

Specification Guide

PVC-U window, door and
curtain walling systems

Issue 9

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are made from
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Why specify Profile 22?

Profile 22 is one of the most versatile and proven window and door systems on the market. Leading the market in PVC-U window and doors, Profile 22 boasts more than 30 years' experience in both new-build and refurbishment. Whatever your project, Profile 22 can provide a combination of PVC-U profile and hardware to meet your needs.

**The best windows
are made from
Profile 22**



This Guide explains our range of profiles and hardware in detail and provides an overview of the services we provide to architects and specifiers alike. A comprehensive study, it's been designed to enable you to access all the information you could ever need to specify the right solution.

Whilst every effort has been made to ensure that this document is technically accurate, changes to legislation occur that may affect the specification of our products. All information is correct at the time of publication. However if you are in doubt please contact our technical department who will be happy to advise, or alternatively, consult the relevant websites for up-to-date information concerning current Building Regulations.

About Profile 22

With Profile 22 you are in safe hands. We possess the UK's most widely specified PVC-U window and door system, having been used for projects across the country for almost every Local Authority, Registered Social Landlord (RSL) and House Builder. Whatever your project, we have a product range to suit, backed up by unrivalled technical support, knowledge of contracts, government initiatives and industry expertise.



Why specify Profile 22?

The Profile 22 System

Profile 22 is unique in that it is a genuinely complete system. What really makes us different to other systems companies is that we can offer a 'complete suite' of specially designed window and door hardware under our successful Safeware brand. So by specifying Profile 22, you can deal with one company for the whole window system, including PVC-U profiles as well as hardware.

Our team has extensive construction industry experience, from engineering skills to actually fitting windows for a living. Working together to design our window and door systems they have designed out the niggling problems and designed in the efficiencies that make our frames work better for longer.

Profile 22 is a comprehensive PVC-U window and door system comprising the following four main product ranges:



A fully chamfered 60mm system



A fully integrated 70mm system utilising 60mm sashes



A decorative fully sculptured 70mm system



100% recycled 70mm profile system

These high-performance systems have been carefully designed to meet the requirements of regional Building Regulations throughout the UK, including variations for Wales, Scotland, Northern Ireland and for the Republic of Ireland.

The Fully Chamfered 60mm system and the Fully Integrated 70mm system are available either internally or externally-beaded with a range of chamfered or sculptured sashes.

The decorative Fully Sculptured 70mm system is available internally-beaded with dedicated feature beads.

Profile 22 systems have been designed on the basis of full integration, utilising common parts, giving the window manufacturer the benefit of less stock and more market flexibility.

Profile 22 at a Glance

- Based in Telford in a 150,000 sq ft factory and customer support complex.
- Working with windows since 1976.
- 40,000 frames made using Profile 22 every week.
- Part of the £200m Epwin Group.
- Dedicated specification team and a nationwide network of manufacturers of high quality PVC-U windows and doors.



Why specify Profile 22?

Hardware

We offer security locking systems and other associated window and door hardware to make product specification simple, so you only have to deal with one company.

This is possibly why we are the supplier of choice for window and door systems in the UK.



The Safeware range of hardware is unique to Profile 22.

Designed especially for our systems, it covers our complete range of window and door products and provides you with an unrivalled choice. One of the many benefits of working with us is that we can offer you the flexibility to choose exactly the level of security and aesthetics that you need. When correctly specified, our range of hardware will comply with all relevant Building Regulations and associated legislation.

The range is designed to offer performance and value rather than just price. Safeware products are manufactured to the highest levels of quality to perform and last. That is why they hold the Secured by Design accreditation and all relevant BSI Kitemarks.

Why specify Profile 22?

Support from Profile 22

When you work with Profile 22, you receive instant access to a central team offering local support. Our dedicated specification team provide project management support - everything from initial design specification right through to completion. We will work in conjunction with our network of Approved Commercial Manufacturers who will fabricate and install your frames.

- Select from a choice of 60mm or 70mm frames.
- Composite door frame systems.
- Every frame features Bubblex gasket for a better weather-tight seal.
- Complete system of profiles and Safeware hardware.
- Unique Recycled Composite Material (RCM) reinforcement.



Why specify Profile 22?

Our Manufacturers

As specifiers, we know that you like to ensure that every product you select for your clients is of the highest quality and is backed-up by exemplary service.

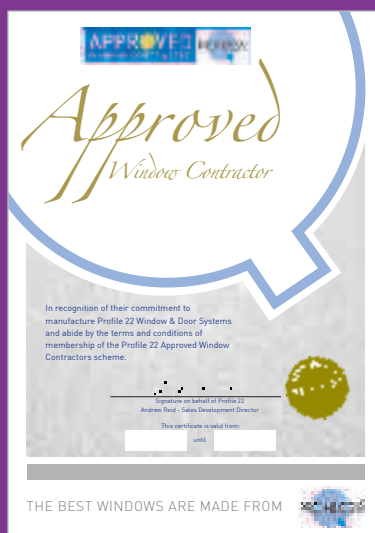
Profile 22 offers an Approved Window Contractors scheme, open to our entire commercial network of manufacturers.

This proves that they have met certain minimum standards such as constructionline/EXOR, quality accreditations, operate recycling initiatives and have attended our commercial awareness training programme.

Our scheme is monitored to ensure high standards are maintained. All of our Approved Window Contractors possess a certificate and should display the unique logo when submitting tenders:



The best windows
are made from
Profile 22



Our Approved Window Contractors have a wealth of experience in the management of large contract supply and installation and demonstrate a thorough knowledge of site practices to ensure they work effectively with other trades and towards

on-time and on-budget completion. Profile 22 has become the window system of choice with manufacturers for its high-quality specification and our commitment to support and to work as part of their team. We are able to assist in maintaining standards - through production planning and development and ongoing product training, including specialist courses for surveyors and installers.

Why specify Profile 22?

Training and CPD Seminars

We offer a wide range of training services including the choice of two Continuous Professional Development (CPD) certified seminars. Our courses aim to improve the knowledge of all who attend them and can assist in your professional development, earning your valuable CPD points.

Courses run throughout the year, and are held at our Telford customer service centre, regional venues, or at your premises. Please contact us for further details or for our latest list of courses.



CPD Seminars

We currently provide two CPD seminars to assist your professional development and to provide advice and assistance to our clients:

- 1) The specification of advanced performance windows and doors.
- 2) Windows and doors for education.

Both of our CPDs are approved by the Construction Service and earn CPD points

As Building Regulations change we will be offering more CPD certified seminars. Why not contact us today and join our mailing list to receive updates on new courses and product information from Profile 22, email specifier@profile22.co.uk.



Quality Assurance



FM09180
BS EN ISO 9001

BS EN ISO 9001

BSI Registered firm scheme:
Quality management systems -
requirements



BBA CERTIFICATION

British Board of Agrément assess
profile and finished products and
provides an assessment report.



EMS86980
BS EN ISO 14001

BS EN ISO 14001

Manufactured under an ISO14001
Registered Environmental
Management System



SECURED BY DESIGN

Secured By Design is the UK Police
flagship initiative supporting the principles
of 'designing out crime' by use of effective
crime prevention and security standards



EMS86980
BS EN ISO 18001

BS EN ISO 18001

Occupational health and safety
management systems



CPD Construction Service

Profile 22 is a member of the CPD
Construction Service and holds certified
seminar material.



KM12895
BS EN 12608
PROFILE

BS EN 12608

PVC-U profiles for the fabrication
of windows and doors



Environmental Profile
Certificate Number ENP 432



PVC-U WINDOW SYSTEM

PVC-U profile made from 100% recycled
post-consumer waste certified A+ for
domestic and commercial specifications



KM33523
BS7950/BS EN 12608
ENHANCED SECURITY
WINDOWS

BS 7950/BS EN 12608

Enhanced security performance
of casement and tilt/turn windows
for domestic applications



KM56791
PAS23-1 & PAS24-1
SYSTEM SUPPLIER
GENERAL & ENHANCED
SECURITY DOORS

PAS 23-1 and PAS 24-1 System Supplier

General and enhanced security
performance requirements for
door assemblies.

The following standards are applicable to window
manufacture and installation.

BS 7412: Specification for plastic windows made from PVC-U
extruded hollow profiles

BS 7950/7412: Specification for enhanced security
performance of casement and tilt-turn windows for domestic
applications

BS 8213-4: Code of Practice for the survey and installation
of windows and external door sets.

Specification and Advisory Services

Planning is essential for any project, in terms of who is involved and of each action required. Developing close relationships is crucial in building a secure foundation for future social housing refurbishment projects, and is principally about all parties working together to provide a Decent Home within a sustainable community for residents, measured against key performance indicators and mutually agreed benchmarks.

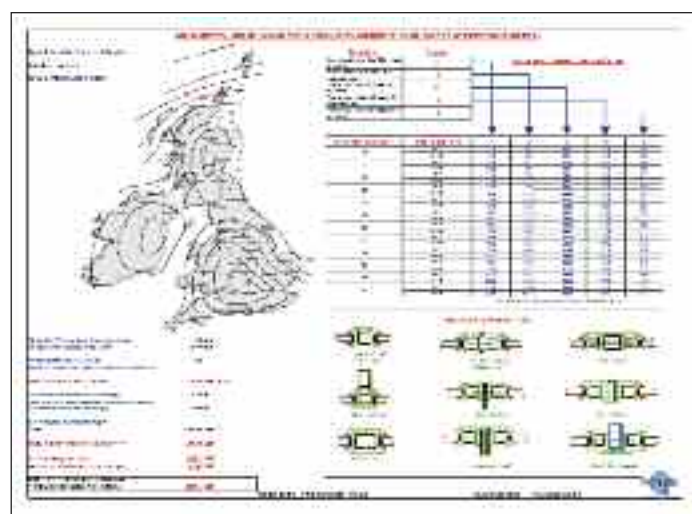
In addition to planning the funding resource for its properties, specifiers must select products and suppliers which can guarantee continuity of supply, Best Value, sustainability, green credentials, guarantees, excellent whole-life costings and strong product features. Importantly suppliers should be selected who have the ability to commit to supply agreements for the long-term, within which all parties are able to demonstrate compliance to the specification, Key Performance Indicators and timescales of the project.

Profile 22 prides itself in helping specifiers to make the right choice of products for the specific application and project. Whether it be refurbishment or new build, we can assist you with project planning, designs, product and supplier selection; working together with all parties involved. Profile 22 can offer guidance in achieving a specific brief in-line with client's requirements such as the need for guaranteed continuity of supply, best value, sustainability, guarantees, excellent whole-life costings and creative building aesthetics.

The following factors should always be considered when making an informed selection of products:

- **Security**
- **Safety**
- **Energy efficiency**
- **Long and short term maintenance provisions**
- **Environment**
- **Sustainability**
- **Choice of products**
- **Supply continuity**

Profile 22's involvement at the design stage of a product is highly valuable, and our team work collaboratively with Local Authorities, Housing Associations, procurement consortia, house builders and contractors. Our network of Approved Window Contractors can develop a product offer and service, specific to the individual project.



Specification Support Services

The role of the Specification Manager is to advise our clients on the correct application for our systems, which involves:

- **Site surveys to ensure appropriate design.**
- **Advice on specifications and current Building Regulations.**
- **Providing specifications with section drawings of our system for the tender document.**
- **Supply of sample windows for planning approval.**
- **Forward planning and budgeting advice.**

Specification and Advisory Services

Priority Support

Customer support is a priority. One call to Profile 22 and you are offered assistance for every stage of the project, including a no-obligation consultation, specific design requirements, full specification, surveying and structural calculations, an extensive choice of quality and durable products - through both field and technical support teams.



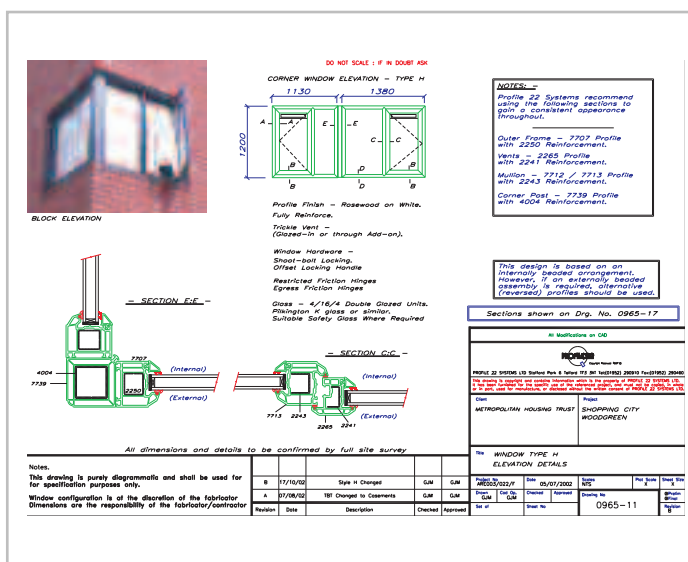
Support Service

- Approved Window Contractors network
- Resident choice meetings
- In-house window testing facility

Design Service

An in house design facility including:

- Window energy ratings
- Structural calculations
- Wind loading calculations
- Load bearing calculations
- Section details for specifications
- Site visits to ensure the specification is being adhered to



Working Together



We recognise that the most effective way that our organisation's respective business goals can be achieved is through working collaboratively. By establishing short and long-term agreements with supply chain members we can exceed the expectations of our clients.

The key elements when setting up an agreement are:

- **Commitment**
- **Selection**
- **Problem resolution**
- **Contractual information**
- **Communication**
- **Self-assessment**
- **Mutual objectives**
- **Continuous improvement**
- **Risk and reward issues**

Profile 22 is committed to the importance of working with Local Authorities, Housing Associations, procurement consortia, ALMO's, house builders and contractors in line with the latest government guidance.

A network of Approved Window Contractors

We work closely with a network of Approved Window Contractors, promoting efficiency and mutually-beneficial working practices during short and long-term projects. Our Approved Window Contractors make and fit all products under full contract management and project-planning facilities for future sustainable housing.



Our network of Approved Window Contractors are regulated to ensure they maintain high standards, whatever the contract size, to ensure your windows and doors programme exceed their Key Performance Indicators and meet your specification.

Resident Liaison

We know well-managed resident liaison brings added value to the overall project management and lead to increased resident satisfaction levels. We will work alongside the manufacturer in liaising with residents, attending residents' meetings and offering advice on specified products, styles and hardware selection to ensure their peace of mind.

Our Approved Window Contractors will take every care to ensure residents' lives are not disrupted and their homes become more secure, safe and energy efficient.

Sustainable Solutions



Sustainable Credentials

At Profile 22 Systems we take our corporate social responsibility and environmental policy seriously, and are committed to ensuring sustainable communities for all - both now and in the future.

Climate change is a challenge we need to address at a local, national and international level, and at Profile 22 we are dedicated to ensuring we work collaboratively with all stakeholders to assist in the UK's commitment to the Kyoto Protocol, whilst ensuring a better quality of life and Decent Homes for all.

Profile 22 and its parent company, Epwin Group, has long since been committed to supporting Government policy and looking to ensure its projects and operations meet national and local needs, supporting the sustainable development of communities.

Importantly the company actively looks to ensure the involvement of all stakeholders, the protection of the environment and the reduction of consumption of energy and natural resources.

Sustainability Integration

Profile 22 is committed to integrating the three key elements of sustainability:

- **Economic sustainability concerns the increase of profitability by making more efficient use of resources, whether human, natural or energy.**
- **Social sustainability recognises the needs of everyone affected by a project, within the supply chain, and importantly the end-users and local communities.**
- **Environmental sustainability considers the protection of the environment from the impact of the emissions and waste, and the careful use of natural resources.**

As an experienced supplier to the commercial sector, Profile 22 is committed to ensuring all elements of its business are in line with the principles of sustainability, evolving its structure to provide complete project management for both new-build and refurbishment environments.

The process involved in the supply of products for sustainable construction involves all materials that are utilised being manufactured by the most environmentally friendly methods with minimum impact upon the environment, including the use of recycled material in its production.

We understand that clients wish to use materials and systems that have a lower fundamental impact on both the environment and local communities. The more efficient use of energy and materials is essential with minimal impact on the local community and excellent whole-life costings, with products being sustained for longer periods of time with negligible maintenance requirements.

Integration of social, environmental and economic sustainability

- Adherence to the requirements of the Environmental Management System BS EN ISO 14001.
- Operation of a health and safety programme in line with OHSAS 18001 to ensure a safe environment for employees, supply chain partners and residents.
- Member of the BPF Windows Group, ensuring best practice across the industry, engagement with local and national government and open dialogue.
- Commitment to supporting local communities across the UK, supporting all project stakeholders and ensuring we deliver positive outcomes for all.
- Support of local and national charities .
- Committed to providing equal employment opportunities across the UK and providing training.
- Compliance to latest Building Regulations and quality standards across our product ranges and quality control processes.

We operate a continual monitoring and programme of development to ensure adherence to the latest Government initiatives and regulations, to ensure our green credentials are optimised at all times throughout our operations.

Environmental Management

Profile 22 operates an environmental policy that is implemented by all our employees and follows a programme of continual improvement by the operation of an Environmental Management System to the requirements of BS EN ISO 14001.

Our environmental management includes:

Reduction of waste levels from company processes, and where practical, recycling waste materials. All scrap material levels are monitored and reduced in accordance with quality procedures and strict targets.

- Operation of office recycling including materials such as paper, ink cartridges, batteries and mobile phones with collections in aid of charity.
- Monitoring energy use and energy-efficiency, including the development and enhancement through a continual programme of improvement.
- Monitoring fuel use and promoting fuel-efficiency, through technology, careful planning and careful driving for all deliveries and field-based employees.
- Provision of detailed employee environmental training, induction and procedures relevant to their task and responsibilities.
- Ensuring our activities have minimal impact on local communities and do not create a nuisance to our neighbours.
- Comprehensive supplier selection process to ensure we work with companies who share our environmental commitment.
- Customer and client advice and support on optimising their environmental management.

We operate a continual programme of improvement and annually reviewed objectives and targets facilitates the successful operation of this policy at Profile 22 and across the Epwin Group in line with latest Government guidelines.



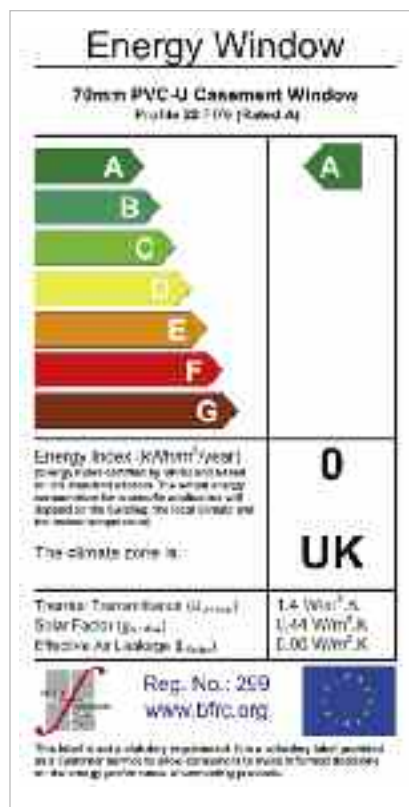
Life Cycle Optimisation

Profile 22 and its supply chain partners are committed to the environment and offering sustainable whole-life costings for improved communities throughout every stage of production to site, through both its manufacturing processes and through its products.

The Building Research Establishment (BRE) has given PVC-U a reference service life of 35 years. More impressively still, the British Standards Institute suggest that this extends to in excess of 40 years when PVC-U profile is manufactured to accredited standards.

Given that research shows that each PVC-U product can be recycled more than 10 times and still maintain performance, through the recycled process of PVC-U has a total life span of over 400 years, making its credentials as a sustainable material unquestionable.

- We offer sustainable whole-life costings.
- The Building Research Establishment (BRE) scoping Study 'Service Life' gives PVC-U a reference service life of 35 years.
- PVC-U windows manufactured in accordance with BS 7412 are expected to last in excess of 40 years according the British Standards Institute (BSI).
- PVC-U maintains performance through the recycling process and has a total life span of 400 years.



Energy-Efficient Products

Profile 22 strongly supports the Government's view on energy-efficient products. Energy-efficient products have a major role to play in reduced household emissions and increasing energy-efficiency of existing homes.

Our industry is committed to producing energy-efficient products, developing new technology to ensure optimum reduction of heat loss in line with the introduction of Window Energy Ratings (WER), which has been endorsed by the Energy Savings Trust.

- Profile 22's energy-efficient windows, achieve a window energy rating (WER) of grades, A, B and C.
- High-performance windows reduce heat loss by more than 20%.
- Reduces our impact on the environment.
- Energy-rated Advanced Performance PVC-U windows are one of the most effective ways to save energy and reduce CO₂ emissions.
- Can reduce heating bills by an estimated 10% every year.
- Triple glazed options are available for greater thermal performance.



Post Consumer and Post Industrial Recycling

The PVC-U industry successfully achieved its recycling targets set by the Vinyl 2010 Initiative and is now preparing to meet Vinyl Plus. At Profile 22 we are committed to ensuring we offer sustainable solutions for future generations and as a Group company we have invested millions of pounds to create the UK's largest PVC-U recycling plant.

Profile 22, through our sister company Dekura, can crush, recycle and re-process both post industrial and consumer waste into reusable granulate. Our product range achieves a high recycled content material rating far exceeding the BRE's target, without impacting on product quality. Once re-processed the PVC-materials are re-used into a wide range of long life building products within our own facilities. Using our skills and processing capability our group has produced the UK's first window made from 100% post consumer waste.

The introduction of RCM across our suite of window and door profiles is an essential part of our environmental commitments. RCM has also been approved by the Waste & Resources Action guide (WRAP) to construction products and has been added to their guide to construction products. Profile 22's unique RCM reinforcement closes the loop for recycling.

Profile 22 is committed to the environment and offering sustainable whole life costings for improved communities throughout every stage of production to site, through both its manufacturing processes and through its products.



Innovative Sustainable Products



100% PVC-U recycled window system

RECO22 represents a real breakthrough for the British window industry. Designed especially for the low-carbon-economy of today, RECO22 offers a recycled PVC-U window system, made from 100% post-consumer waste material, available in a diverse range of colours. This is the first window to achieve such an accolade in the UK, confirming Profile 22 as a true innovator of sustainable building materials.

Leading the way, RECO22 is the first window system to be awarded the Building Research Establishment (BRE) A+ rating for all sectors including domestic housing.

In terms of manufacturing PVC-U window profile, RECO22 is equivalent to only 6% of the carbon footprint of virgin extruded material. To put it another way, virgin material has 16 times the carbon footprint of a recycled window. The RECO22 window profile is the first of its kind made from 100% post-consumer waste PVC-U, fully closing the recycling loop.*

Working with the Carbon Trust the company have introduced a number of initiatives that have saved 1013 tonnes per year in Profile 22's carbon footprint since 2005.

* The 100% recycled profile is foiled to desired colour option.





RECO22 Case Study - Northwards Housing

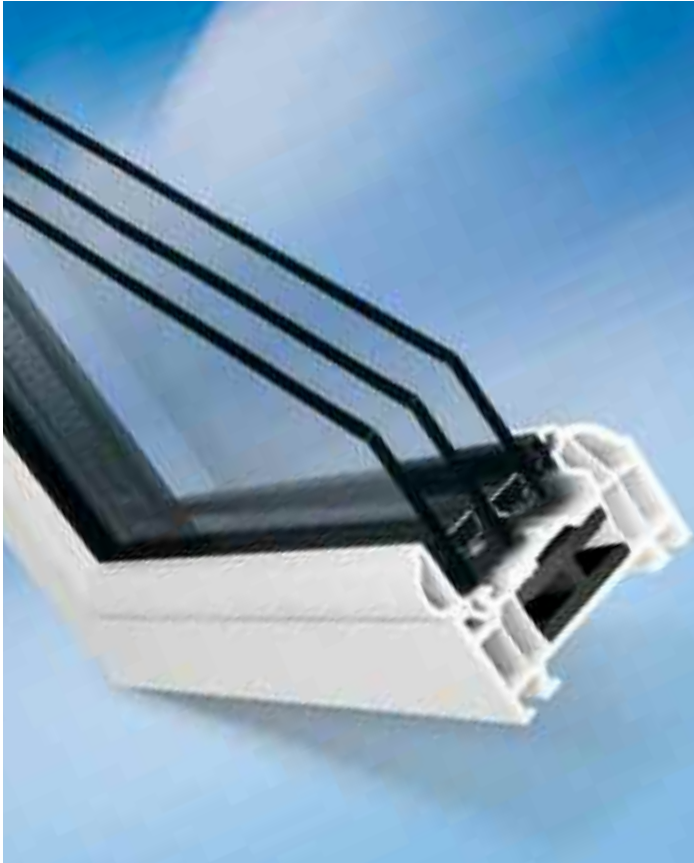
The Northwards project was the first time RECO22 was installed into social housing in the UK. Managing and maintaining almost 13,000 properties in North Manchester, Northwards Housing made a commitment to drive sustainable practices throughout its operation. As part of this commitment, they became the first social housing provider in the UK to specify and complete a PVC-U window replacement programme installing windows made from 100% recycled profile.*

The pioneering programme followed the previous year's installation of 600 PVC-U windows and curtain walling in an eight-storey tower block at Liverton Court. The contract brief stated that the PVC-U programme had to reprocess and recycle all recoverable 'waste' material from the refurbishment programme. Profile 22 achieved this through utilising its recycling facility owned by parent company Epwin. The waste otherwise destined for landfill, was collected and recycled using sophisticated technology and then re-extruded by Profile 22 into new profile ready to fabricate new windows.



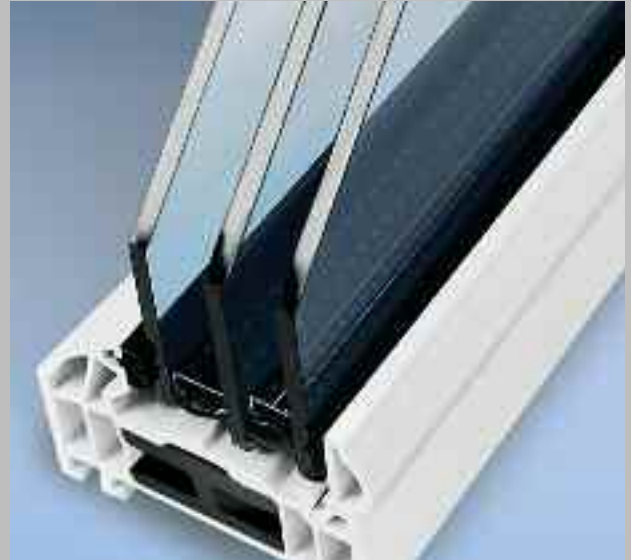
Building on this success of Northwards Housing, in consultation with its board and residents, Profile 22 was specified for the installation of 18 semi-detached properties in Corris Avenue, Higher Blackley, North Manchester. Utilising the reprocessed material taken from the tower block site, new RECO22 windows were installed in March 2009. Secure, low-maintenance and energy-efficient, the windows used in this pioneering trial, featured a thin white wood grain effect foiled skin (which represents 2% of the total material), to ensure colour consistency, weather performance and improved aesthetics.

The Northwards project was the first time RECO22 was installed into social housing in the UK.



Triple glazing solution for greater thermal performance

When greater thermal performance is required, you now have the option of upgrading your specification from double to triple glazing. Capable of achieving a U-value as low as 0.8W/m²K our triple glazed solution has the added benefit of improved acoustic performance.



- Improved acoustic performance reducing the sound from outside
- Can be used in a variety of window and door styles including casement, tilt & turn, single & double residential doors and tilt/slide patio doors
- Optional 100% recycled composite material (RCM) profile reinforcement
- Designed to accommodate a 36mm triple glazed unit
- Allows greater flexibility in attaining WER ratings & U-values
- Attains Building Regulation Compliance U Value of 1.6W/m²K using only Soft Coat Glass. (U Value 1.6 spec Planitherm Total +/Float/Float/Air/Aluminium)
- Attains a low U Value of 0.8W/m²K (U Value 0.8 spec SG Planitherm 4S/SG Planitherm 4S/Float/Krypton/Swiss V Spacer)



Recycled Composite Material (RCM)

Recycled Composite Material (RCM) is a recycled composite plastic window and door reinforcement manufactured from first generation post consumer waste PVC-U. Supplied as a substitute to either steel or aluminium sections, RCM is a cost-effective alternative that offers superb benefits, while being fully sustainable. Developed as part of our proactive stance to increase the sustainable credentials of our product range, RCM closes the loop in the recycling process, offers better thermal efficiency and has a minimum life cycle of 35 years.



Benefits of RCM:

- Manufactured from Post Consumer Waste PVC-U, Profile 22's unique and patent pending RCM reinforcement is fully and easily recyclable.
- Can be joint-welded, delivering a 20%-30% increase in corner-weld strength.
- Doesn't corrode or rust.
- RCM has a screw pull-out value greater than equivalent steel reinforcements.
- User-friendly, easy to drill, cut and clean, making it easier and safer to handle.
- The price of RCM is stable.
- RCM is less conductive than steel increasing thermal efficiency making it easier to achieve a higher energy rating.
- RCM makes windows and doors easier to install.



Casement Windows

These 60-70mm depth, integrated open-out windows are available in a variety of single or multi-light styles, using top hung vents, side hung casements and fixed lights, either internally or externally glazed, in white, woodgrain on white or woodgrain finish, fabricated to BS 7412. Round head, circular or lancet windows may be supplied depending on size, style and application.



The profile range consists of:

- FC60:** Fully Chamfered 60mm frames and sashes.
- FI70:** Fully Integrated 70mm frames incorporating 60mm sashes.
- FS70:** Fully Sculptured 70mm frames and sashes.
- RECO22:** 100% recycled 70mm profile system.



Profile

Acrylic modified high quality impact resistant white PVC-U extrusion, producing a rigid multi-chambered profile to BS EN 12608 manufactured to BS EN ISO 9001.

Reinforcement

Specific members are reinforced with galvanised mild steel or RCM sections to BS 7412 sealed within the profile central cavity.

Glazing

Glazing can be supplied as either double-glazed (24mm & 28mm) or triple-glazed (36mm) finished glass units depending on thermal or acoustic requirements.

Performance

Double Bubblex weatherseals ensure the performance meets the requirements of BS 6375 Part 1, as shown below. Actual performance will depend on size and style.



TEST	EXPOSURE CATEGORY				
	800Pa.	1200Pa.	1600Pa.	2000Pa.	2000+Pa.
AIR PERMEABILITY	300Pa.	300Pa.	300Pa.	300Pa.	300Pa.
WEATHER TIGHTNESS	100Pa.	100Pa.	200Pa.	200Pa.	300Pa.
WIND RESISTANCE	800Pa.	1200Pa.	1600Pa.	2000Pa.	2000+Pa.

Casement Windows



Safeware Hardware

Vents and casements are hinged using stainless steel friction hinges, or the option of butt hinges with security pin. Locking or non-locking handles are available in a variety of finishes.

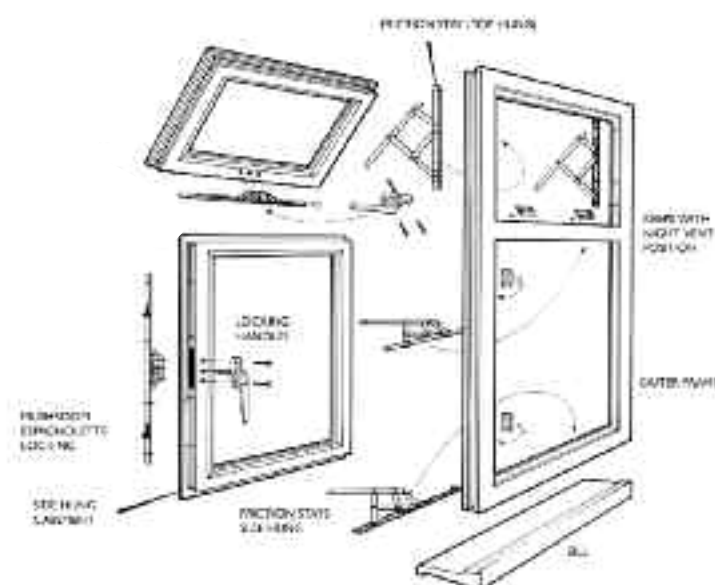
All hardware meets the requirements of BS 7412. When fitted with high security hardware, windows meet the requirements of BS 7950.

Locking

The windows are fitted with mushroom-headed espagnolettes or shootbolts for added security, both options with night vent facility.

Ventilation

In addition to the night vent, controllable or permanent ventilators are offered as an optional extra, fitted within the head profile of the window.



Run Up Block



Security Clip
(External glazing only)



Dedicated Keeps



Protector Hinge



Shootbolt Extension



Chrome Handle



Defender Hinge



Rail Espags

Secured by Design



Official Police Security Initiative

Tilt - Turn Windows

These all round locking, internally glazed, open-in, 60-70mm depth windows provide good security and weather tightness. The tilt before turn operation provides improved child safety and the ability to carry out internal and external cleaning without risk - a vital consideration in high-rise applications. In the tilt mode the window offers secure ventilation, an important factor in ground floor installations. The option of curved or angled head and top rails, to suit design requirements, is an additional feature.



The profile range consists of:

FC60: Fully Chamfered 60mm frames and sashes.

FI70: Fully Integrated 70mm frames incorporating 60mm sashes.

FS70: Fully Sculptured 70mm frames and sashes.



Glazing

Glazing can be supplied as either double-glazed (24mm & 28mm) or triple-glazed (36mm) finished glass units depending on thermal or acoustic requirements.

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WEATHER TIGHTNESS	100Pa.	100Pa.	200Pa.	200Pa.	300Pa.
WIND RESISTANCE	800Pa.	1200Pa.	1600Pa.	2000Pa.	2000+Pa.

Tilt - Turn Windows



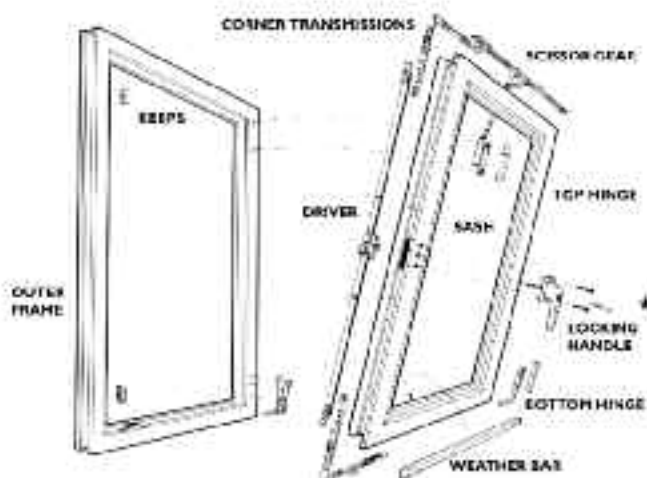
Safeware Hardware - Locking

The Tilt before Turn safety feature ensures the 'Tilt' or ventilation option occurs first, followed by the 'Turn' or cleaning option. The mechanism comprises bichromate finished steel multi-point espagnolette locking, operating around the sash. The number of locking points is dependent upon the window size.

An anti-switch barrier is fitted to prevent selection from tilt to turn, while in the tilt mode and vice versa. The window must be closed before the alternative mode may be selected. A locking handle may be fitted for added security at ground floor level.

Ventilation

In addition to the tilt mode, controllable or permanent ventilators are offered as an optional extra, fitted within the head profile of the window.



* Consideration for fire egress must be sought when choosing the type of handle required. Particularly on levels above ground floor.



Mushroom Striker



TBT Scissor Stay



TBT Bottom Hinge



Security Restrictor



Night Vent



Handle



Slot Vent



VSU

Secured by Design



Official Police Security Initiative

Horizontal Pivot Windows

The 180° Horizontal Pivot internally beaded, 60-70mm frame depth window, allows easy and safe cleaning in high-rise and inaccessible locations. The window completely rotates and incorporates high security locking and child resistant safety catches, combined with excellent weather tightness.

The profile range consists of:

FC60: Fully Chamfered 60mm frames and sashes.

FI70: Fully Integrated 70mm frames incorporating 60mm sashes.

FS70: Fully Sculptured 70mm frames and sashes



Profile

Acrylic modified high quality impact resistant white PVC-U extrusion, producing a rigid multi-chambered profile to BS EN 12608, manufactured under BS EN ISO 9001.

Reinforcement

Specific members are reinforced with galvanised mild steel to BS 7412 sealed within the profile central cavity.

Glazing

Double-glazing can be supplied to BS 6262, using 24mm or 28mm insulated sealed units, depending on thermal or acoustic requirements. Double glazed units made to BS EN 1279. Glazing options include patterned glass, Georgian bars and leading. Post co-extruded glazing beads secure the internal glazing.


Performance


The Horizontal Pivot window meets the classification for weather tightness to BS 6375: part 1, up to the figure shown below.


Actual performance will depend on size and style.


TEST	VALUE
AIR PERMEABILITY	600Pa.
WEATHER TIGHTNESS	300Pa.
WIND RESISTANCE	2400Pa


Window Operation

- 

1 Closed position
- 

2 The sash may be opened to the ventilation position of 15° by operating the handle and pushing the sash forward until the pivot hinge restrictor is automatically engaged.
- 

3 To rotate the window further, the restrictor must be released.
- 

4 In the fully rotated position the restrictor is again automatically engaged, allowing safe cleaning of the exterior surfaces of the sash.
- 

5 Release of the restrictor will allow the sash to rotate back to its normal closed position.

Horizontal Pivot Windows

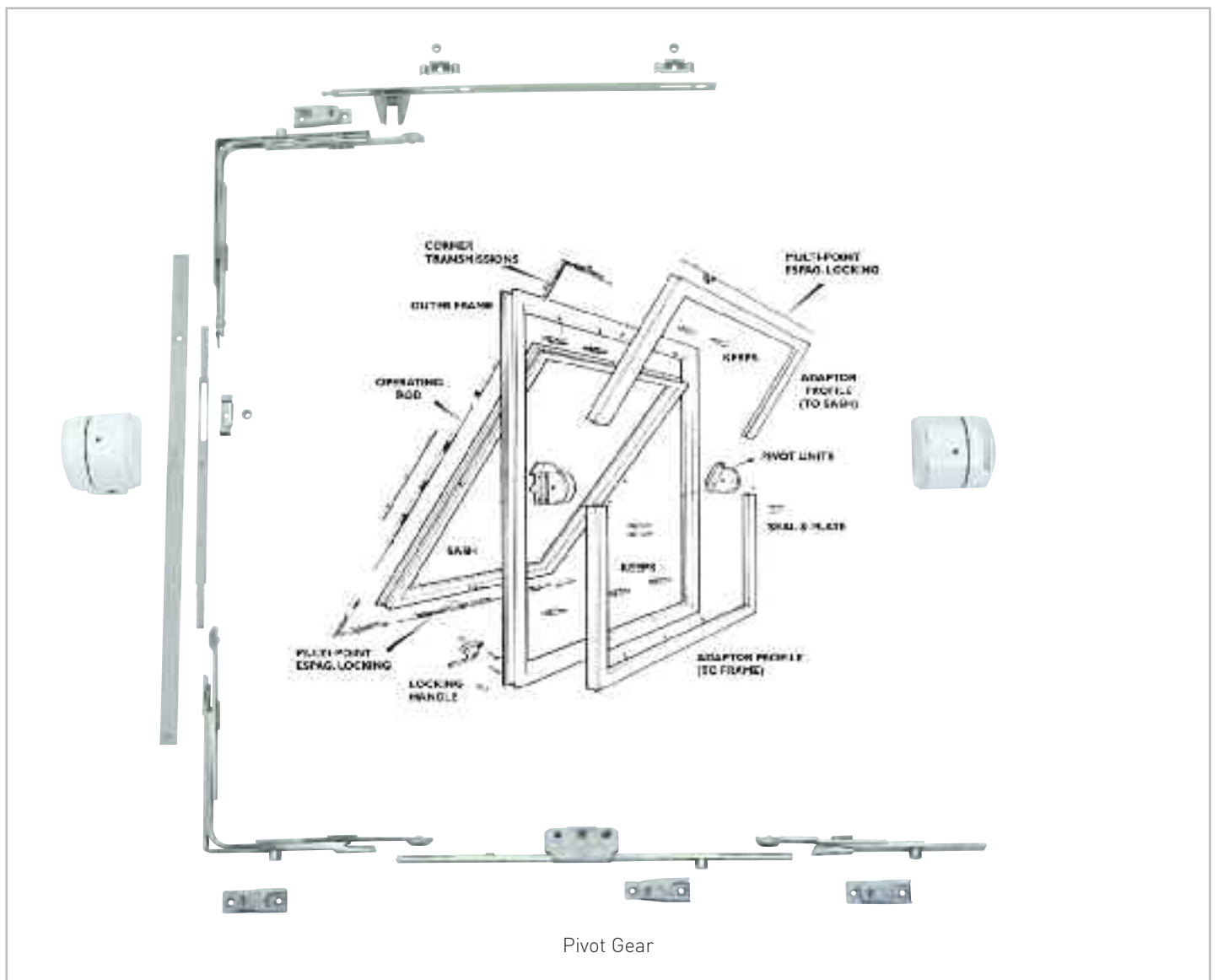


Safeware Hardware - Locking

Security provided by Multi-point espagnolette mechanism with locking handles.

Ventilation

Controllable or permanent ventilators can be fitted into the head of the frame, immediately above the sash, if required.



Fully Reversible Windows

These 70mm depth, internally beaded windows, allow easy and safe cleaning in high-rise and inaccessible locations. The window can be completely rotated, without intruding into the room space. High security locking and child resistant safety catches, combined with excellent weather tightness ensures a quality window of excellence.



Profile

Acrylic modified high quality impact resistant white PVC-U extrusion, producing a rigid multi-chambered profile to BS EN 12608 manufactured to BS EN ISO 9001.

Reinforcement

Specific members are reinforced with galvanised mild steel to BS 7412 sealed within the profile central cavity.

Glazing

Double-glazing is supplied; using 24mm insulated sealed units depending on thermal or acoustic requirements. Double glazed units made to BS EN 1279. Glazing options to BS 6262 including patterned glass, Georgian bars and leading may be supplied. Co-extruded beads secure the internal glazing.

Performance

The Fully Reversible window meets the classification for weather tightness to BS 6375: part 1, up to the figures shown below. Actual performance will depend on size and style.

TEST	VALUE
AIR PERMEABILITY	600Pa.
WEATHER TIGHTNESS	300Pa.
WIND RESISTANCE	2400Pa

Window Operation



- 1 The window can rest in the narrow night ventilation position or with approximately 100mm opening.



- 2 Once the safety catch is released the window can be completely rotated.



- 3 The window rotates without entering the room space.



- 4 The special hinge assembly brings the outside of the window to the inside of the room.



- 5 The fully reversed window engages on a safety catch and allows safe and easy cleaning of the outside pane.

Fully Reversible Windows

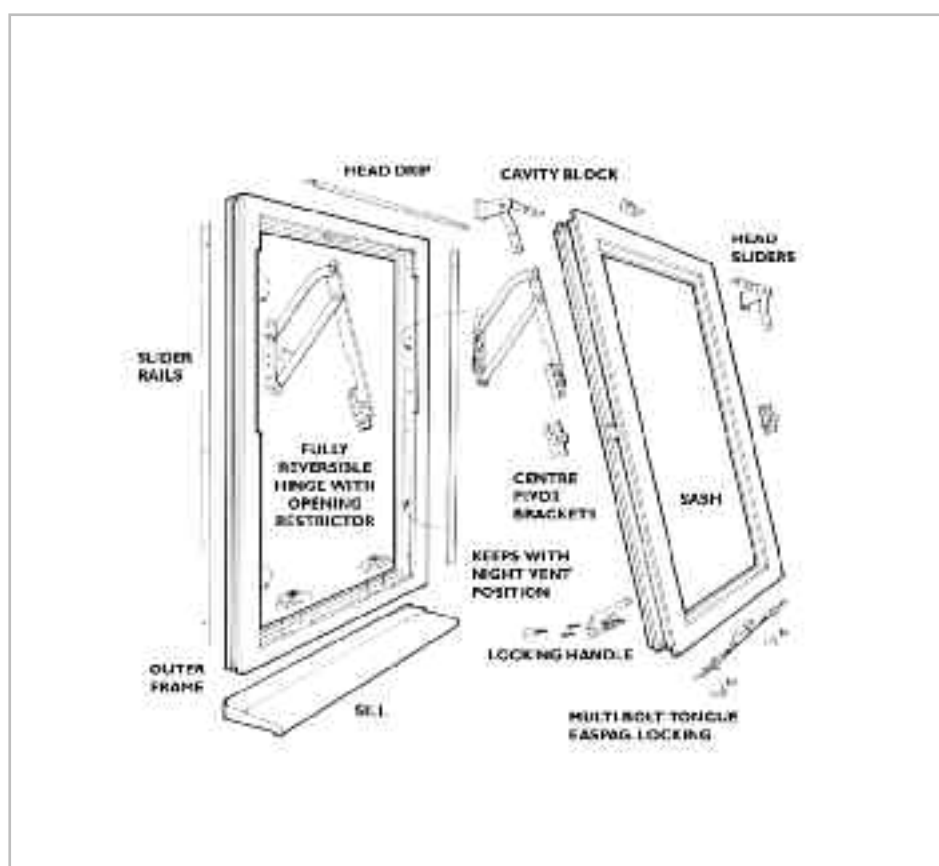


Safeware Hardware - Locking

Security features multi-point mushroom espagnolette, with night vent facility and lockable handles (dependant upon fire egress requirements)

Ventilation

Controllable or permanent ventilators can be fitted into the head of the frame, immediately above the sash, if required. No external canopy is required with this window design.



Grorud Fully Reversible Gearing



PN Top Swing Gear



Handle Options



Rail Espagnolette



Block and Striker

Residential Doors

Residential doors with an outer frame depth of 60-70mm may be produced in a variety of styles and are available as single or double units. Offered as internally glazed as standard, either open-in or open-out, with the option of standard frame sill or medium/low threshold, suitable for wheeled traffic.

Composite PVC-U smooth skin or feature infill panels can be supplied in white or woodgrain, with either standard or steel reinforced treated core. Welded or mechanically jointed midrails may be fitted if required. The option of curved or angled head and top rails, to suit design requirements is an additional feature.



Profile

Acrylic modified high quality impact resistant white PVC-U extrusion, producing a rigid multi-chambered profile, conforming to the requirements of BS EN 12608, manufactured to BS EN ISO 9001.

Reinforcement

Leaf styles and top and bottom rails, together with outer frame jambs, are reinforced for strength and security with galvanised mild steel to BS 7412, sealed within the profile central cavity. Outer frames can alternatively be reinforced with RCM.

Secured by Design

Secured by Design is a scheme run by the Police to help homeowners choose security products that meet rigorous Police-approved standards. When you see the Secured by Design hallmark you know you are choosing products that have been rigorously tested and approved by the Police. To achieve accreditation the lock must withstand a series of tests, including a simulated break-in.

Glazing

Double-glazing to BS 6262 can be supplied, using 4mm or 6mm safety glass, depending on thermal or acoustic requirements. Double glazed units conform to BS EN 1279. Glazing options include patterned glass; Georgian bars and leading, all internally glazed with post co-extruded beads.

Performance

Double Bubblex weather seals ensure the performance meets the requirements of BS 6375 Part 1, as shown below. A weather bar is fitted on all open-in doors.

TEST	EXPOSURE CATEGORY				
	800Pa.	1200Pa.	1600Pa.	2000Pa.	2000+Pa.
AIR PERMEABILITY	300Pa.	300Pa.	300Pa.	300Pa.	300Pa.
WEATHER TIGHTNESS	100Pa.	100Pa.	200Pa.	200Pa.	300Pa.
WIND RESISTANCE	800Pa.	1200Pa.	1600Pa.	2000Pa.	2000+Pa.

ACTUAL PERFORMANCE DEPENDS ON SIZE/STYLE/THRESHOLD TYPE

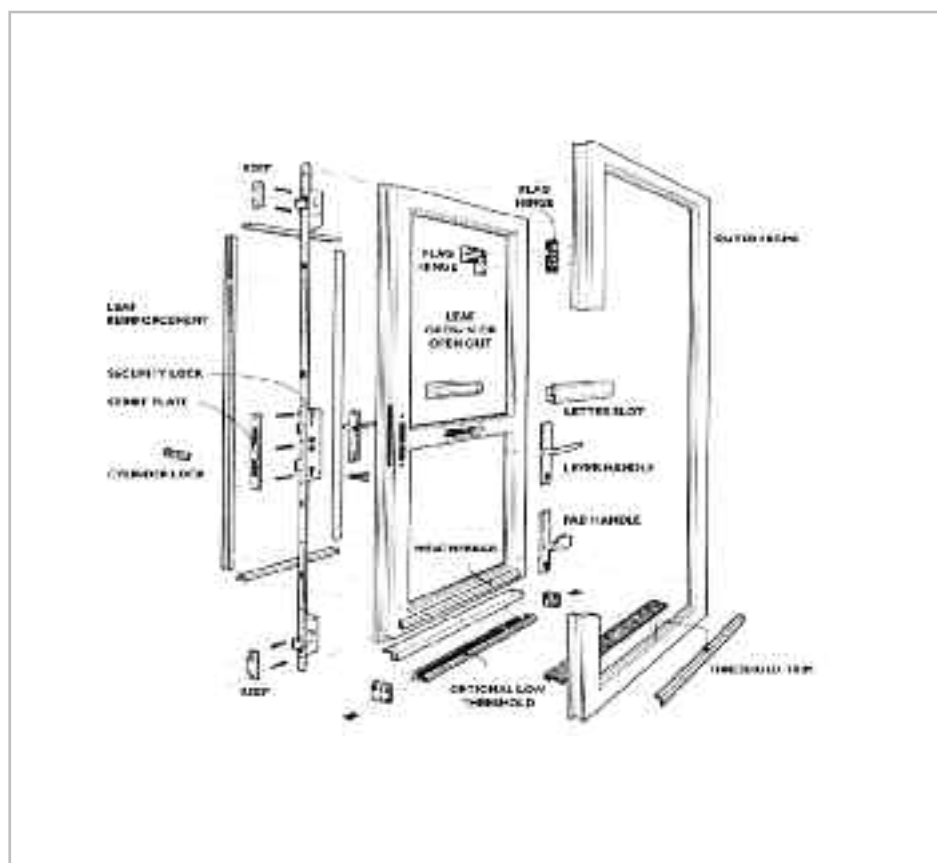




Handle furniture is available in a variety of finishes, as lever/lever or lever/pad, depending on application. Butt hinges with security pin, or the option of fully adjustable hinges, are supplied. Letter plates are fitted in midrails where required. Additional hardware, e.g. security devices, hold open arms etc., are offered as optional extras. All hardware meets the requirements of BS 7412. Threshold trim: It is recommended that on doors with PVC-U frame thresholds, the threshold trim is fitted as standard.

Locking

The doors are fitted with secure multi-point hook bolt locks that have undergone type approval testing to PAS 23-1 and PAS 24-1. In double doors the slave leaf can be secured by means of finger bolts or shoot bolts activated by lever handles to provide a locking frame for the master leaf.



Secured by Design



Official Police Security Initiative



Yale Letter Plate



Lever/Lever Handle



One Piece Keep



Centre Hook Thrown



Safeware 7 Master Lock



Yale Cylinder



2D Adj. Butt Hinge



4 Roller Lock



Safeware 8 High-Security Tandem Bolt



Safeware 8+ Optional
Shootbolt

Doors with Side Screens

60mm & 70mm Frames

Residential door and sidescreen units may be produced in a variety of styles, with a range of panel options to suit requirements. Open-out or open-in windows can be incorporated into the screens. Units can be supplied in white or woodgrain.



Typical Style Options

- Full length glass screens
- Glass over glass
- Flag screens
- Single or double midrails
- Glass over infill panel
- Fanlights over etc.

Extras

Letterplates may be incorporated in screen midrails, or infill panels.

Glazing

Screens may be single or double glazed to BS 6262, using annealed or safety glass depending upon application. Double glazed units conform to BS EN 1279. Glazing options include patterned glass, Georgian bars and leading, all internally glazed with co-extruded or standard bead.

Sizes

The maximum size of one piece door/sidescreen units will depend on style and glass size limitations, (refer to BS 6262). In certain application where the site requirements demand, or where additional structural stability is required, it is recommended that the units are coupled.

Reinforcement

Specific members are reinforced with galvanised mild steel to BS 7412 sealed within the profile central cavity.



Emergency Doors

Emergency exit doors

Special doors can be supplied fitted with Panic Bars for emergency or fire exits etc. Single doors use either multi-roller or head and threshold shootbolts. Double doors use shootbolt mechanisms. All doors are fitted with midrails and are bar operated. Standard or low thresholds may be supplied to suit requirements. In addition to single or double doors, combination units are offered comprising single residential door for normal access, with single panic bar door adjacent for emergency.



All doors confirm to our residential door specification and panic bar mechanisms meet the requirements of BS EN 1125 as specified and approved by fire officers and local authorities.

Composite Doors

Composite doors are offered with 70mm depth outer frames and also RECO22 100% recycled PVC-U option. Supplied as 42mm - 46mm GRP, PVC-Polycarbonate or Steel Skinned Composite door leaves, they are available in a wide range of styles and finishes.

All are integrally glazed; either open-in or open-out, with a dedicated low threshold system, which meets the requirements of regional Building Regulations .

The framing system is designed to accommodate single door sets, double door sets and either common mullion combined or coupled door sets. The glazing rebate accommodates unit thicknesses from 24mm up to 46mm, providing the facility for glass or like-panel inserts.



Profile (outer frames/mullion/transoms)

Acrylic modified high quality impact resistant white PVC-U extrusion, producing a rigid multi-chamber.

Profile, conforming to the requirements of BS EN 12608, manufactured to BS EN ISO 9001.

Reinforcement

Outer frames are reinforced with RCM, steel or aluminium reinforcing (to BS 1474), inserted within the centre of the main chamber of the profile. Mullion and Transom profiles are reinforced with steel reinforcing (to BS 1474).

Glazing

Door leaves are integrally glazed by internal cassette glazing, or alternatively, integral insertion of the glass units within the door leaf. Secure glazing - meeting the requirements of PAS 24-1 can be offered. Glass units to BS 6262 can be supplied. Glass can be offered in a wide range of styles, patterns and designs.

Performance

Composite doors have been type approved tested to the exacting requirements of PAS 23-1/BS EN 12608 General Performance requirements for door assemblies - single leaf, external door assemblies to dwellings and PAS 24-1/BS EN 12608 Enhanced Security Performance requirements for door assemblies -single leaf, external door assemblies and dwellings.





Safeware Hardware

A complete hardware range specially designed for composite doors.

We have been working with composite door manufacturers since the very early days of these products. So we know what's needed to create an effective, high quality hardware range for composite doors. Our range is complete and allows you to source all the hardware you need from one supplier.

This range meets the usual high standards that you'd expect from Safeware – reliable, constant stocking, high quality, durability and high performance.



RCM reinforcement

- Doesn't rust or corrode
- Thermally efficient
- Excellent screw retention for hardware anchorage
- Easy to handle, easy to cut, easy to drill



Wrap-around lock

- High security multipoint locking system
- Available in white or brown
- Lever/lever or lever/pad option in one lock



Hinges and hinge strip

- Attractively finishes the hinge side
- Available in white or brown
- Suits Mk 6 door hinge



Letterplates

- Standard black surround available in 10 inch or 12 inch
- All aluminium in gold or silver also available in 12 inch
- Chrome available in 12 inch with black surround only



Handles

- Aluminium anodised or powder coated
- Spring cassette
- Brass or Chrome
- Designer range available



Knockers & eye viewers

- Brass or chrome viewers
- Aluminium door knockers
- Extensive range

In-line Patio Door System

Patio Door System



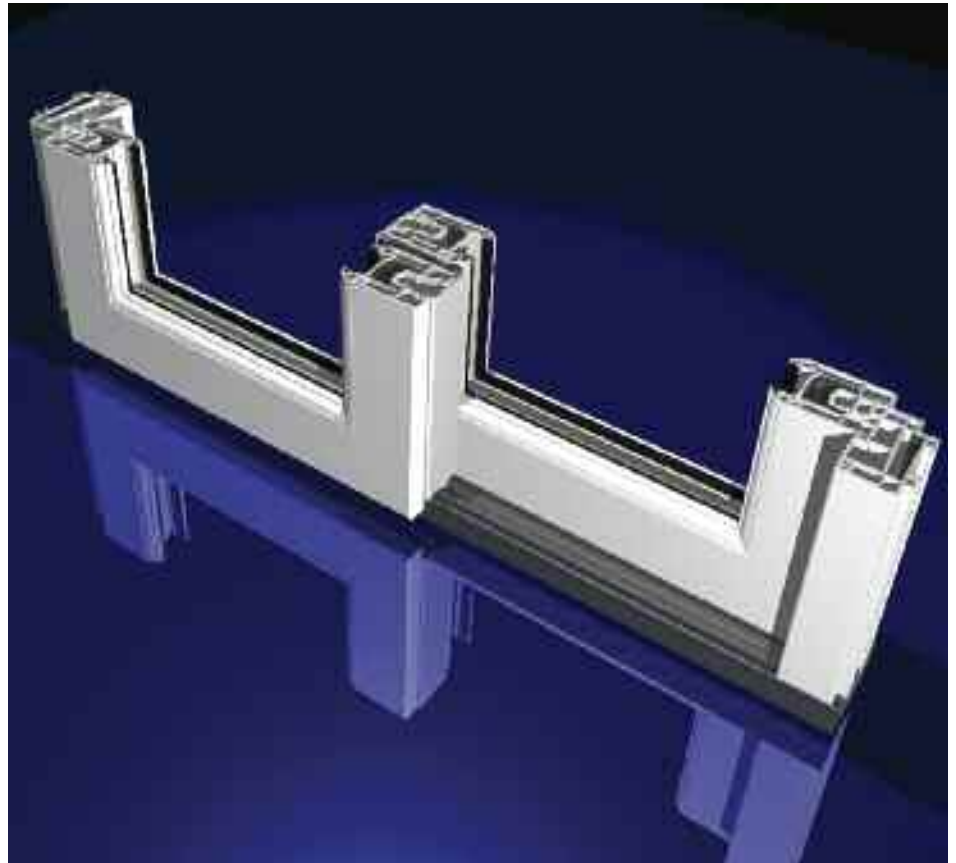
- Specially developed extrusion
- Slim stepped 86mm outer frame for minimal plaster cutback
- Multi chambered profile for greater thermal insulation
- Lowline gaskets extruded to sash frame for greater visible glass area
- Fully integrated 60mm chamfered sashes
- 2/3/4 pane
- 3 woodgrain finishes plus, woodgrain on white
- Mechanically joined frame option for restricted access
- Stainless steel easy glide track system.
- Concealed drainage and double wool piling for improved draft proofing
- Designed for trouble free installation
- Excellent weather protection and heat conservation
- Secure by design option



In-line Patio Door System

Hardware

- High Security: Anti jacking system 6 point lock.
- Low maintenance PVC-U frames.
- Suitable for conservatories and porches or as a room divider with the low threshold track system.
- Midrail with letter place available for front entrances.



Interlock Bolt



Head Rail



Security Chrome Handle



Pre-Prepared Interlock



Anti-Bump Cylinder



Bump Stop

Curtain Walling

Specifier Preference

This system can accommodate the full range of 60mm and 70mm window and door systems for a wider choice of product, and to make replacement of individual glazed units easier in the event of damage or breakage.

Specifiers can choose from direct glaze insulation or spandrel panels. Importantly it offers long term maintenance and cost benefits, if in the unlikely event a glazed unit does need to be replaced, the system accepts individual glazed frames. The bead is simply removed and the new glass unit slotted in from the inside, for a simple and quick replacement.



Before



After



The new curtain wall system is yet another innovation from the experienced Profile 22 Product Development Department which offers an ideal solution to schools and properties in the commercial sector requiring large areas of glazing.



The curtain wall system from Profile 22 combines quality, sustainability, aesthetics, price and performance – making it the ideal choice when creating large areas of fenestration.

Perfect for:

- Schools
- Offices
- Hospitals
- Factories
- Shop fronts
- Large stairwell screens
- Other commercial developments

Benefits:

- High performance
- Improved aesthetics
- BSI tested
- Specifier preference
- Glazing options
- Fit for purpose
- Colour design
- Uniformity of product texture



Improved Aesthetics

PVC-U clad, both internally and externally ensuring colour and material matches for an attractive end result. Window frames, cover caps and cladding panels are fitted post-installation minimising site damage, and can be painted in any combination of RAL colour finishes, to create an overall agreeable contemporary façade fitting to the local community.



New-Build

Profile 22 has been dealing with house builders since they began seriously using PVC-U products in the early 1990's. In fact, we introduced the original 'press to fix' window and former in the UK, which we developed with house builders. Since then we have developed our products and created a whole suite of material for the new-build market.



Profile 22's new build range also offers two cavity closer and former solutions called Winfast and Winfit, which are manufactured from 98 per cent recycled PVC-U and is designed to work with all modern methods of construction.

We serve the speculative house building market through a national network of Approved Window Contractors. We only recommend those that have the required experience and capabilities applicable to the contract, such as managing large contracts of supply and installation, and can demonstrate a thorough knowledge of site practices.

Cavity Closer solution WinFast

Winfast is the new revolutionary cavity closer and former system from Profile 22. What sets it apart is the speed and ease of installation, saving you money on site. Unlike other cavity closers **Winfast** allows you to install windows from the inside thanks to its unique fixing system (patent applied for).

Versatile and cost-effective the **Winfast** cavity closer system and frame former gives you all the flexibility of frame position and cavity widths you require on site.




Tried and tested

Winfast is setting the standard for new-build cavity closer systems. BBA approved, it offers full compliance with Building Regulations including document L.



Universal appeal

Designed to work just as effectively with timber and PVC-U window and door frames **Winfast** can be installed in cavities from 75mm right through to 100mm.



Builder-friendly

Winfast is a made-to-measure system designed to drop straight into the cavity without adjustment on site. The sub-frame acts as horizontal and vertical damp-proof membrane and can be used as a former as brickwork is built up, held in place with specialist brick ties and PVC-U brace and shoes for stability. Window and door frames can then be easily fixed in minutes from the inside once all other building work is complete.



Specifier-friendly - a totally sustainable product

It's pioneering 98% recycled content helps future proof it against further changes in legislation.



Installer-friendly - 60% quicker to install

Winfast allows you to install windows in minutes from the inside. No need for scaffolding (or waiting around for scaffolders!) and no special brackets that need fixing to frames – The secret is a unique locking system (patent applied for) that fits the frame in place immediately. Once fitted, the frame only requires sealing under the sill and to the brickwork at the jamb head.

Designed specifically to accept all typical designs of window and door frames **Winfast** offers solutions for in check as well as standard constructed cavities.



Fabricator-friendly

Winfast is supplied with insulation already in place so frames need only be square cut to size and then mechanically jointed with specialist corner cleats.

Cavity Closer solution Winit

Winit is a BBA approved cavity closer system that allows new windows to be simply clipped and then sealed in place from the outside. This versatile, cost-effective cavity closer and frame former system gives you all the flexibility of frame position and cavity widths you require on site.




Tried and tested

For over 13 years **Winit** has been responsible for literally thousands of trouble free, cost effective window and door installations in the UK new build market. Clients including McCarthy Stone, No.4, Charles Church, Persimmon PLC, Taylor Wimpey PLC, Crest Nicholson Ltd, Barratt Homes Ltd and Bellway Homes Ltd.



Universal appeal

Designed to work PVC-U window and door frames, **Winit** can be installed in cavities from 75mm right through to 100mm.



Builder-friendly

Winit speeds window and door installations on site by typically 40% and is made to measure to drop straight into the cavity without adjustment on site. The sub-frame acts as a horizontal and vertical damp-proof membrane that can be used as a former as brickwork is built up, held in place with specialist brick ties and PVC-U brace and shoes for stability. Window and door frames can then be easily fixed in minutes from the outside once all other structural work is complete.



Specifier-friendly - a totally sustainable product

Winit offers full compliance with Building Regulations and document L. It's pioneering 98% recycled content helps future proof it against further changes in legislation.



Installer-friendly

Winit is designed specifically to accept all typical designs of window and door frames. With solutions for in check as well as standard constructed cavities, frames are simply dropped into position from the outside of the building and are then secured with jamb clips, that clip the window in place safe and secure ready for sealing.



Fabricator-friendly

Winit is supplied with insulation already in place so frames need only be square cut to size and then mechanically jointed with a unique cleating system.



winfast™

Build in the closer/fixer, with or without headvent

Slide in the window from inside the property.

Lock in place using the patent-applied-for **Winfast** cams. The window is now fitted & secure.



winfit™

Build in the closer/fixer, with or without headvent

Slide in the window from inside or outside the property. (Depending upon specification).

Push window until clips are in place. The window is now secure and ready for sealing.



winfast™

Installation

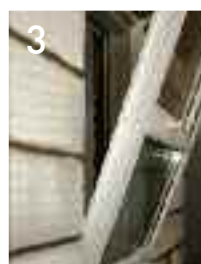
1) Build in sub-frame



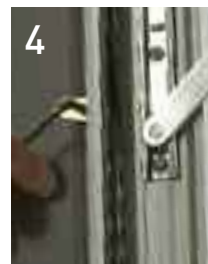
2) Lintel height



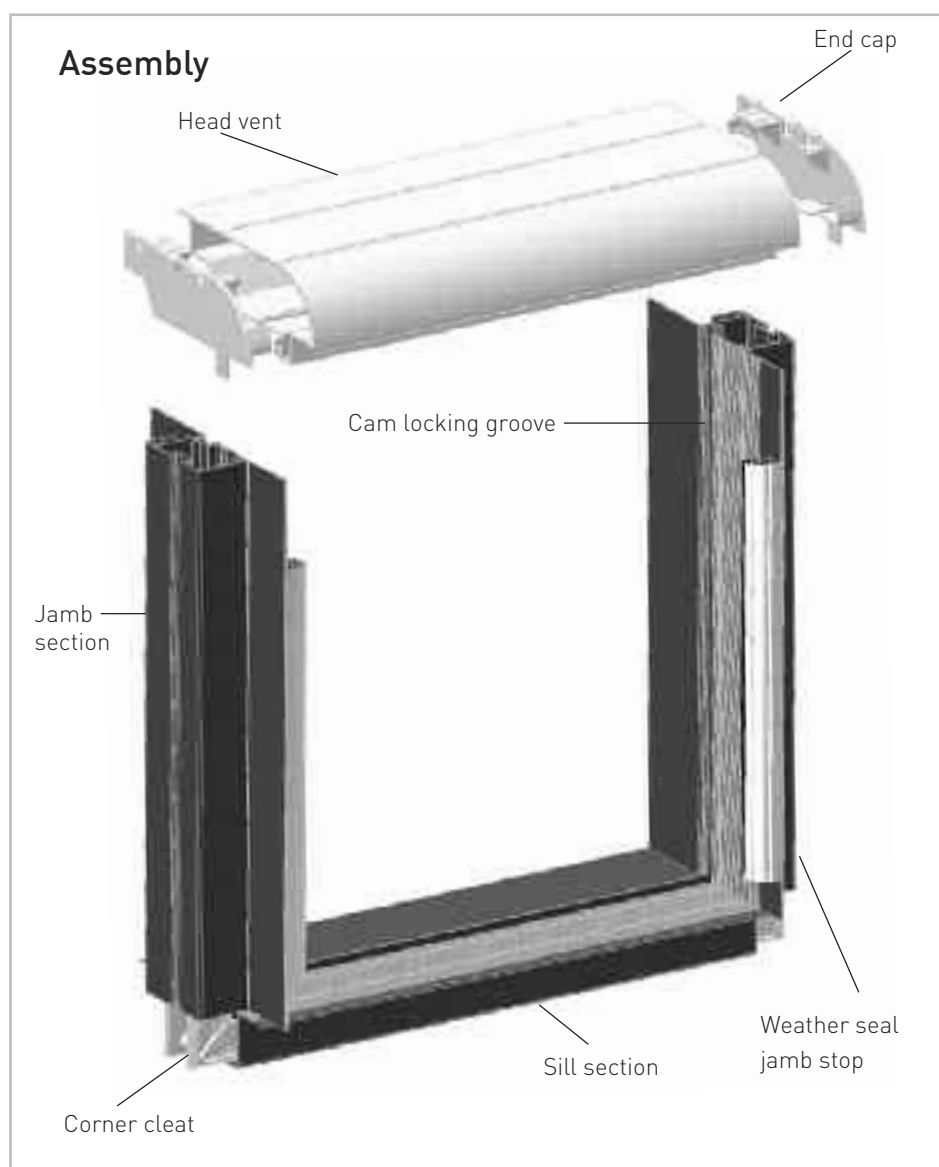
3) Slide in window



4) Apply cams



5) Complete with head vent



Key product features

- BBA approved certificate no. 01/3827
- Window and door former for timber frame, brick or block construction
- Allows windows to be fitted from the inside
- Ensures compliance with Building Regulations
- Head vent provides overhead ventilation to Approved Document F
- Designed for cavities 75mm to 100mm
- Can be mechanically jointed
- Acts as a horizontal and vertical DPM
- 98% recycled content (cavity closer)
- Can be used with any PVC-U or timber window or door system



winfit™

Installation

1) Build in frame

2) Lintel height

3) Clip in window



Assembly



Key product features

- BBA approved certificate no. 01/3827
- Window former for brick and block construction
- Quick fit window clips
- Ensures compliance with Building Regulations
- Head vent provides overhead ventilation to Approved Document F
- Designed for cavities 75mm to 100mm
- Easily fabricated – no specialist equipment required and mechanically jointed on site
- Acts as a horizontal and vertical DPM
- 98% recycled content
- Can be used with any PVC-U or timber window or door system



Colour Options

Profile 22 offers a diverse range of coloured foil finishes designed to achieve a long-lasting, maintenance free and cost effective option for PVC-U windows and doors. Colour options are the perfect partner when you are looking to blend into existing framework, street scenes or wishing to create a contrast on a rendered building. Dual colour tone options are also available for when your design demands a coloured exterior, whilst maintaining a bright white interior.



Our extended range comprises of six authentic wood-effects from delicate Irish Oak to rich Siena. The White wood-effect has a subtle, matt finish, perfectly mimicking wood. Other colours in our palette include two shades of grey and deep Beck Brown (almost black). Also included are three brand new, exclusive shades: the 'on-trend' Barley Water – proving very popular on new and renovated properties; the warm Vanilla, which complements any frame style; and the subtle Willow Green.

All foil products are approved to RAL-GZ716/1 part 7, tested to BS 7722 and BBA assessed for new build developments. Bespoke colours are available on request.



Building Regulations

All of our products have been designed to be fully compliant with the latest Building Regulations in respect of windows, doors and hardware. In the technical section of this guide, guidance is given on the regulations affecting usage of our products such as:

- **Document B - Fire Safety and Means of Escape.**
- **Document E - Sound Performance.**
- **Document F - Ventilation.**
- **Document L (incorporating Scottish Document J and Document L - Republic of Ireland).**
- **Document M - Wheelchair access.**
- **Document N - Windows Safety: Opening and Closing, Access for Cleaning and use of Safety Glass.**



The ongoing development of the Building Regulations reflect the Government's commitment to reduce CO₂ emissions, aimed at saving one million tonnes of carbon every year. The regulations are therefore subject to change and we would like to bring to the attention of the reader that the information contained within our technical guide is correct at the time of going to print. We recommend that you check for the most up to date legislation relating to Building Regulations by going on line and searching under 'Building Regulations' or going direct to www.communities.gov.uk.

Contact Us

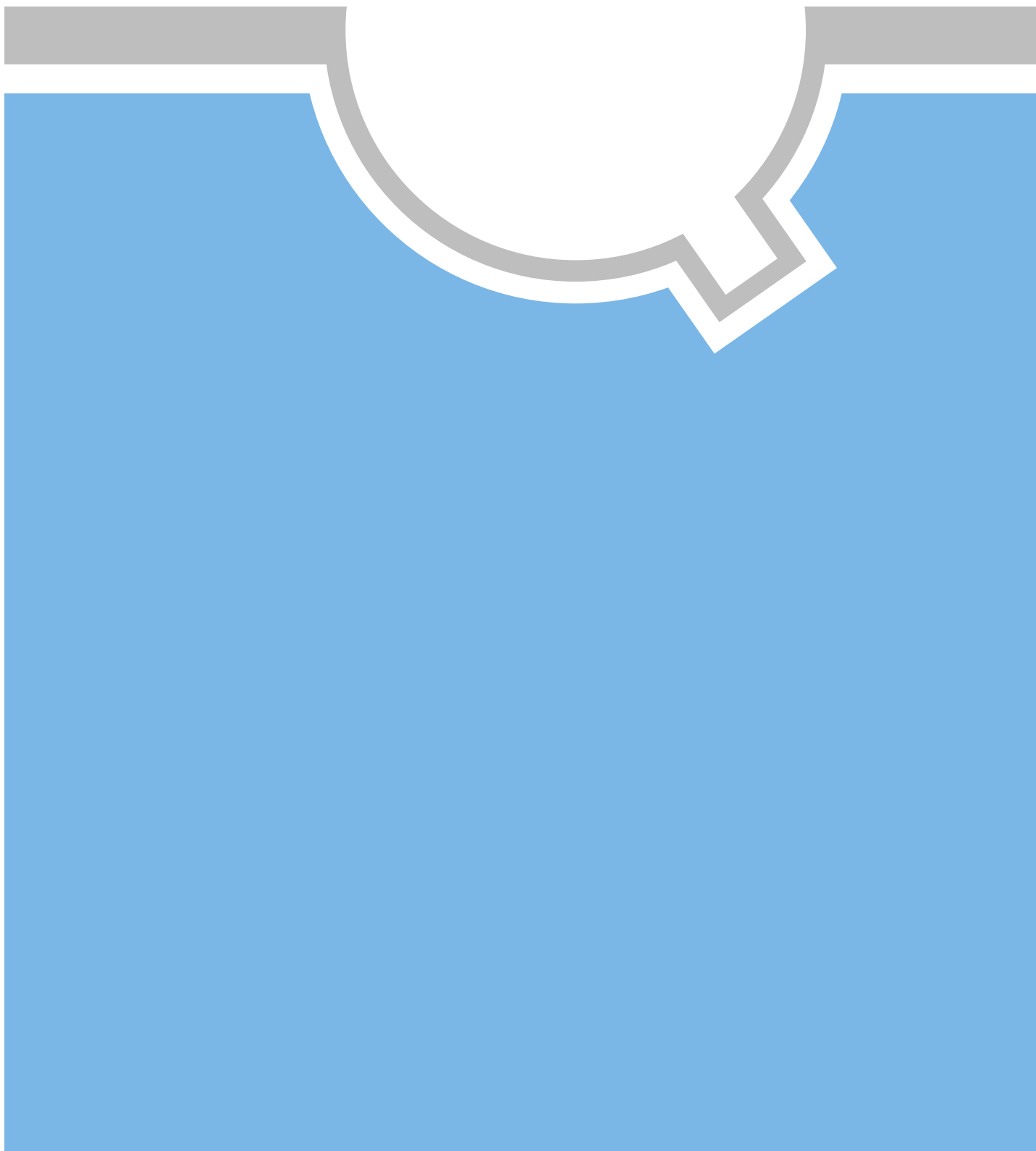
**Advanced
Performance PVC-U
windows made
from Profile 22**

For more information
on any of the products
shown, contact your
local installer of energy
efficient PROFILE 22
windows, doors and
conservatories.



Specification & Technical Guide CD





PRO/10890



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