Acoustic Comfort can achieve and exceed these target levels:

Enhanced levels of comfort and noise reduction

Our highest levels of interior acoustic comfort and noise reduction

To experience the difference that laminated glass can make to acoustic control, download the GLASS dBSTATION app from **glass-dbstation.com**



"Additional protection for your home"

UV REDUCTION

The sun's rays contain ultra violet light, exposure to which can be harmful to people and to items like furnishings and window dressings.

UV exposure can cause fading to those materials that are most exposed to the sun for prolonged periods.

All the glass combinations used in Glazing Options packs have a degree of UV reduction. To derive maximum protection, select a pack showing a UV reduction icon. These options block virtually all of the harmful UV rays (up to 99.6%).

ADVANTAGES

- **Virtually eliminates fading of furnishings and window dressings**
- **Provides a safe interior environment with respect to exposure to UV rays**

SPECIFICATIONS

We measure UV reduction by the percentage of the sun's UV rays that are blocked by the glass.

Look for this icon to ensure maximum UV reduction

EASY MAINTENANCE

Selecting a pack with our easy-maintenance option dramatically reduces the need for manual cleaning of the window glass.

The easy-maintenance, self-cleaning window glass stays cleaner for longer. In rainy conditions, the glass remains clear, providing better visibility.

ADVANTAGES

- **Windows stay cleaner for longer**
- **Save time, effort and costs**
- **Clear view when it is raining, thanks to the sheeting effect**

SPECIFICATIONS

The coating on the glass is activated by the sun's UV rays to break down dirt and grime, loosening it from the surface of the window. When raindrops fall on the surface of the glass, they form a water film which cleans the glass without leaving a residue.

This icon indicates the use of easy-maintenance glass, which is the result of intensive research and development

HEAT TRANSMISSION

The amount of the sun's radiant heat, which is allowed to pass through the glass. A higher number will contribute to greater energy efficiency.

LIGHT TRANSMISSION

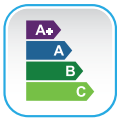
The amount of the daylight that is allowed through by the glass. A higher number indicates a greater degree of daylight comfort.

UV REDUCTION

The amount of the sun's UV rays which are blocked by the glass. The higher the number, the greater the UV protection.

U-VALUE

A measure of internal heat loss for the window. The lower the number, the greater the insulation.



INDICATIVE WERs

The typical Window Energy Rating that could be achieved with each Glazing Option. Note that the actual WER will be affected by the other window components such as frame, spacer bar and gas filling – your PLANITHERM Network Installer will be able to advise you on this.

"Current Building Regulations (Part L) requires all domestic replacement windows to be band C or higher"

WINDOW ENERGY RATINGS

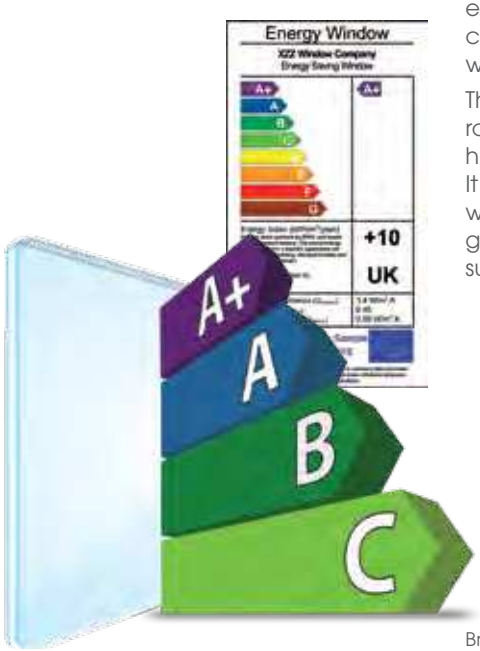
Window Energy Ratings (WERs) is the UK national scheme for rating the energy efficiency of windows. It is operated by BFRC* and all rated windows have a label, similar to those seen on items such as fridges and washing machines.

WERs are grouped into bands with A+ being the highest. The rating will show the net heat loss (or gain) expressed as kilowatt hours per square metre per year. The highest performing windows actually gain more heat (by capturing "free" energy from natural daylight) than they lose (through the windows).

Current Building Regulations (Part L) require all domestic replacement windows to be band C or higher. Energy Saving Trust recommends windows that achieve at least a B rating, whilst many consumers will opt for an A or A+.

All of the Saint-Gobain Glass UK Glazing Options packs, with the exception of the Comfort Pack, can achieve an A or A+ rating with most available window frames.

The Comfort Pack will achieve a C rating as it is optimised for maximum heat retention and winter comfort. It is an ideal choice for those who want to minimise heat loss and help guard against overheating when the sun is at its strongest.



British Fenestration Rating Council

The SGG Glass Compass, from Saint-Gobain Glass, provides reliable cost savings calculations, and can help determine the most appropriate glazing for any home. In minutes you can see tangible benefits of choosing high performance Saint-Gobain glass for your new windows.

Through a series of simple entries, the SGG Glass Compass will provide a quick and simple illustration of your home, allowing you to work with your window installer to make an informed decision on the most appropriate glass choice.

Using key criteria such as the geographical location of the property, the type of heating, and level of winter and summer comfort required, the SGG Glass Compass can display the savings that could be achieved when upgrading to new windows containing Saint-Gobain glass.

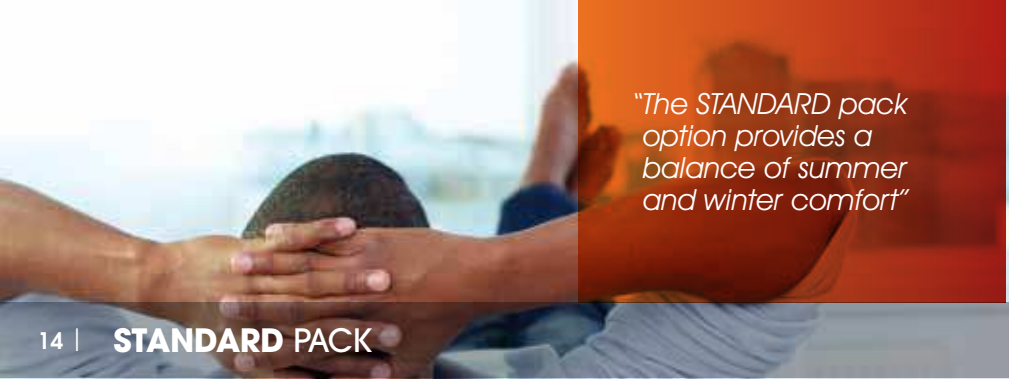
The performance criteria of various products within the PLANITHERM family is programmed in, helping to ensure that the app selects the ideal glass configuration. PLANITHERM TOTAL has been optimised for Window Energy Ratings and provides a good solution for many installations. However, PLANITHERM ONE has been designed to minimise heat loss and is ideally suited to areas such as larger south facing windows where winter comfort is key. PLANITHERM 4S is recommended when excess heat gain is an issue (e.g. conservatories) and high summer comfort is required.

ADVANTAGES

- **Reliable cost savings calculations, taking into account the geographical position of your home**
- **Determine the most appropriate glazing for the windows in your home**
- **Personalise settings such as type of heating, summer and winter comfort, etc**

The SGG Glass Compass is available as a webtool and app for smartphones and tablets

- **Visit the App Store or Android Market via smartphone, tablet or PC**
- **Search for "Glass Compass" (App Store: Productivity; Android Market: Business)**
- **Download and install the application**



"The STANDARD pack option provides a balance of summer and winter comfort"

STANDARD PACK

Our STANDARD pack represents what has become the modern standard for energy efficient double glazed windows. Using PLANITHERM TOTAL+ on the inner pane, the STANDARD pack option provides a balance of summer and winter comfort, combined with energy efficiency performance.

When combined with most window frames the STANDARD pack configuration will easily produce a Window Energy Rating rating of B and an A rating is possible.

KEY FUNCTIONS

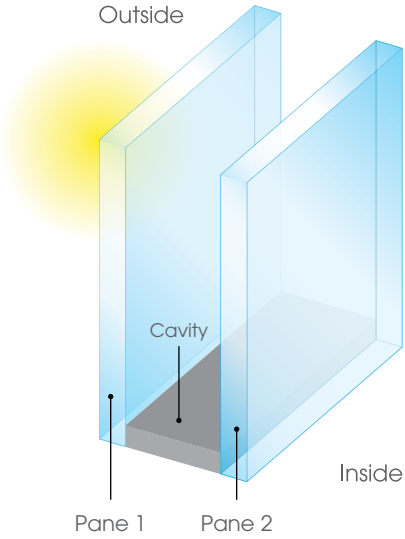
PACK OPTIONS

For most homes with average sized windows in the UK the STANDARD pack will provide suitable comfort levels in both summer and winter. For large windows in south or west facing rooms select PLANITHERM 4S or PLANITHERM ONE for the inner pane to reflect more summer heat away from the home.

You might also want to consider upgrading to the STANDARD+ pack, which has an anti-condensation coating on the outer pane.

USUAL CONFIGURATION

Pane 1	PLANILUX float glass	4mm
Cavity	Warm edge spacer, Argon gas filled	16mm
Pane 2	PLANITHERM TOTAL+ energy saving glass	4mm



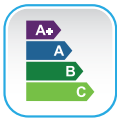
PERFORMANCE DATA

Heat Transmission
71%

Light Transmission
80%

UV Reduction
62%

U-value
1.2W/m^{2}K



Indicative WER
A/B

Performance data demonstrates typical values achieved for the STANDARD Pack configuration. Please note data will change with changes to the glass (pack options). Ask your PLANITHERM Installer for more information.

"The real advantage of this option is the very low heat loss"

The COMFORT pack has been designed to make your home more comfortable in winter.

The use of PLANITHERM ONE Low-e glass on the inner pane creates a low U-value and, in combination with DIAMANT low-iron glass for the outer pane, creates an ultra neutral appearance that increases natural light.

Increasing aesthetics and daylight, reduces the need for artificial lighting during daytime and can improve comfort, well-being and quality of sleep.

The COMFORT pack will achieve an indicative Window Energy Rating of C, which is sufficient to satisfy the requirements of Building Regulations. The real advantage of this option is the very low heat loss, which provides high levels of winter comfort.

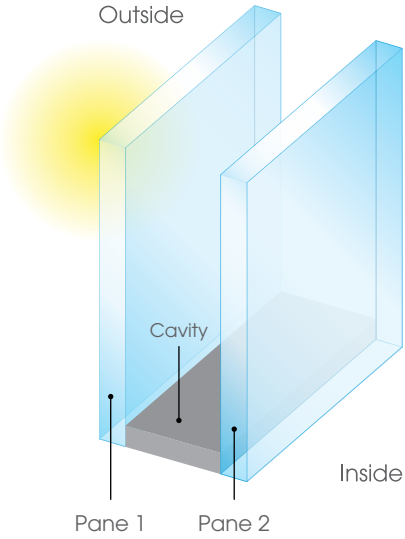
KEY FUNCTIONS

PACK OPTIONS

You might also want to consider upgrading to the COMFORT+ pack, which has an anti-condensation coating on the outer pane.

USUAL CONFIGURATION

Pane 1	DIAMANT low iron glass	4mm
Cavity	Warm edge spacer, Argon gas filled	16mm
Pane 2	PLANITHERM ONE energy saving glass	4mm



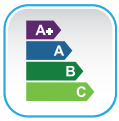
PERFORMANCE DATA

Heat Transmission
53%

Light Transmission
72%

UV Reduction
62%

U-value
1.0W/m^{2}K



Indicative WER
C

Performance data demonstrates typical values achieved for the STANDARD Pack configuration. Please note data will change with changes to the glass (pack options). Ask your PLANITHERM Installer for more information.

"The thermal efficiency of triple glazed units ensures ultra low heating costs"

Our ENERGY pack provides a highly energy efficient option incorporating triple glazing. Triple glazing is commonplace throughout continental Europe and is now being increasingly adopted in the UK.

Triple glazed units have exceptional thermal insulation properties to retain heat and provide a very low U-value. This is enhanced by the solar heat gain to create a warm, comfortable home with low heating costs.

The extra pane in a triple glazed unit provides enhanced security, while the use of DIAMANT low-iron glass helps maximise daylight comfort.

The ENERGY pack will achieve a Window Energy Rating of A+, the highest level of energy efficiency performance.

KEY FUNCTIONS

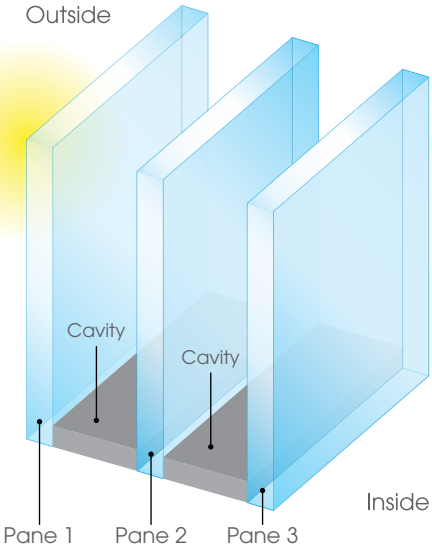
PACK OPTIONS

For most homes with average sized windows in the UK the ENERGY pack with PLANITHERM TOTAL+ as the Low-e glass will provide suitable comfort levels in both summer and winter. For large windows in south or west facing rooms select PLANITHERM 4S or PLANITHERM ONE for the inner pane to reflect more summer heat away from the house.

You might also want to consider upgrading to the ENERGY+ pack, which has an anti-condensation coating on the outer pane.

USUAL CONFIGURATION

Pane 1	DIAMANT low iron glass	4mm
Cavity	Warm edge spacer, Argon gas filled	14mm
Pane 2	PLANITHERM TOTAL+ energy saving glass	4mm
Cavity	Warm edge spacer, Argon gas filled	14mm
Pane 3	PLANITHERM TOTAL+ energy saving glass	4mm



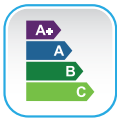
PERFORMANCE DATA

Heat Transmission
63%

Light Transmission
72%

UV Reduction
74%

U-value
0.7W/m^{2}K



Indicative WER
A+

Performance data demonstrates typical values achieved for the STANDARD Pack configuration. Please note data will change with changes to the glass (pack options). Ask your PLANITHERM Installer for more information.

"The inner pane is laminated with a clear layer to increase acoustic comfort and maximise security"

Our SECURITY pack adds enhanced security and basic acoustic protection to the energy efficiency and winter comfort properties of the STANDARD pack for double glazed windows.

The PLANITHERM TOTAL+ glass on the inner pane is laminated with a STADIP layer to increase acoustic comfort and maximise security.

The SECURITY pack provides an excellent balance of summer and winter comfort, combined with high energy efficiency performance.

The glass combination in the SECURITY pack also boosts UV protection, helping to reduce the bleaching effect of the sun's rays on furnishings and window dressings.

When combined with most window frames the SECURITY pack configuration will easily produce a Window Energy Rating of B and can achieve an A-rating.

It also achieves Secured by Design standards, helping to protect your home against crime.

KEY FUNCTIONS

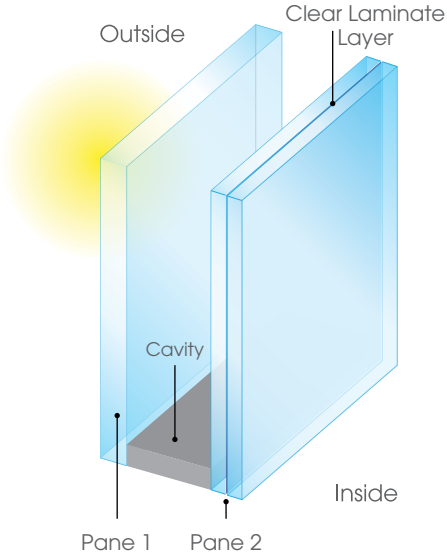
PACK OPTIONS

For most homes with average sized windows in the UK, the SECURITY pack with PLANITHERM TOTAL+ as the Low-e glass will provide suitable comfort levels in both summer and winter. For large windows in south or west facing rooms select PLANITHERM 4S or PLANITHERM ONE for the inner pane to reflect more summer heat away from the house.

You might also want to consider upgrading to the SECURITY+ pack, which has an anti-condensation coating on the outer pane.

USUAL CONFIGURATION

Pane 1	PLANILUX float glass	4mm
Cavity	Warm edge spacer, Argon gas filled	18mm
Pane 2	PLANITHERM TOTAL+ energy saving glass laminated with STADIP layer	6.8mm



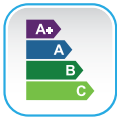
PERFORMANCE DATA

Heat Transmission
70%

Light Transmission
79%

UV Reduction
99.5%

U-value
1.2W/m^{2}K



Indicative WER
A/B

Performance data demonstrates typical values achieved for the STANDARD Pack configuration. Please note data will change with changes to the glass (pack options). Ask your PLANITHERM Installer for more information.

"This glass combination boosts security and acoustic protection"

Our PLATINUM pack offers homeowners the optimum all-round glazing performance for double glazed windows.

The PLATINUM pack provides all of the benefits of the SECURITY pack with enhanced levels of acoustic protection and daylight comfort.

The PLANITHERM TOTAL+ glass on the inner pane is laminated with a STADIP SILENCE layer for maximum noise reduction and security.

The PLATINUM pack provides an excellent balance of summer and winter comfort, combined with high energy efficiency performance.

The glass combination also boosts UV protection, helping to reduce the bleaching effect of the sun's rays on furnishings and window dressings.

The PLATINUM pack will achieve a Window Energy Rating of A when combined with other high-performance window elements.

KEY FUNCTIONS

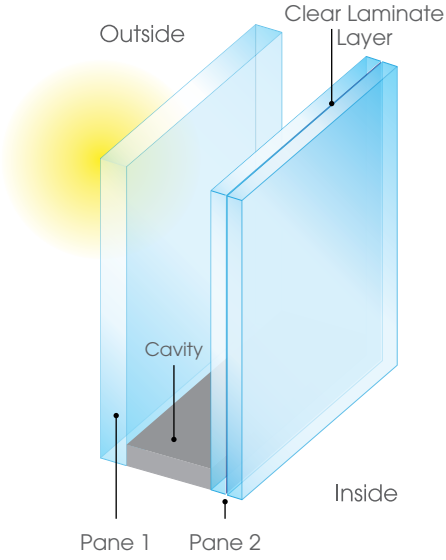
PACK OPTIONS

For most homes with average sized windows in the UK, the PLATINUM pack will provide suitable comfort levels in both summer and winter. For large windows in south or west facing rooms select PLANITHERM 4S or PLANITHERM ONE for the inner pane to reflect more summer heat away from the house.

You might also want to consider upgrading to the PLATINUM+ pack, which has an anti-condensation coating on the outer pane. Or, if you are interested in an easy-maintenance option, you can specify BIOCLEAN self-cleaning glass for the outer pane.

USUAL CONFIGURATION

Pane 1	DIAMANT low iron glass	4mm
Cavity	Warm edge spacer, Argon gas filled	18mm
Pane 2	PLANITHERM TOTAL+ energy saving glass laminated with STADIP SILENCE acoustic layer	6.8mm



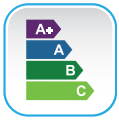
PERFORMANCE DATA

Heat Transmission
73%

Light Transmission
80%

UV Reduction
99.4%

U-value
1.2W/m^{2}K



Indicative WER
A

Performance data demonstrates typical values achieved for the STANDARD Pack configuration. Please note data will change with changes to the glass (pack options). Ask your PLANITHERM Installer for more information.

Our ULTIMATE pack offers homeowners the optimum performance characteristics available for triple glazed windows.

The ULTIMATE pack maximises winter comfort and energy savings potential alongside enhanced security with a laminated inner pane.

Acoustic protection is also enhanced and the inclusion of our BIOCLEAN easy-maintenance, self-cleaning glass on the outer pane provides an easy maintenance feature.

The ULTIMATE pack will achieve a Window Energy Rating of A+, the highest level of energy efficiency performance.

It also achieves Secured by Design standards, helping to protect your home against crime.

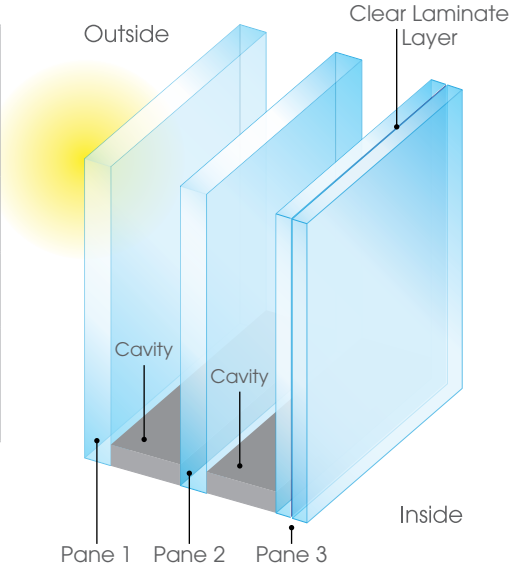
KEY FUNCTIONS

PACK OPTIONS

If preferred, you can substitute the BIOCLEAN easy-maintenance glass for an anti-condensation coating on the outer pane.

USUAL CONFIGURATION

Pane 1	BIOCLEAN self cleaning glass	4mm
Cavity	Warm edge spacer, Argon gas filled	12mm
Pane 2	PLANITHERM TOTAL+ energy saving glass	4mm
Cavity	Warm edge spacer, Argon gas filled	14mm
Pane 3	PLANITHERM TOTAL+ energy saving glass laminated with STADIP SILENCE acoustic layer	6.8mm



PERFORMANCE DATA

Heat Transmission
58%

Light Transmission
68%

UV Reduction
99.6%

U-value
0.7W/m²K

Indicative WER
A/A+

Performance data demonstrates typical values achieved for the STANDARD Pack configuration. Please note data will change with changes to the glass (pack options). Ask your PLANITHERM Installer for more information.

"Saint-Gobain Glass operates a nationwide installer scheme, known as the PLANITHERM Installer Network."

Your window company should be able to advise you on how to select the best Glazing Options for your home.

Saint-Gobain Glass operates a nationwide installer scheme, known as the PLANITHERM Installer Network. At the time this brochure went to print there were more than 800 members. Each member is equipped with a variety of tools and has access to online training modules covering all of the essential features and benefits of modern window glass.

Installers also have access to the SGG Glass Compass app, which will help select the optimal Glazing Options for your home.

Ask the window company who provided this brochure for more information, or visit:

www.planitherm.com

In the case of any difficulty call us on **01977 666196** or email **info.planitherm@saint-gobain.com**

PLANITHERM® Installer Network

NOTES

Brochure provided by:

A member of the

SAINT-GOBAIN
GLASS

Saint-Gobain Glass UK
Weeland Road,
Eggborough,
East Riding of Yorkshire
DN14 0FD, UK

Tel: 01977 666196

www.planitherm.com