



Pilkington **energiKare™** Triple

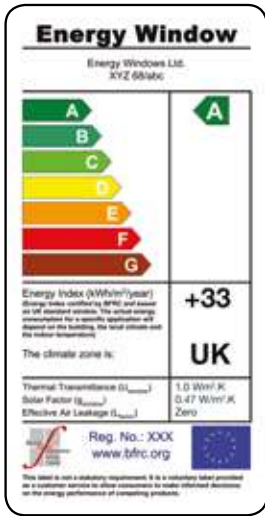


PILKINGTON
NSG Group Flat Glass Business



Image provided by Sustainable Windows LLP - Suppliers of Timber Framed Triple Glazed Windows

Pilkington **energiKare™** Triple Glazing that's at home anywhere



Proud supporters of



Pilkington **energiKare™** Triple

With an abundance of window styles, types and materials to choose from, achieving the best performance from the glass is extremely important. From new homes to older traditional buildings, Pilkington **energiKare™** Triple delivers the best possible energy efficiency; surpassing the best performing double-glazed insulating units (IGUs).

Window Energy Ratings

The Window Energy Rating (WER) System measures the thermal efficiency of a standardised complete window (frame and glass together) to produce a performance banding based on the net energy flow. It uses a similar rating system that you see on domestic appliances and is a simplified way to compare the energy efficiency of alternative products. WERs are designed for replacement windows comparison and are a good indicator of the thermal efficiency of a window in all locations. Using Pilkington **energiKare™** Triple will ensure that your window can achieve the highest WER performance band of A.

Passiv Haus, Code for Sustainable Homes and Standard Assessment Procedure (SAP), ratings for new homes

All new homes have to meet total carbon emission targets that are set to tighten in the coming years. Ultra-efficient triple glazing, such as Pilkington **energiKare™** Triple, can play a major role in achieving excellent overall building energy efficiency performance. As energy performance requirements become stricter, only windows with triple glazing will achieve the necessary levels of performance. Using SAP the area of Pilkington **energiKare™** Triple glass can be increased and at the same time the calculated CO₂ emissions decreased to achieve brighter homes that are thermally efficient.

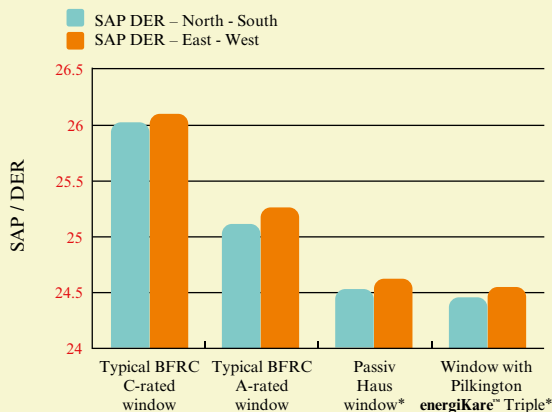
The importance of energy-efficient glazing

Advances in technology have made windows a larger contributor to the energy efficiency of new homes. Government regulations now demand more stringent levels of energy performance in buildings. Pilkington **energiKare™** Triple surpasses all current guidelines, and foreseeable future legislation, helping you save money and energy, whilst reducing the environmental impact of carbon emissions and keeping your house warm.

SAP = Standard Assessment Procedure DER = Dwelling Emission Rate

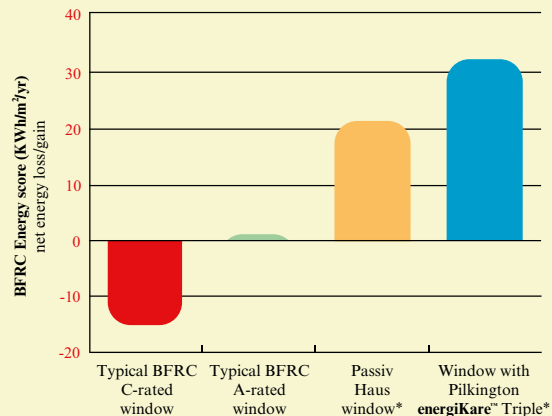
Pilkington **energiKare™** Triple

Performance comparison vs existing energy efficient windows
SAP Domestic Newbuild applications



Pilkington **energiKare™** Triple

Performance comparison vs existing energy efficient windows
BFRC Window Energy Ratings - Domestic Replacement applications



*using advanced framing systems

Pilkington **energiKare™** Triple



Image provided by
Princedale Eco Haus Ltd

How it works

Pilkington **energiKare™** Triple reduces the amount of heat lost through the glass by using two low-emissivity coated glass panes, which allows the use of free heat from the sun; an effect known as solar gain. The combination of high solar energy transmittance glass and low U-values provides a balance to achieve high levels of overall performance.

In addition, the centre pane is also toughened as standard to eliminate any risk of thermal breakage*. The overall thickness of the unit can be optimised to fit a variety of modern framing and bead dimensions.

Pilkington **Optiwhite™** E technology is low iron 'extra-clear' glass which increases light and heat transmittance into your home.

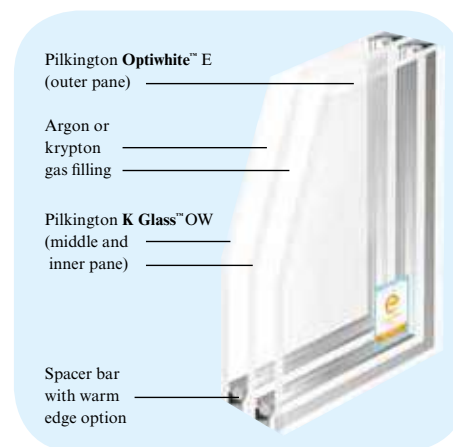
Pilkington **energiKare™** Triple, for optimum performance

Pilkington **energiKare™** Triple allows you to achieve the highest window energy efficiency, in new build, home improvements and renovation projects, and also in new low or zero carbon homes. So, with ever-increasing fuel bills, it's easy to see why Pilkington **energiKare™** Triple is the ultimate choice for high performance glazing:

- Far exceeds the score necessary for BFRC Window Energy Rating A rating performance levels
- High performance triple-glazed units optimise the balance between U-values, the thermal performance of the glass and g values, the proportion of solar energy transmitted whilst retaining warmth for your benefit within the home
- Where there are suitable framing systems, it can be used in existing homes as a glass only upgrade
- Capable of meeting the requirements of the Code for Sustainable Homes and Passiv Haus
- Designed to achieve high solar gain and low carbon SAP scores, allowing larger glazed areas without compromising the energy efficiency of new homes

- The UK's first ever low-iron, low-emissivity triple-glazed unit: using Pilkington **Optiwhite™** E and two panes of Pilkington **K Glass™** OW
- All Pilkington **energiKare™** Triple glazed units can be supplied with warm edge spacers, for even better energy efficiency and reduced risk of internal condensation
- The middle pane is toughened on all Pilkington **energiKare™** Triple glazed units as standard, to eliminate the risk of thermal breakage
- Available with both hard or soft coat low-emissivity technologies

Typical Pilkington **energiKare™** Unit



- Triple glazed units can be optimised to provide excellent acoustic performance to dramatically reduce noise levels. Simple variations in the glass panes used can easily reduce the noise from outside by an extra 5 decibels. By using Pilkington **Optiphon™** from our specialist acoustic product range it is possible to reduce the noise by half (10 decibels). In this way the right glass combination can reduce road noise to a faint unobtrusive whisper
- At certain times of the year it is not uncommon for external condensation to form on the surface of the outer glass. This just confirms that your window is working efficiently, and it will dissipate when the external glass temperature rises

All frame types are unique, each with their own thermal performance, dimensions and properties. No longer is it necessary to have a 'one size fits all' approach. To promote energy efficiency, Pilkington has introduced a range of high performing Pilkington **energiKare™** Triple glazed units to ensure whichever window type and material you choose, there will be a Pilkington **energiKare™** Triple unit to maximise its thermal performance.

New Build

Designers of new build properties have different performance requirements to achieve, as set out in the building regulations. Pilkington **energiKare™** Triple options all have different performance characteristics, so to ensure the optimal performance with your chosen framing system, a total energy calculation is recommended.

Below are some examples of the possible make up for Pilkington **energiKare™** Triple options. Please see our separate datasheets for more details and a wider range of options, or contact your local representative.



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Pilkington **energiKare™** Triple – variants

Inner Pane	Cavity	Mid Pane	Cavity	Outer Pane	Total Thickness (mm)	TSHT (g value)	LT	U _g	WER Band/ Score**
Pilkington K Glass™	12 mm argon	K Glass™ T	12 mm argon	Optiwhite™ E	36	0.66	0.64	0.9	A (5)
Pilkington K Glass™	16 mm argon	K Glass™ T	16 mm argon	Optiwhite™ E	44	0.66	0.64	0.8	A (12)
Pilkington K Glass™ OW	12 mm argon	K Glass™ OW T	12 mm argon	Optiwhite™ E	36	0.69	0.68	0.9	A (10)
Pilkington K Glass™ OW	16 mm argon	K Glass™ OW T	16 mm argon	Optiwhite™ E	44	0.69	0.68	0.8	A (17)
Pilkington K Glass™ OW	12 mm krypton	K Glass™ OW T	12 mm krypton	Optiwhite™ E	36	0.69	0.68	0.7	A (22)
Pilkington K Glass™ S	12 mm argon	K Glass™ S T	12 mm argon	Optiwhite™ E	36	0.64	0.71	0.8	A (12)
Pilkington K Glass™ S	16 mm argon	K Glass™ S T	16 mm argon	Optiwhite™ E	44	0.64	0.71	0.6	A (20)
Pilkington K Glass™ S	12 mm krypton	K Glass™ S T	12 mm krypton	Optiwhite™ E	36	0.64	0.71	0.5	A (25)

LT = Light Transmittance T = Toughened TSHT = Total Solar Heat Transmittance or g value

The above table is determined in accordance with EN410 and EN673.

Warm edge spacer bar contribution to U_w depends on frame type and glazed area.

*Thermal breakage can occur where glass is heated unevenly by solar gain to a point where the stress limit for the glass is exceeded.

Toughening the mid pane ensures that the critical stress level is never reached.

**Based on warm edge spacer and PVCu framing.

Pilkington **K Glass™** and Pilkington **K Glass™** OW = hard coat options

Pilkington **K Glass™** S = soft coat option

This publication provides only a general description of the product. Further, more detailed information may be obtained from your local Pilkington Building Products supplier. It is the responsibility of the user to ensure that the use of this product is appropriate for any particular application and that such use complies with all relevant legislation, standards, code of practice and other requirements. To the fullest extent permitted by applicable laws, Nippon Sheet Glass Co. Ltd. and its subsidiary companies disclaim all liability for any error in or omission from this publication and for all consequences of relying on it.

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The CE marking label for each product, including declared values, can be found at www.pilkington.com/CE



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8642 - February 2012