### aluminium



IT

Modern, Heritage and Traditional Designs

### how aluminium has changed

Aluminium windows and doors throughout the 1970's and 1980's, were problematic on many levels.

Aluminium was the first material to really be used for mass-produced double glazing due to it's strength and relatively slim appearance. The double-glazed glass units were quite effective but the aluminium frames not only transmitted cold back into the home but also didn't retain the heat generated indoors due to the conductive nature of the metal.

Warm moist air from indoors would hit the aluminium frames, condense into water droplets and form pools of water at the base of the window.

To try and insulate the aluminium window, they were installed into hardwood timber frames which helped, however, over time the condensation would start and would rot the timber frames.

The combination of relentless condensation and the gradual rotting of the timber gave rise to the formation of dangerous mould spores and respiratory issues with people's health.

### Today, modern aluminium windows combine energy efficiency with longevity.

Our modern aluminium systems separate the inner and outer window frames and sashes with a nylon insert which prevents the cold from outdoors being transmitted through the window whilst retaining the radiated heat from indoors.

This is referred to as a thermal break and it insulates the window very effectively and removes the need for the window to be set into a timber frame. Not only does this reduce the cost of the whole window but it also gives it a slimmer appearance.

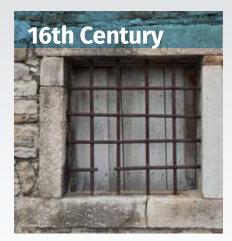
#### **INTRODUCTION**

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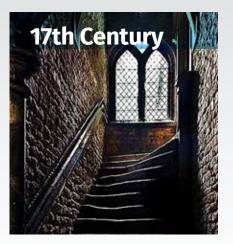


# how British windows have evolved...



Throughout the 1500's windows were merely stone and timber frames with no opening casements.

Most window frames were unglazed and relied on either shutters or oiled cloths hung over these openings to protect the insides of the building. Glass was scarce and couldn't be produced as large panes. This meant that smaller pieces of glass had to be used and were held together by lead sections to produce larger glazed windows - this is what we now refer to as leaded-lights. Opening casement windows started to appear before the end of the century.



By the 1600's, window designs had become taller and narrower with leaded-lights becoming common place.

As the century progressed, glass became more popular and started to be produced in larger panes. Timber framed windows became more popular with timber astragal bars allowing multiple panes of glass to be combined to enable larger windows. The range of frames also increased, and details such as the Ovolo moulding becoming popular for stone mullions. Opening casements started to make an appearance too.



Sliding sash windows became more popular as window frames continued to be narrower and thinner.

These early sash windows replaced the casement windows that had been used up to this point. Plate glass was introduced in the 1770's, which contributed to the decline of the astragal barred window and enabled larger windows to be produced with less individual panes of glass. Even the most humble of homes would now have had opening sash windows as they became increasingly more affordable.

#### **Basic Window Terminology**

#### CASEMENT

A typical outward-opening window incorporating top and/or side hung openers. Sometimes referred to as a 'vent'.

#### WARM EDGE SPACER

The insulating profile that separates the inner and outer panes of glass used in the double-glazed glass unit

#### WER

**Window Energy Ratings**, a simple A - G rating system as used on 'white goods' to help assess energy efficiency

#### THERMAL BREAK

The insulating profile that separates the inner and outer parts of the frame and sash.

#### LOW-E GLASS

Low-E stands for low-emissivity glass. This glass has a special invisible coating to create a type of insulating glass which works by letting in energy from the sun and minimising heat loss from indoors

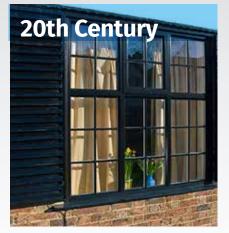
#### **INTRODUCTION**

## ...over the last five centuries



The industrial age enabled wider manufacturing techniques and an abundance of materials including larger panes of glass to be used.

Projecting windows, such as bay and bow windows, became more popular in homes. Three movements influenced the style of windows in the late nineteenth century: the Gothic revival, which introduced wrought-iron window frames, the Arts and Crafts movement, which brought back leaded lights, and the Queen Anne style for sash windows.



The modernist style of 1920's buildings incorporated new, slim steel frames.

Post-war construction in the 1940's saw an increase in available materials and many new house styles. Developments made in the aircraft industry during the war meant aluminium became a viable alternative for window construction, alongside popular painted softwood frames. By the 1970's and 80's many homeowners started to replace their timber windows as double glazing was introduced to improve insulation in their homes.



Aluminium and PVCu became more popular, offering longer lasting and maintenance free solutions.

A wider choice of frame styles, including aluminium frames with timber inserts that were cheaper than their hardwood timber alternatives.

As lifestyles and tastes changed the demand for narrow window profiles and large expanses of glass led to aluminium becoming very popular in modern building design.

#### OUTER FRAME

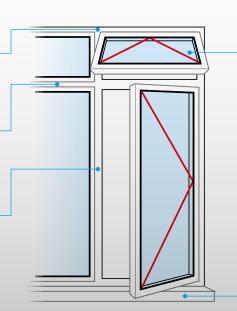
The fixed, outer component of the window

#### TRANSOM

The horizontal structural component that separates adjacent window sashes

#### **MULLION**

The vertical structural component that separates adjacent window sashes



#### SASH or VENT

The opening component of the window either: **top-hung** (top-hinged) or **side-hung** (side-hinged)

#### **CILL or SILL**

The protruding lip that directs water away from the outer wall



Aluminium frames enable much larger, uninterrupted glass areas

a choice of 5 frames, 7 sashes and 5 glazing beads in a wide range of RAL colours

# slimmer, stronger, lighter...

Aluminium is stronger and lighter than equivalent materials such as PVCu or good quality timber.

This strength allows for windows and doors to be manufactured in slimmer designs which in turn allows for greater areas of glass. More glass means more light coming in and a less obstructed view out. Window designs such as bays and bows look very bulky and heavy in PVCu - by using aluminium you can reduce the size of the unions quite considerably between each window segment.

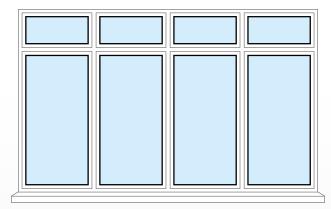
Very little maintenance is required to ensure a very long life and to retain their original appearance.

Available in a wide range of RAL colours

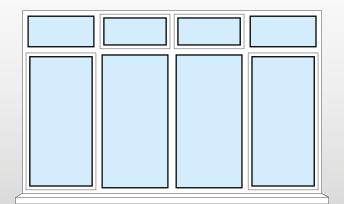
# dummy sashes, equal sightlines

A 'dummy-sash' refers to a non-opening sash which is inserted into the frame to achieve a symmetrical and evenly proportioned sightline.

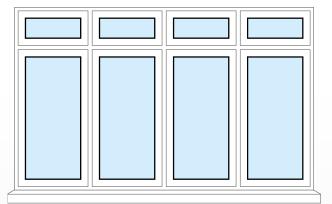
These illustrations of Aluminium and PVC-u windows clearly demonstrate the differences between the different materials but also how the **'unequal sightline'** appearance is more noticeable in PVC-u.



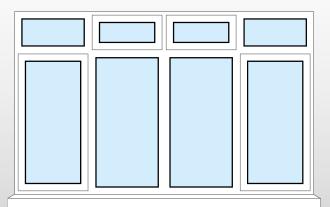
Aluminium EQUAL sightlineS



Aluminium UNEQUAL sightlineS



**PVC-u EQUAL sightlineS** 



**PVC-u UNEQUAL sightlineS** 



# inspired by steel framed, loft-style living

Aluminium lends itself well to the retro 'loft-style' interiors popular across the world. Inspired by the slim appearance of steel, aluminium comes very close in size and has the added benefits of modern insulation and security.

Fashionable style.

a choice of 5 frames, 7 sashes and 5 glazing beads in a wide range of RAL colours

# inspiration

# aluminium frames allow for considerably larger glass areas

The inherent metallic properties of aluminium mean taller, wider panes of glass can be used for both windows and doors. The high-technology glazing we employ has greater effect in terms of insulation and control of the heat from solar energy.

More glass, less window.

A flatter, slimmer sash helps define the style of the Contemporary range with a square or chamfered glazing bead. Simple, sleek lines work on many styles of property but probably more suited to a modern home.

**AW690** sash has a chamfered profile glazing bead to achieve a strikingly slim and uncluttered appearance.



Through innovative design and superior build quality this window system offers high thermal and acoustic performance alongside the inherent strength and low maintenance benefits of aluminium to make your home safe and secure.





a choice of 5 frames, 7 sashes and 5 glazing beads in a wide range of RAL colours



### MODERN

# contemporary windows



The Contemporary range also encompasses slim, flat sashes together with large expanses of glass to offer an almost uninterrupted view from within.

**AW685** Simple flat profile design looks very modern and is easy to coordinate with other contemporary products such as sliding patio doors and bi-folding doors







choice of 5 frames, 7 sashes and 5 glazing beads in a wide range of RAL colou

#### MODERN

# contemporary windows

Opening up a room to let the light flood in, these windows have narrow framing and can offer uninterrupted glazing to a height of 2 storeys.

Get the look with the ultimate in maximum glazing, minimum framing aluminium window systems and add a whole new perspective to your home.



NRC

DI



choice of 5 frames, 7 sashes and 5 glazing beads in a wide range of RAL colours

### MODERN french doors



French Doors are undoubtedly considered the 'traditional' method of entering the garden or rear of your home but it still can have a modern feel if needed. Again, the slimmer profiles maximise incoming light and offer a greater view from indoors.



Traditional chamfered profiles give the projecting appearance of timber whilst flatter profiles suit the modern aesthetic. A flush appearance can be achieved using bi-fold door profiles for a very sleek design.





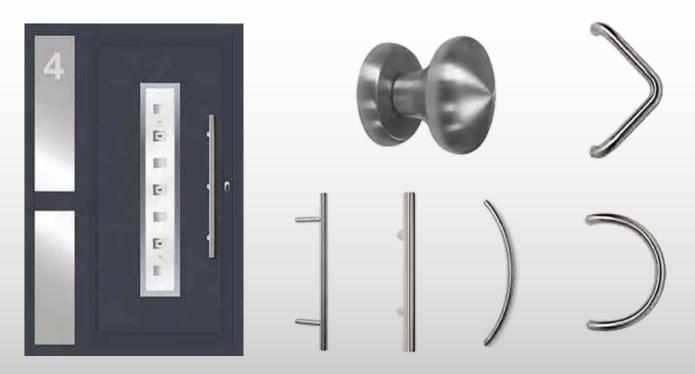
### entrance doors

Our range of high performance entrance doors have safety and security at the heart of their manufacture.

Available in single and double door configurations, our entrance doors are available in a complete range of glazing formats and include several added security features, including multi point locking mechanisms.









Our entrance doors are available in a wide variety of colours, finishes and formats to best complement your home.









a choice of 5 frames, 7 sashes and 5 glazing beads in a wide range of RAL colours

## modern entrance doors



Call 0800 652 3151 for your nearest dealer or go to www.platinumNRG.co.uk

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ALBERG1



IGMAN



NEOSLOPE 3

JAVORNIK 3

PECA3



ARTUBY3

LB 6





ASPEN1

LEYSIN 3

RISOUL 5



AUTRANS2

LIVIGNO 1

SESTRIERE 3



--

LURISIA 4



BORMIO 3



LUZERN 3



TAVASCAN 2





#### MODERN

# entrance doors







MANALI 6



TRIBERG 1



MATIGNY 2



CHAMONIX 3

MERIBEL4

VALNORD2



COLOGNE 4

MERIZINE 3

VERBIER 3



COURCHEVEL3



MOLVINO 1



VEYSONNAZ3



ELORN 1



MORZINE1





ZERMATT3

Our Aluminium doors perform well against the rigors of the British weather, reducing draughts and providing excellent weather proofing. This enables the doors to maintain their high performance even in the most extreme locations.

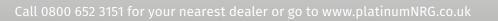
Security concerns are alleviated by the use of the superbly engineered and 'Secured by Design' approved Winkhaus Key-Wind Lock - a multi-point locking mechanism allowing our doors to exceed the requirements of PAS 24 (Enhanced Security).





VALMOREL 2





Our range of patio doors offer an ideal and inexpensive solution for your home, with minimal frame design to let the maximum amount of light flood into your home. Built to the highest standards our patio door range combines flexibility with design and security to ensure your comfort and peace of mind. Our range of in-line premium aluminium doors offers high performance complemented by stunning design to add a modern and stylish look to your home, opening your living space to the outside.

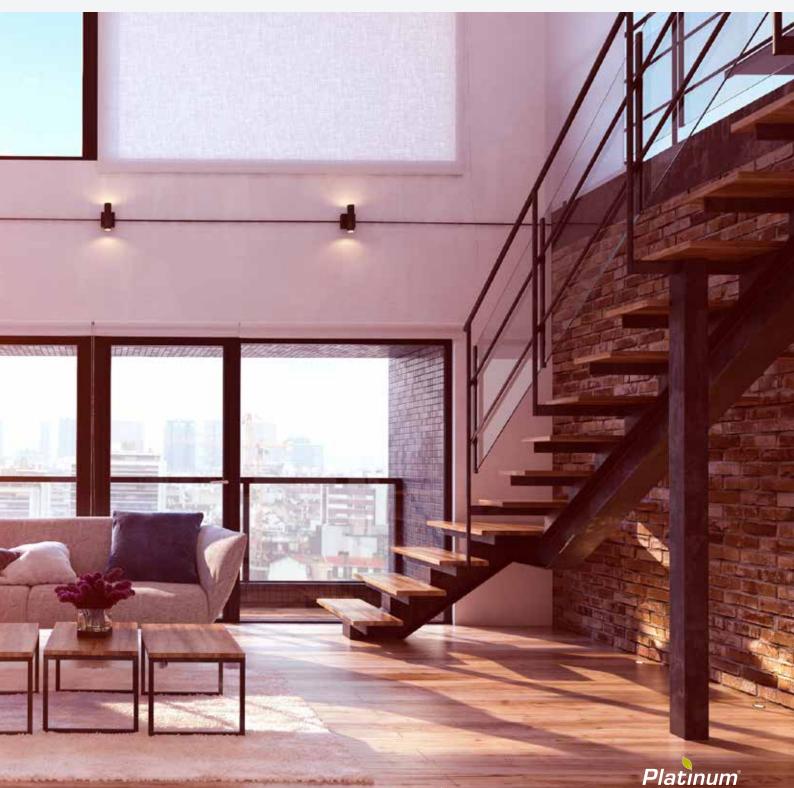


frames, 7 sashes and 5 glazing beads in a wide range of RAL colours

#### MODERN

# sliding patio doors

Combining unique system design with a range of configurations they will enhance your home whilst keeping the weather at bay.



### alumina

#### **ALUMINA**

Alumina doors are available as entrance, French and bi-folding doors. Their 'sculptured' external appearance suits traditional and contemporary and blend in well with our sculpturedSASH PVC-u window systems.

#### BSF70

The BSF70 bi-folding door uses a 'soft-line' quadrant around the glass units which aids a slimmer appearance . This design is also well-suited to contemporary and traditional properties alike.

#### F82

The F82 is our slimmest bi-folding door and uses a slimmer, flatter profile than our other doors - it is also a squarer design that brings the glass further forward in the door pane.

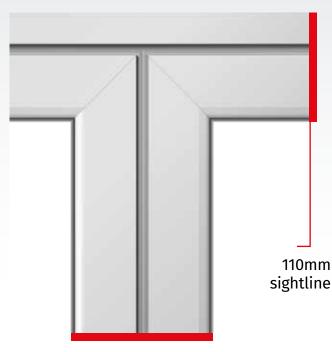


156mm Sash-to-Sash sightline Sculptured Profile



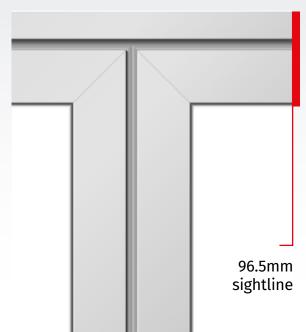
### MODERN bi-fold doors

### **BSF70**



140mm Sash-to-Sash sightline Soft-line Quadrant Profile

# F82 luminia



122mm Sash-to-Sash sightline Square Profile





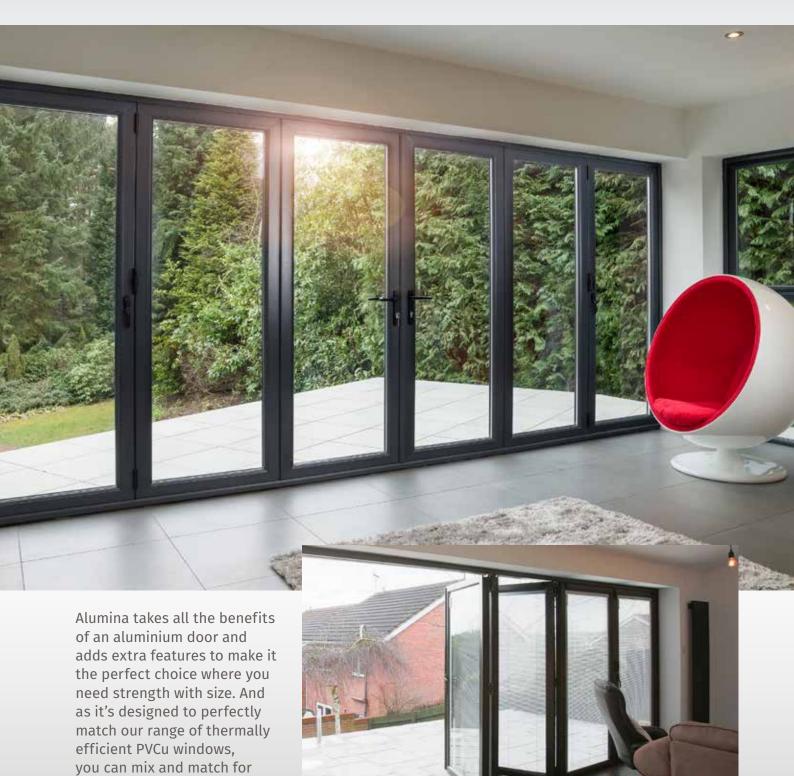




**MODERN** 

# alumina bi-fold doors

The Alumina bi-fold is able to span up to 1.2 metres wide per sash and 2.5 metres high, with optional warm-touch foiled exterior and superior U-values.





an overall cost effective

installation.



Our range of bi-fold doors enables you to expand your living space by opening up wide expanses of your external walls to your outside space. Whilst at the same time keeping the weather out and the heat in during cold months. Our bi-fold doors are built to your needs, offering you a bespoke solution every time, from the configuration of the doors to the handles, accessories and colour, making our bi-fold doors the perfect addition to your home.





#### PERFORMANCE

- Wide range of configuration options
- High performance glazing and design
- Minimal profiles for a modern look
- Complete range of handles and accessories
- Unique flush line pop-out handle option
- Full range of standard and bespoke colours
- Dual colour option for inside and out
- Chamfered and square bead options
- Sturdy and reliable sliding mechanism
- Low threshold option for room dividers
- High performance as standard

# BSF70 bi-fold doors





New, contemporary traffic door handle and escutcheon plate.



122mm Slimline Interlock/ Meeting Stile



97mm Slimline sightline



Heavy-duty, compact rollers as standard.



A contemporary, stylish bi-folding door. With thinner sightlines and interlock of 122mm that provide larger glazing panels without compromising on performance.

#### MODERN

# luminia F82 bi-fold doors



Unique, flush 'pop-out' handle for ease of operation removes the need for an additional 'D'-handle to open additional door leaves.







#### HARDWOOD FRAMES

Here we have some examples of original and replacement hardwood frames and the aesthetic it creates.

Revival frames retain this style.

Т

1

Original Crittall steel windows in timber outer frames

111





### A MODERN SOLUTION TO AN AGE-OLD PROBLEM

Over the last few hundred years it has been very common to install steel and more recently, aluminium windows into a timber sub-frame.

Due to the inherent long-term problems of timber in terms of rot and degradation it can often render a window installation dangerous or ineffective.

To maintain this traditional appearance the only options have been to install a new timber sub-frame or to lose the timber appearance altogether and replace the whole window with either PVCu or timber. Now however, we have a new solution.

A solution that incorporates our evolutionary Revival 85mm frame into which our range of aluminium windows can be installed. The Revival frame can be produced in a flat colour or with a woodgrain finish to emulate the appearance required.

A solution that is far cheaper than timber and gains the low-maintenance qualities of PVCu along with it's longevity.

> Platinum NRG

# Traditional aluminium suits many period styles

ant

Aluminium tends to be thought of as a more modern style of window or door which of course it can be. However, intelligent design means it can be used as a perfectly acceptable alternative to slimmer original materials such as steel and timber.

Traditional appearance, modern performance.

TURUIUIU

WIRROW WIRROW

# Slimmer frames emulate traditional windows

In many styles of property, you're already governed by small existing timber or steel windows and to replace them with bulkier PVCu would reduce precious incoming light and ruin the period style of an older property. Traditional-style aluminium is very close to the style of such windows with the added benefit of minimal long-term maintenance.

More light coming in, a wider view looking out.

tradit

- Our traditional Chamfered window using the AW604 slim frame, the AW610 externally-glazed sash with the AW513 chamfered glazing bead
- A combination of sashes and dummy sashes create a good timber-look installation with slim sightlines and sealed-in Georgian bars for easy cleaning.



The sash and bead also lend themselves well to older properties - RAL9005 Black with diamond-leaded lights.



Highly flexible and adaptable, our Chamfered range is ideal for homeowners looking for a traditional framing look. The sash protrudes from the frame with a chamfered profile around the outer edges and a chamfered glazing bead.

The chamfered glazing bead emulates the style of a typical timber window as it gives the appearance of having held the glass in place with putty - what we refer to as a 'putty-line appearance'.





Call 0800 652 3151 for your nearest dealer or go to www.platinumNRG.co.uk

Our traditional Ovolo window is essentially the same window as our traditional Chamfered but uses a sculptured (or Ovolo) profile around the outer edges of the sash. This gives the sash a more decorative appearance and is often referred to as 'soft-line'.

Again, this would be found on period timber windows and can be glazed with either the putty-line chamfered bead or a square bead.

 Our traditional Ovolo window using the AW604 slim frame, the AW613 externally-glazed sash with the AW513 chamfered glazing bead





a choice of 5 frames, 7 sashes and 5 glazing beads in a wide range of RAL colours

SIGHTLINES

6mm

#### TRADITIONAL

0V010

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molin

Platinum

One of many great advantages in using aluminium is when it comes to creating bay windows. It's slim dimensions allow for the bay corners to be far less bulky than when using PVCu. The bays can be made even slimmer if you choose an unequal sightline design and keep opening sashes at either end of the bays. Even if you opt for the more uniform appearance of equal sightlines the bay is still comparatively slim.

These 6-part bays look even slimmer by using unequal sightlines and keeping the opening sashes at either end



Our Steel Replacement window using the AW622 frame, the AW614 internally-glazed sash with the AW663 flat glazing bead

RAL9005 Black finish really enhances the AW614 Steel Replacement for a slim appearance and as it doesn't protrude from the frame, the overall effect is very slim.





All our window systems are ideal for the creation of Bay Windows, offering a solution with a classic profile and innovative design to suit your home. Steel Replacement aluminium windows where the AW614 sashes lie flat against the outer frame but still retains a chamfered 'putty line' around the glass. Dummy (nonopening) sashes have been used throughout to achieve a symmetrical 'equal sightline' appearance.

Made from high-performance aluminium, our Bay Window systems are a sustainable and reliable solution and provide the perfect solution for traditional and modern bay windows. Designed to offer a low maintenance, high performance solution, our Bay Windows are kite-marked and rated A for energy efficiency.

### BAY WINDOWS

# heritage, traditional and modern

Call 0800 652 3151 for your nearest dealer or go to www.platinumNRG.co.uk

Selon



A choice of either a 'stepped' Crittall-style or a chamfered 'putty line' profile capture the style and elegance of the British heritage steel windows that were predominantly used throughout the last century.

Black 'stepped-profile' AW686 windows set into hardwood frames provide an authentic Crittall replacement



Our Heritage windows are an ideal replacement for current steelframed glazing in your home. Manufactured in the UK from lightweight aluminium, they offer a higher performance alternative to traditional alternatives, whilst still retaining the look and style of your property.

Designed to improve thermal and acoustic performance, this system is low maintenance and customisable, yet still replicates the narrow sight lines that traditional steel windows provide.



SIGHTLINES from only

**64**mm



### TRADITIONAL

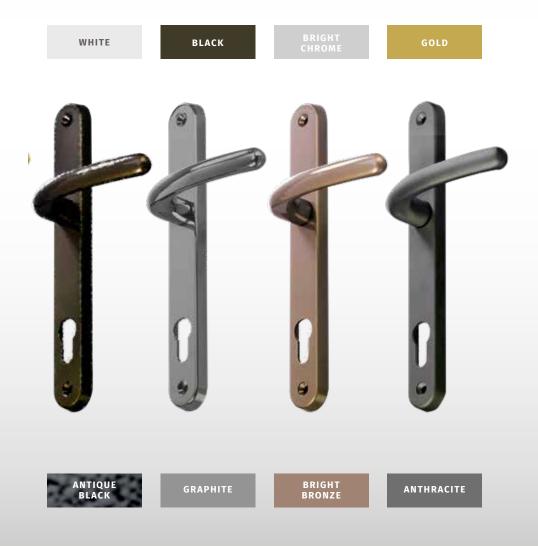
herita

Call 0800 652 3151 for your nearest dealer or go to www.platinumNRG.co.uk



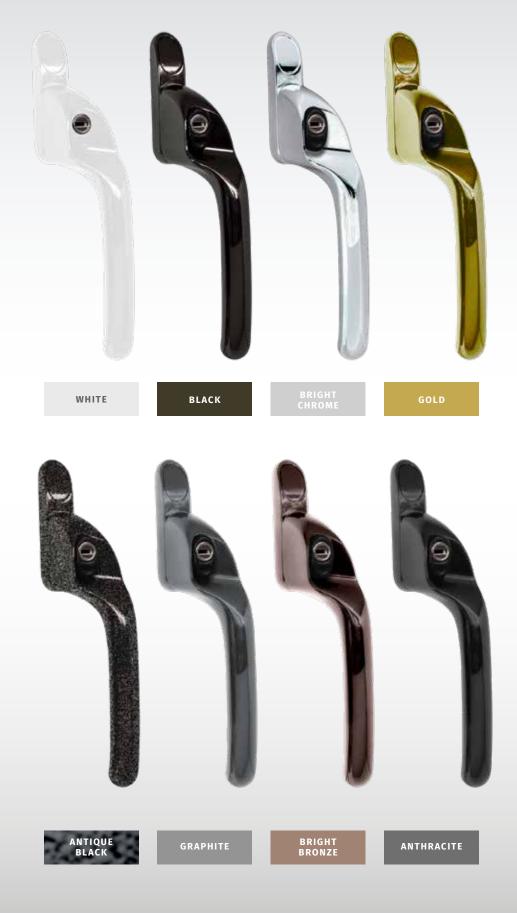
## door handles



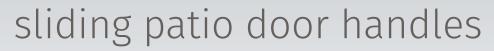


ockable classic designs with a contemporary twist, all in a range of colours & finishes

### FINISHING TOUCHES window handles





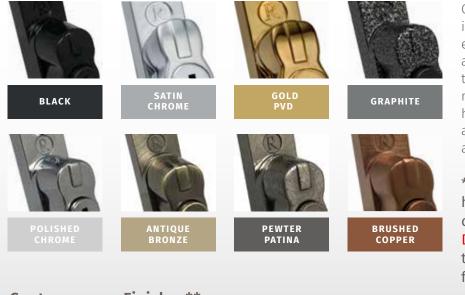




- Solid die cast construction with heavy duty spring cassette
- Sturdy feel and consistent 90 degree lever return
- Colour coordinated screw heads
- Corrosion resistance to BS EN 1670:2007 Grade 5 (painted) and Grade 4 (plated)



#### Traditional Finishes\*\*



Our standard range of hardware is further surpassed by an even wider selection of designs and finishes. This gives you tremendous scope to either make a bold statement with your home or conversely, a discreet and subtle way of improving the aesthetics of your home.

\*\* Due to different suppliers, hardware names for the contemporary finishes DO NOT correspond with the names of the traditional finishes

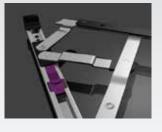
#### Contemporary Finishes\*\*





Call 0800 652 3151 for your nearest dealer or go to www.platinumNRG.co.uk

## easy clean hinges





Initial opening similar to standard side-hung friction stay

> Full opening to 90 degrees providing clear egress in excess of 500mm on a 600mm wide vent

Easy to operate thumb catches allow the vent to slide to the easy- clean position giving between 100 and 250mm clear opening To reset simply close the window and then re-open to go back to the egress position and close

**Increased Security** Designed to accommodate stay-guards that increase the security performance of BS 7950

**Corrosion resistant** By utilising high quality plastic components the new release mechanism provides greater corrosion resistance to BS 7479

**Easy-cleaning** User-friendly push button operation enables window to smoothly slide along the track for easy access from inside the building

**Reduced Friction** The enhanced track profile produces an effortless sliding motion **Trouble-free** Quality materials and manufacturing create a reliable product of superior quality **90 degree opening** Enables the window to meet new Part B regulations

**Smoothly efficient** The new and unique (patent applied for) moulded components guarantee uninterrupted operation giving a safer, more efficient performance

ockable classic designs with a contemporary twist, all in a range of colours & finishes

## FINISHING TOUCHES locking mechanisms

### doors

Stainless steel construction for ultimate corrosion resistance

- PAS 24:2012 and BS6375-2:2009 tested
- High security and excellent compression when tested as part of a system
  - 4 compression-adjustable roller cams for excellent sealing into the frame and smooth operation
    - 5 hook bolts including 2 pairs of opposing hooks for high levels of security.

## windows

Tested to BS EN 1670 and has exceeded grade 4 classification

Tested to 30,000 cycles under operational load

Can achieve PAS 24 as part of a specific window system



Call 0800 652 31. or your nearest dealer or go to www.platinumNRG.co.uk

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## ...and if you really need to know...

#### **CHOICE OF OUTER FRAMES IN 2 DEPTHS**

Frame Depth	70r	nm	58mm			
Internal Frame Style	Ovolo Equal Leg	Square Equal Leg	Odd Leg	Slim Equal Leg	Equal Leg	
Bay Window Suitability	YES	YES	NO	NO	YES*	
Profile ID	AW602	AW622	AW603	AW604	AW605	
Achievable WER Rating	В	В	А	А	В	

#### **CHOICE OF SASHES/VENTS IN 7 STYLES**

	INTERNALLY GLAZED			EXTERNALLY GLAZED			
Sash Width	45mm			45mm	57mm		
Profile ID	AW614	AW685	AW686	AW690	AW613	AW624	AW610
Form Factor	SLIM REBATE	SLIM REBATE	SLIM REBATE	DEEP REBATE	DEEP REBATE	SLIM REBATE	DEEP REBATE
Form Factor (showing rebate distance from frame to sash)							
Sash Profile	PUTTY-LINE	FLAT	STEPPED	FEATURE (CHAMFERED)	FEATURE (OVOLO)	SQUARED	CHAMFERED
NRG Range	HERITAGE	MODERN	HERITAGE	MODERN	TRADITIONAL	MODERN	TRADITIONAL
Application	Steel	Contemporary Property	Crittall	Contemporary Property	Period Property	Contemporary Property	Period Property
Achievable WER	A	A	A	Α	В	В	В

#### **GLAZING BEAD OPTIONS**

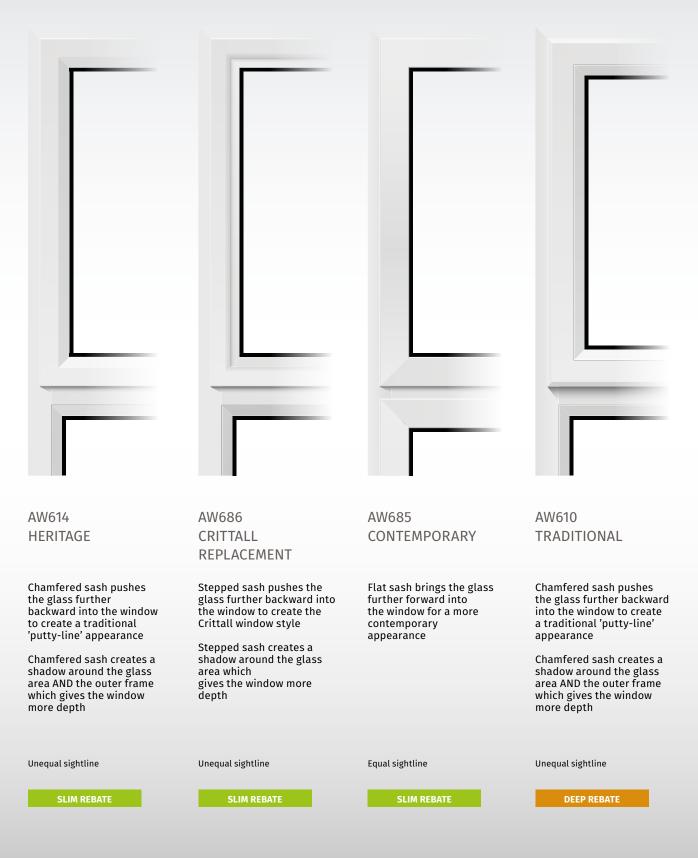
Glazing Bead	FLAT	SQUARE	FLAT	CHAMFERED	CHAMFERED	CHAMFERED	CHAMFERED
Profile ID	AW663	AW683	AW663	AW682	AW513	AW513	AW513
Glazing Bead	n/a	n/a	n/a	n/a	SQUARE	SQUARE	SQUARE
Profile ID	n/a	n/a	n/a	n/a	AW660	AW660	AW660

\* narrow frame depth necessitates a bay pole and increases the width of the bay coupling

**TECHNICAL** 

# sash design

how sash choice affects appearance





# aluminium







t: 0800 652 3151 e: info@platinumnrg.co.uk w: www.platinumnrg.co.uk



#### Platinum NRG Aluminium Brochure 3rd Edition 2021 Portrait

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