



FIRE RESISTANT & SECURE GLAZING SYSTEMS

Systems in glass, steel & stainless steel offering fire resistance
and security for use in public, commercial, & industrial buildings

WHY CHOOSE APEX SECURITY GLAZING?

Apex operates in the civil and mechanical engineering sectors as a leading supplier of specialist security and fire resistant glazing systems to the construction and glazing industries. This includes supply to many Government and military installations within the UK mainland.

Glass and steel are fast becoming the major features of many architectural buildings – especially those with public areas, and many of these will require specialised glazing in some form or another.

Our expertise is in the design, manufacture and installation of glazed fire or security screens, doors, windows and curtain walling.

There are many types of steel and stainless steel systems available in the range, giving a wide choice of options. From powder coated mild steel to mirror polished stainless steel, any finish is available.

In addition, doors and windows can be designed in many formats depending on their required usage. A variety of locking and access control options are available to suit most applications.

We also offer Specialist Glass and Films which can be incorporated into your designs, as well as the unique MISO 2000 Glazing System.

**Security Glazing from Apex
– the sensible choice!**



CONTENTS

Page 4	The Schüco system
Page 6	System details
Page 8	MISO 2000 Glazing System
Page 10	Specialist Glass
Page 12	Specialist Films
Page 13	Norton Secure Doorset
Page 14	Installation & Service
Page 15	Completed Projects



THE SCHÜCO SYSTEM

Schüco Jansen steel profile systems offer the safety features of fire and security protection, combined with a sophisticated, elegant and contemporary look.

These systems can be used for flush-fitted single and double-leaf doors, fire-resistant glazing and security, and doors in glass walls to create elegant designs with a high level of security.

Schüco Jansen steel systems allow us to create practically any design in glass and steel - from doors, screens and windows to complete building façades.

Finishes can be architecturally powder coated or stainless steel.

Optional fittings allow it to be used as a multi-purpose door and integrated into the building security and building management system. The clear, timeless design is ideal for combining with the proven Schüco façade and window systems.

The high insulation systems are ideally suited to improving the energy balance of a building – with maximum planning freedom.

SCHÜCO
Stahlsysteme
JANSEN



Key features:

- Multi-functional steel profile systems for fire and smoke protection solutions, for noise reduction to 42 dB, and burglar resistance up to WK3
- 50mm and 60mm basic depth for door frames and leaves for strength and long life spans
- Narrow sight lines of outer frames and glazing bars
- Comprehensive range of fittings, locks and accessories, including attractively designed stainless steel barrel hinges
- A variety of Specialist Glass or Films is available (see pages 10-12 for more details)
- Excellent thermal insulation and light transmission
- Fire-resistant glazing up to height modules of 4500mm



SYSTEM DETAILS

Systems in glass, steel and stainless steel are available. For use in public, commercial and industrial buildings, they offer fire resistance, with ratings from 30/0 to 120/120 and security up to Ballistic rating BR4.

Components Available:

- Single & double doorsets
- Fixed screens and opening lights,
- Façades and structural glazed curtain walling
- Automatic door entrances

Finishes:

- All steel profiles are pre-galvanised internally and externally for corrosion resistance
- Powder coated steel
- Satin stainless steel
- Other finishes, eg Brass, bronze

Glazed systems offer:

- Wide choice of configuration and style
- Maximum light transfer into buildings
- Visually architectural & aesthetic appearance
- Modern & contemporary designs
- Durability & security
- Cost effectiveness
- Multi functional design possibilities





Fire Resistance

The fire ratings range from the modest 30/0 Half Hour Integrity only, right up to 120/120 giving Integrity and Insulation protection for a full two hours.

All ratings are available between these limits

Maximum limit for a glazed door is 60/60 EI 60

All systems will carry Certificates of Conformity and can be supplied with full fire test evidence reports from one of the major fire testing institutions.

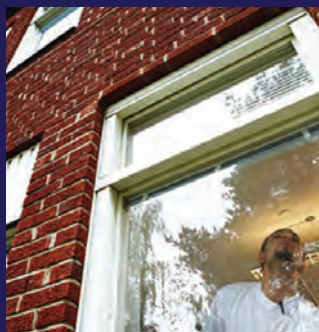


MISO 2000

The MISO 2000 system was developed in Sweden 20 years ago and is now used all over Scandinavia in houses, offices and government buildings – with a great deal of success. This unique system bonds an additional glass to an existing window pane using a patented technique.

This process will form a conventional double glazed unit using the existing window glass at your location, just like one normally produced in a factory. This makes the MISO 2000 system extremely suitable for achieving double glazing at locations where original frames cannot be replaced, such as Listed Buildings, or where the replacement of existing window frames is prohibitively expensive but it is still a requirement to save energy or reduce noise.

This system is equally suitable for use on wooden or steel windows. The MISO 2000 system can be used for different purposes to improve the environment of a building.



SAVE ENERGY / CARBON REDUCTION

Save energy by insulating windows to reduce heat loss in winter. The MISO 2000 system has been independently tested at Glasgow Caledonian University in partnership with English Heritage, who tested similar 1930's steel window frames.

The results showed a reduction in U values to 1.6Wm-20K1, resulting in greatly increased thermal efficiency. This compares with a U value of around 5.8Wm-20K1 for a typical single glazed window.

You can save even more energy by using Low E coated glass for the new window, to reflect heat from the outside. In summer, about 50% of the sun's warmth can be reflected back outside the building.

NOISE INSULATION

Since there are many different spacers (from 6mm to 24mm), it is possible to leave different voids between the two windows. It is also possible to choose from different thicknesses of glass.

All of this means the problem of external noise can be reduced dramatically.

The MISO 2000 methodology is ideal for transforming single glazing but can also be used on existing double glazing, to triple glaze a window, thus reducing noise still further and keeping external noises outside.

ADVANTAGES OF THE MISO 2000 SYSTEM

In summary, the MISO 2000 system is quick to install, clean and very cost-effective when compared with replacing existing windows and frames. It reduces energy usage in buildings by increasing the thermal efficiency of the windows.

- Good thermal and noise insulation achieved, substantially lowering overall U values, meaning huge reductions in carbon emissions
- Existing windows are transformed into sealed double glazed units, retaining the existing frames
- Low cost of installation compared with replacing a whole window and frame to install new double glazing
- Installation takes place from the inside, and is not influenced by the weather. There is also no need for scaffolding or ladders
- No disturbance to internal decorative finishes
- Only 45 minutes' installation time per window
- Installation is a 'silent' operation, therefore normal activities can continue
- Payback period typically less than 5 years
- External appearance of building preserved
- Eliminates asbestos disturbance in old putty
- No land fill for old frames or glass

INSTALLATION

We will visit your site and take the measurements of the existing window frames. The details will be processed by the factory where the metal spacer frame and new window glass will be produced.

For thermal insulation, special 4mm Low E energy glass will be used. For noise insulation, 6mm or 8mm laminated glass is used.

The existing window is thoroughly cleaned. The new window pane is then bonded to the inside of the existing glass using our patented method to ensure condensation will not form between the panes.

Finally, trims will be added to complete the installation.



SPECIALIST GLASS OPTIONS

PRODUCT	SPECIALIST GLASS OPTIONS				PRODUCT APPLICATIONS	RANGE
	Commercial Exterior	Commercial Interior	Offices	Kitchens		
Bioclean	✓				A low-maintenance, self-cleaning glass for external windows and patio doors, conservatories, balconies and overhead glazing, façades, exterior shop fronts and display windows, overhead and atria glazing, street furniture and hard to reach areas. This self cleaning glass stays cleaner for longer, is easier to clean, saves money and is ideal for hard to reach areas. The permanent coating lasts the lifetime of the window.	Aqua with Solar control Natura with Solar control Solara Azura
Contraflam	✓	✓	✓		Fully insulating, clear, fire-resistant safety glass that offers from 30-120 minutes of integrity and insulation	Single glazed, double glazed or laminated from EI30 to EI120.
Contraflam Lite	✓	✓	✓		A clear, fire-resistant safety glass providing high-performance radiant heat reduction with partial insulation. Integrity and radiation reduction up to 120 minutes. Ideal for use in data server rooms, fire doors, fire partitions, fire exit corridors and staircases.	Single glazing. Double glazing. Roof glazing. 30-120 minutes integrity and partial insulation.
Cool Lite SKN 144 II	✓				Solar control glass which blocks up to 77% of solar heat. Can be used in curtain walling, exterior structural sealant glazing, exterior bolted glass assemblies, double-skin applications, cladding of external walls, overhead and atria glazing. Very low g-value of 0.23. Optimum U-value of 1.1W/m²K.	6, 8 & 10mm thicknesses. The range offers 5 different levels of performance
Diamant	✓	✓	✓	✓	Highly transparent extra clear glass, which has very little residual colour. Suitable for numerous applications that require high transparency, clear aesthetics and optical brilliance. Ideal for use in display cabinets, shelves, glass furniture (when laminated), table tops, bar and desk tops, shop counters	Available in 4, 6, 8, 10, 12, 15 & 19mm thicknesses



SPECIALIST GLASS OPTIONS

PRODUCT	Commercial Exterior	Commercial Interior	Offices	Kitchens	PRODUCT APPLICATIONS	RANGE
Parsol	✓	✓	✓	✓	A body-tinted glass which has a coloured appearance as well as basic solar control properties. For universal applications where an attractive appearance or basic solar control properties are required.	Green, Bronze and Grey. From 3-12mm thickness, depending on the colour.
Planiclear	✓	✓	✓	✓	The lower iron content of Planiclear reduces the level of absorption, thereby increasing the level of solar gain (g-value). Can be used in applications where strong levels of clarity and neutrality are required, including windows and doors, laminated safety glass, glass façades and partitions.	Available in 2,3, 4, 5, 6, 8, 10, 12, 15, & 19mm.
Pyroswiss	✓	✓	✓	✓	A narrow, toughened, fire-resistant safety glass. Integrity only fire rated glass. A cost-effective and transparent safety glass that provides protection against flames and smoke and is impervious to gases. In the event of fire, Pyroswiss remains transparent.	Thinner than comparable products. Supplied in various thicknesses depending on the requirements. Standard thicknesses are 6, 8, 10 & 12mm.
Planitherm Ultra N	✓				A high performance, thermally insulating (low-E) glass that offers low U-values, coupled with unrivalled neutrality. For façades, windows, curtain walling, structural glazing and overhead glazing.	Available in 6, 8, 10mm.
Priva-lite	✓	✓	✓		Switchable glass for modular partitioning and locations that require privacy	Standard 12mm. Others from 8mm to 22mm.
Stadip Protect	✓	✓	✓		Laminated safety and security glass, comprising 2 or more sheets of glass bonded together with one or more interlayers of PVB. If the glass breaks, the fragments are held in place by the PVB interlayers, protecting against injury to people or property.	
Stadip Silence	✓	✓	✓		Modern noise control glazing that reliably keeps intrusive noise out, providing the tranquility essential for working, living and enabling relaxing sleep. Ideal for glass façades, windows and overhead glazing. It reduces the effect of exterior noise in buildings situated near noisy locations.	Thicknesses range from 6.4mm to 16.8mm.
Vetroflam	✓	✓	✓	✓	A clear, toughened fire-resistant safety glass that provides protection against flames and smoke, and is impervious to gases. In the event of fire, it remains transparent. It has a special heat-reflective coating that restricts the level of radiated heat, keeping the non-fire side of the glass at a comfortable temperature for 30 minutes.	6mm single glazed & 13mm laminated. 6/12/6mm double glazed unit.



SPECIALIST FILM OPTIONS

PRODUCT	APPLICATIONS	RANGE
Bomb Blast Film	Helps protect people and property against bomb blasts, chemical explosions and other explosives. Provides protection against injuries to persons, or damage to items, caused by fragments of broken glass.	4-15mm thicknesses.
Solar Control Film	As solar radiation strikes a piece of glass, this window film acts as a sunscreen to block harmful UV rays as well as regulating the levels of heat and light passing through the glass. The amount of heat and light rejected is dependent on the type of window film selected. There are 2 types - non-reflective or dyed films that primarily absorb solar energy and reflective or metalized films that absorb as well as reflect solar energy.	Silver Solar Control films have been developed with 20, 35 and 50% light transmission properties, therefore reducing glare. Widely used in commercial and educational buildings. Stainless steel solar control films are dual reflective films that combines a warm neutral interior appearance with a sophisticated external appearance, delivering high solar energy rejection while preserving comfort and privacy. These are available with 20, 35, 50 & 70% light transmission properties. Ideal for residential and commercial use. Bronze solar control films enhance the external appearance of the glass with a subtle copper effect and combines efficient solar heat reduction with excellent heat rejection. Available with 20% and 35% light transmission properties.
Privacy Glass	Many glazed areas lead to unwanted prying eyes or clear vision to an unsightly area. These Privacy Films offer an inexpensive yet highly effective solution to such problems and eliminate any need to replace windows with solid walls or introduce other costly solutions such as privacy blinds.	Available in many colours and densities, from 100% privacy and light free, to subtle and attractive sand-blast and etched effect films which allow a high amount of light through. Typical applications include glazed areas within offices, cloakroom windows and large office and shop fronts.





NORTON SECURE DOORSET

The Norton Secure Doorset is a complete door and frame system which can be installed into many types and thicknesses of wall structure. It is physical attack resistant, offering a high level of security.

The unique Norton Secure Door system does not rely on the strength of the frame fixings into the masonry or wall for its attack resistance and rigidity.

In principle the system consists of three separate steel mounting plates which are fixed to both sides and head of the structural opening, usually using chemical anchors in masonry.

One liner is offered from each side of the door and they form a tight fit around the structural opening. These liners then in effect 'grip' the wall in a sandwich fashion and have an integral architrave built in to both elevations.

The unique flange design around the inner liner accepts the door frame rolled steel profile which is then rigidly fixed into position.

The doorleaf, which is a flush steel leaf with one, two or three point locking, is then mounted within the doorframe profile. The door may have a vision panel which is also attack resistant.

Doors and frames come complete with a tough powder coat finish to any standard RAL colour.

The Norton framing system is predominantly for use in secure institutions, areas of public buildings where a high level of door security is required and in any situation where doors are susceptible to a high level of physical attack.

INSTALLATION & SERVICE

Design & Installation

In addition to working to client-supplied drawings, we also have a comprehensive design department which enables us to work alongside our clients, turning their concepts into reality. This is especially useful for Design & Build contracts. We can produce full CAD drawings and design documentation for each contract.

The systems can be installed anywhere on the UK mainland, by experienced personnel who have extensive knowledge of our systems and site procedures.



BEFORE



AFTER

Support Services

Our ultimate goal is to provide total satisfaction for every customer; but even high quality products cannot achieve this on their own. At Apex, we offer a comprehensive array of support services to back up our unique product ranges.

COMPLETED PROJECTS





security engineering

Established in the UK for over 40 years,
Apex services many major global companies and
organisations as a glazed fire systems designer,
manufacturer and supplier.

Apex have built up an enviable reputation within
the construction and glazing industries for products
of the highest quality and workmanship.

Flint Road, Letchworth Garden City,
Hertfordshire, SG6 1HJ

Tel: +44 (0)1462 673431

Fax: +44 (0)1462 671518

Email: fay@apexengineeringgroup.com

www.apexsecurityfurniture.com