2021 UPDATE

FINISHES & INTERIORS SECTOR

HOW BUSINESS OWNERS CAN USE PARTITIONING AND IRONMONGERY TO HELP MANAGE SOCIAL DISTANCING

This guide has been written to outline the process and considerations that need to be taken in order to manage social distancing effectively through the use of partitioning and ironmongery. It is fully updated to include both UKCA and UKNI marking and has been written jointly by FIS (Finishes & Interiors Sector) and GAI (Guild of Architectural Ironmongers).

1 INTRODUCTION

Due to the impact of COVID19 our entire world has changed dramatically, this has hugely impacted our lives both professionally and personally. As more businesses look to protect their staff, addressing social distancing and hygiene are a big issue.

Re-cellularisation is the opposite to creating open plan spaces and is intended to provide cellular space where social distancing can be provided, where teams can collaborate, and individuals can find safe concentrated spaces when they are in the office.

It is important that staff are safe and feel safe, so investment in the environment will be a recognised sign of care for employees.

There are well rehearsed examples of social distancing control put in place with supermarkets that can be adapted by some occupiers, but businesses should start to consider the real need of the office in the current circumstances, especially as working from home is clearly proven to work (for some), though there is still a need to create a 'Hive' where people can communicate and collaborate, concentrated work activity could probably continue through home working.

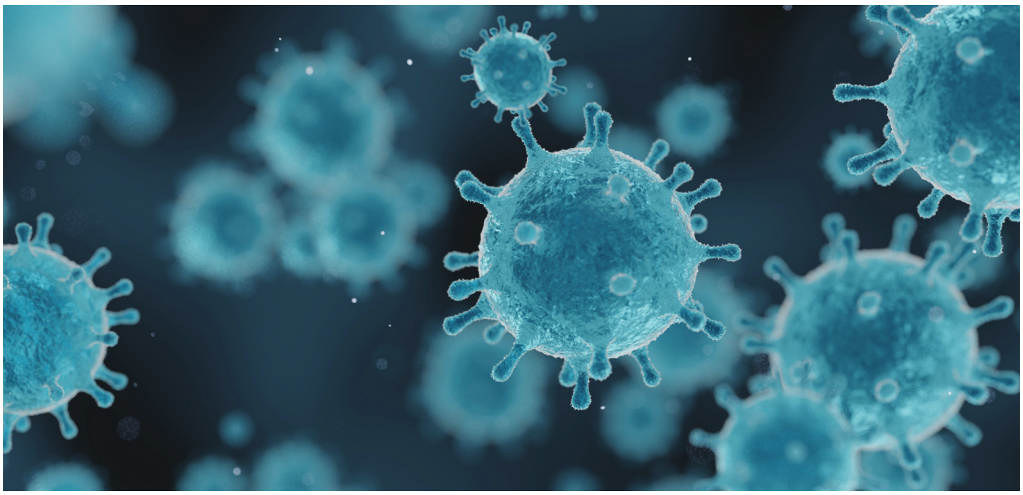
Subdivision of space using partitioning can provide one of the solutions to creating smaller working groups where people can work safely and importantly feel safe.

Decisions on what and how should only be taken after understanding the occupancy and relationship between people and departments.

What else should be considered?

Cellularisation is the creation of spaces using partitioning, the questions to consider in this process of re-cellularisation are:

- What are my needs?
- What else should I consider?
- How do I select a partition system?
- What are my ironmongery requirements, and can I introduce a touch free or anti-microbial solution?
- Will I need to control the doors through hold open devices or door automation?
- Is there a part that access control and electronic locking can play?
- How do I organise the installation?



2 IDENTIFYING NEEDS

It is imperative to follow a process when identifying the needs of your space as per Figure 1 (below). Firstly, the needs of the business should be identified based on staff occupancy, so is occupancy the same or has it reduced since social distancing requirements have come into force?

Then the departmental and communication needs should be evaluated; where are the departments and what are our needs going forward?

Lastly the people and operations, how many people need to meet at any one time and how many single occupancy spaces are needed?

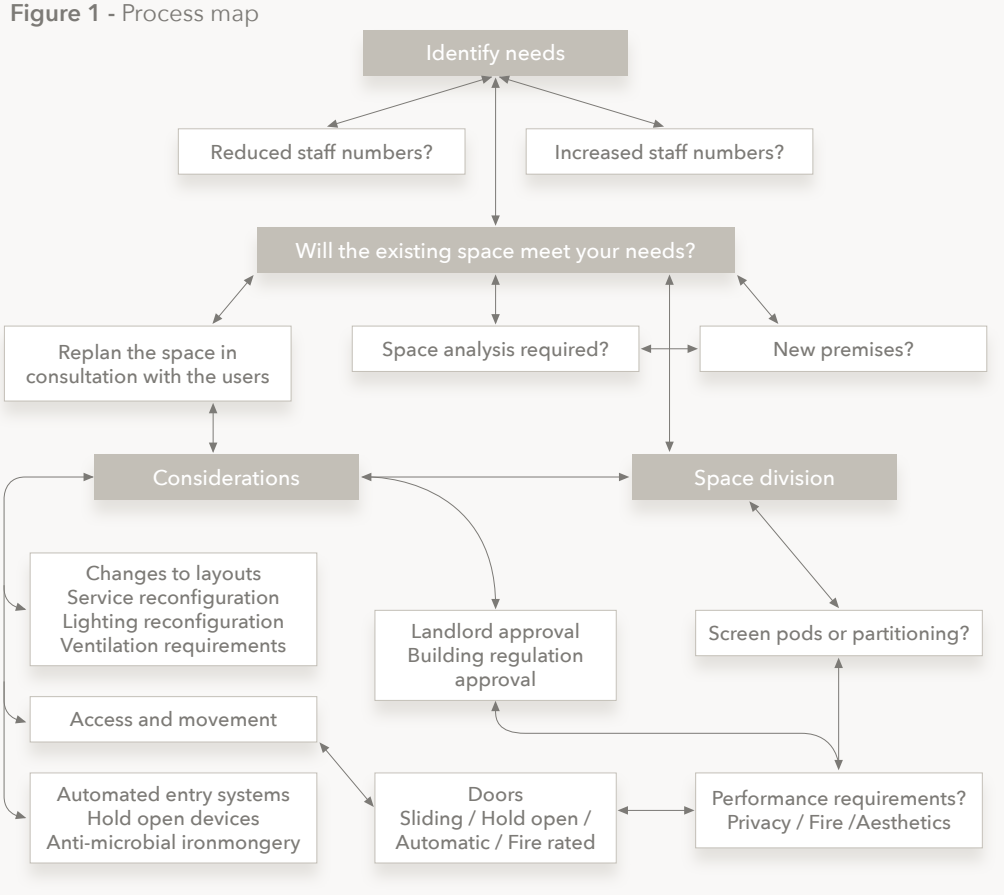
This space analysis can be done in house or there are specialist organisations practiced in studying the data and analysing the results to provide guidance and advice on space planning.

Partition systems come in several options (see Appendix A - Page 11-13) and each is designed to accommodate the individual needs of an organisation and its occupants.

The main considerations are:

- Performance
- Aesthetics
- Ventilation
- Lighting
- Services
- Building regulations
- Flexibility and dilapidations

Figure 1 - Process map



2 IDENTIFYING NEEDS (CONT'D)

Performance

Performance considerations include fire resistance of the partitioning and doors, reducing sound transmission and privacy, and addressing reverberation in the space, (this is very important with video conferencing) and how can this be balanced with the need for flexibility.

In addition, it has been shown that increased ventilation has a substantial impact on reducing viral infections between occupants. Air handling and the use of cold smoke seals on doors as well as drop down door thresholds should be discussed with the M&E consultants.

Aesthetics, how will our new partitioned spaces look?

Partition systems can be solid, glazed, part glazed and double glazed. Blinds or manifestation can be added which can reinforce a corporate identity or add images of outdoor landscapes to the space.

Some systems are unframed glass whilst others use the frames to break up the glass with vertical and even horizontal lines in dark aluminium or timber.

Ventilation requirements

The requirements for ventilation should be discussed with an M&E engineer to ensure the required number of air changes are achieved, or you may find your staff's productivity will drop off as the CO2 levels rise.

Lighting

Lighting layouts may have to change to accommodate the new layouts and to ensure the correct levels of lighting are maintained, you might want to think about using lighting that reflects the circadian cycle as a further improvement for staff well-being.

Services

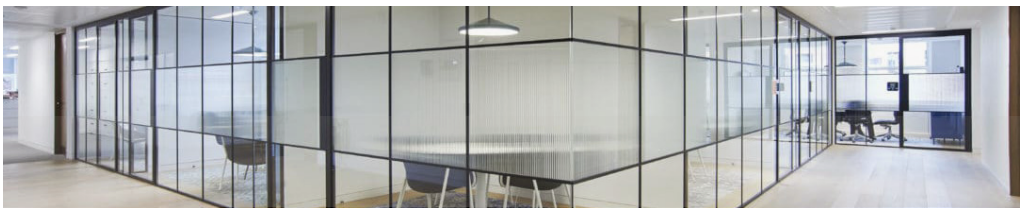
Any services that are running through where the partition will be installed should be reconfigured to accommodate the new partitioning, including cables for access control, door automation or electromagnetic hold open devices as well as lighting, ventilation, trunking, floor boxes, radiators etc.

Building regulations

Guidance to meet the building regulations can be found in the 'Approved Documents' for England and Wales and equivalent publications throughout the remainder of UK and Ireland, these include fire, ventilation, safety and accessibility. You should consult with a Local Authority Building Inspector or approved inspector before commencing, especially if you are planning to sub divide a tenancy.

Flexibility and dilapidations

Selecting a partition system should be based initially on performance, fire, acoustics, safety, and then aesthetics and other needs such as if the partition should be installed below, to or through the suspended ceiling and can sound reduction be maintained with baffles in the ceiling void. Other considerations such as using offsite manufactured components and flexible relocatable systems which can attract deductions in Corporate Tax should be discussed.



3 CONFORMITY MARKING - CE & UKCA

Certain products including ironmongery and doors must conform to relevant mandatory standards known as harmonised or designated standards which require declarations of performance to be published and products must include a conformity mark such as CE marking or the new UKCA UKNI marks.

To be aware of the changes in conformity marking following the UK's departure from the European Union, and to know which marking to look for in which circumstance, and under which appropriate legislation, we have included some guidance below.

The principal legislation of relevance to construction products for doors, hardware and partition systems are as follows:

- the Construction Products Regulation 2011 (CPR) and its equivalent in GB, the Construction Products Regulations 2013, as amended.

Figure 2 - EN Harmonised/UK Designated standards for partition industry

Standard	Product Type
EN 14195:2005	Metal framing components for gypsum plasterboard systems - Definitions, requirements and test methods
EN14209:2017	Preformed plasterboard cornices - Definitions, requirements and test methods
EN 14353:2007 +A1:2010	Metal beads and feature profiles for use with gypsum plasterboard
EN 14496:2005	Gypsum based adhesives for thermal/ acoustic insulation composite panels and plasterboards - Definitions, requirements and test methods
EN 14566:2008 +A1:2009	Mechanical fasteners for gypsum plasterboard systems - Definitions, requirements and test methods
EN 1863-2:2004	Glass in building - Heat strengthened soda lime silicate glass - Part 2: Evaluation of conformity/Product standard
EN 12150-2:2004	Glass in building - Thermally toughened soda lime silicate safety glass - Part 2: Evaluation of conformity/ Product standard

Figure 3 - EN Harmonised/UK Designated standards for ironmongery and door industry

Standard	Product Type	Usage Location
EN 1935:2002	Single axis hinges Requirements and test methods	Doors on escape routes and fire/smoke control doors
EN 1154:1997	Controlled Door Closing Devices Requirements and test methods	Fire/smoke control doors
EN 1155:1997	Electrically powered hold open devices for swing doors. Requirements and test methods	Fire/smoke control doors
EN 1158:1997	Door co-ordinator devices. Requirements and test methods	Fire/smoke control doors
EN 12209:2003	Locks and latches. Mechanically operated locks, latches and locking plates. Requirements and test methods	Fire/smoke control doors
EN 14846:2008	Electromechanically operated locks and striking plates. Requirements and test methods	Fire/smoke control doors
EN 179:2008	Building hardware. Emergency exit devices operated by a lever handle or push pad, for use on escape routes. Requirements and test methods	Locked doors on escape routes
EN 1125:2008	Panic exit devices operated by a horizontal bar, for use on escape routes. Requirements and test methods	Locked doors on escape routes
EN 14351-1: 2006+A2:2016	Windows and doors. Product standard, performance characteristics. Windows and external pedestrian doorsets	External windows and pedestrian doorsets
EN 16005:2012	Power operated pedestrian doorsets. Safety in use. Requirements and test methods	Machinery Directive

3 CONFORMITY MARKING - CE & UKCA (CONT'D)

- the Machinery Directive 2006 (MD) and its equivalent in GB, the Supply of Machinery (Safety) Regulations 2008, as amended.

The Construction Products Regulation (both European and UK equivalent) covers construction products, which fall under the scope of a "harmonised" European standard or a "designated" standard in Great Britain. Currently, this includes certain types of glass, plasterboard fixings and adhesives, external hinged doorsets, industrial doors, garage doors. It also covers several hardware items intended for fire and emergency escape doors. (For full list of relevant of standards please see figures 2 and 3).

Since July 2013, manufacturers have been required to apply the relevant conformity marking such as CE, (now including UKCA or CE+UKNI) and issue a Declaration of Performance for each product. Conformity marking for fire-resisting shutters and external fire resisting pedestrian doorsets became compulsory in November 2019; conformity marking of internal doorsets, whether fire-resisting or not, has, however, been delayed.

The Machinery Directive covers only machines with a motor of some kind, and this includes all powered doors and gates and automatic operable walls. Since the mid-1990s manufacturers of such products have been obliged to apply the conformity marking and issue a Declaration of Conformity. The conformity mark provides evidence that a product meets relevant safety requirements and, in the case of the CPR, accessibility, sustainability, and environmental protection requirements in addition.

The duty to apply the conformity marking applies to the person placing the product on the relevant market, usually the manufacturer. The existence of the mark means that the product is free to circulate on the market. In the case of construction, the legal duties of the builder are covered in national building regulations, not conformity marking legislation. A conformity marked product may be lawfully circulating on the market, but this does not necessarily imply that it is suitable for use on a specific building project. In order to assess this, it will be necessary to compare the product's declared performance with the requirements of local building regulations.

The situation in Great Britain regarding UKCA marking is:

- UKCA marking is not recognised anywhere in the EU (including the Republic of Ireland).
- CE marking will no longer be recognised in GB (England, Wales & Scotland) from 1.1.22.
- Therefore UKCA marking will be the only recognised conformity mark in GB after 31.12.21.
- CE marking will continue to be recognised in Northern Ireland, in addition to the CE+UKNI mark.

Figure 4 - Product Marking sales territories

Product Marking	Great Britain (Eng/Sco/Wal)	Northern Ireland	European Union
UKCA	✓ CAN sell in to Great Britain	✗ CANNOT sell in to Northern Ireland	✗ CANNOT sell in EU
CE UKNI	✗ CANNOT sell in to Great Britain*	✓ CAN sell in to Northern Ireland	✗ CANNOT sell in EU
CE	✓ CAN sell in Great Britain up to 31.01.21. CANNOT sell after* ✗	✓ CAN sell in to Northern Ireland	✓ CAN sell in EU

* Unless NI manufacturer under unfettered access of NI protocol

3 CONFORMITY MARKING - CE & UKCA (CONT'D)

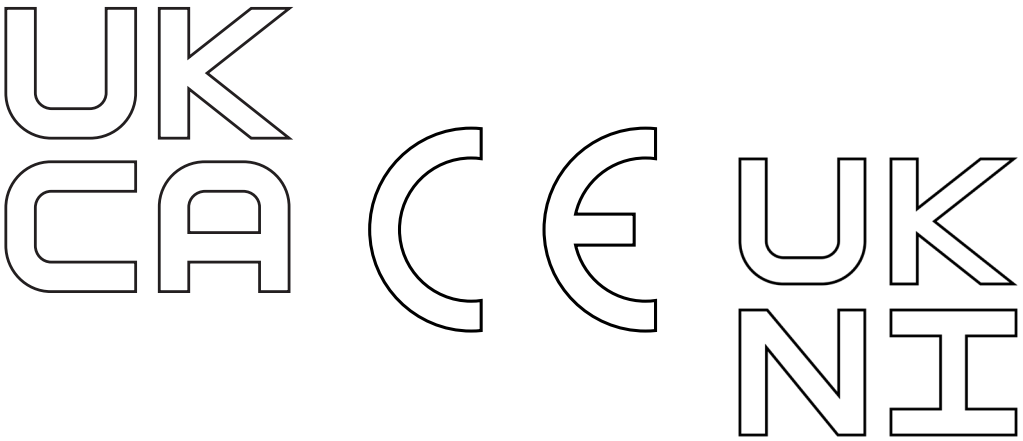
- UKCA mark will not be accepted in Northern Ireland.
- For goods shipped from Northern Ireland to GB, they will fall under the NI Protocol,meaning they will enjoy "unfettered access" to the GB market and any mark recognised in NI will be accepted in GB. This includes CE and CE+UKNI.
- Where UKCA marking requires a conformity assessment by a UK approved body, EU notified bodies are not recognised for this purpose; any compulsory conformity assessment supporting the UKCA mark must have been carried out by a UK approved body.

Approved and Notified Bodies.

- As of 1 January 2021, UK Notified Bodies previously operating under the EU Construction Products Regulation and based in the UK no longer have Notified Body status. They have, however been granted new UK 'Approved Body' status and are listed on a new UK database on the www.gov.uk website.
- Approved bodies will be able to undertake conformity assessment activity for UK designated standards.

Harmonised and Designated Standards definitions:

- Harmonised European standards (hENs) are European standards specially created to support European directives. Compliance with a hEN creates a legal presumption of conformity with some or all of the technical requirements of a directive. Some directives do not recognise hENs and in many other cases their use is, strictly speaking, voluntary.
- The European Construction Products Regulation, however, requires products within their scope to declare their performance in accordance with the relevant hEN. This means that, for CE marking under the CPR, only testing carried out in accordance with the hEN is valid.
- UK designated standards are the UK equivalent of a European harmonised standard. These are developed by a recognised national or international standards body through a process of consensus, which is designated by UK Secretary of State and is recognised by UK government in part or in full by publishing its reference on www.gov.uk in a formal notice of publication.



4 IRONMONGERY, ACCESS CONTROL & DOOR AUTOMATION

The type of doors and the effective use of a fully compliant ironmongery and access control specification are also important considerations.

Anti-microbial furniture

The specification of anti-bacterial and anti-microbial product is becoming more and more prevalent in the current climate. It has been stated that 80% of infections from bacteria are spread by touch. Furthermore, a contaminated hand can contaminate the next seven surfaces touched. As with any product, it is down to the product manufacturer to ensure they have proper test evidence before making claims, and to the specifier to check this before specifying the product on to a project.

Copper and silver are examples of natural materials which are currently being used within the fabric of handles or as coatings. Other examples are applied finishes such as titanium dioxide or product with anti microbial ingredients such as silver or Microban being incorporated into solid polyamide/nylon products during manufacture.

It should be remembered that anti-microbial and anti-bacterial product needs to be seen as a supplement to, not a substitute for, standard infection control practices. It works to reduce contamination, between cleans and between recontamination, thus augmenting standard infection control measures.

Access control

It is possible to eliminate the need for physical contact with ironmongery through the specification of access control, particularly with regards to the activation of the electronic lock. Means of lock activation requiring physical contact such as digital keypads may no longer be the preference on a specification. This means that proximity devices (which the user has exclusive use of) can be specified such as fobs, cards or even Bluetooth devices such as mobile phones.

Electronic motor locks or magnetic locks could also be considered within a specification. These locks, when combined with door automation will mean the door can be unlocked and opened without physically having to touch the door at all. For egress through a door, mechanical exit buttons can be replaced with touch free buttons or a sensor to disengage the electronic locking device.

4 IRONMONGERY, ACCESS CONTROL & DOOR AUTOMATION (CONT'D)

Specialist closing devices and door automation

In order to minimise physical contact with a door, people may be tempted to keep the door held open. Holding doors open is of course a major consideration in respect of fire doors. Always remember that a fire door which does not close correctly will not work in the event of a fire.

Devices such as electromagnetic hold open units can be specified to allow fire doors to be held open safely and legally. These are used to hold open fire doors on circulation routes. They work via connection to the fire alarm. Once the fire alarm is activated, the electromagnetic hold open unit will release, allowing the door to close under the control of the door closer. These units can be either in an electro-magnetic unit or else as using an independent electro-magnet. They can be surface or flush mounted.

A door can also be automated where it does not have to be touched at all Specifiers could consider the use of touch free activation buttons instead of push buttons or radar. Please also note that installation of these devices must only be by trained professionals who would be installing to the European standard BS EN 16005.

There are five types of door automation product groups available with the two largest utilised being swing and sliding powered door sets. Other types include revolving, folding and balanced doors.

5 INSTALLATION

Organising the safe installation of the partition requires professional planning to allow for the disruption and safe delivery and carting of materials into the new office and safe working conditions for the installers as well as the occupants.

The FIS Client Guide to Office Fit-Out and Refurbishment is designed to guide you through the process from the initial decision, through to post occupancy evaluation. It explains step by step the process, along with outlining the professions who are available to help ensure a successful outcome. It's free and can be downloaded here.

Fire doors and associated ironmongery should all be installed according to manufacturer's instructions and automatic operators must be installed in accordance with BS EN 16005 by a fully trained professional.

Further information on ironmongery and access control can be found in the GAI specifier's guides here. The code of practice for fire hardware for fire and escape doors also provides further practical detail and can be downloaded from here.

Finding a supplier

FIS represents suppliers and contractors in the finishes and interiors sector. Members are vetted when they join and then every three years. They abide by a code of conduct and agree to carry out work in accordance with the FIS best practice guides.

You should always consult qualified DipGAI and RegAI architectural ironmongers from GAI member companies. These are people who are fully trained to specify and supply product which is compliant to latest standards and best practice.

A searchable list of FIS members can be found here.

A searchable list of GAI members can be found here.

6 APPENDIX A

PARTITION TYPES

Demountable partitions/Relocatable partitions

It is important at this stage to clearly establish the difference between 'relocatable' and 'demountable' partitions.

A relocatable or reusable partition system can be removed and relocated without substantial repair (using a minimum of 80% of original components). It should be capable of re installation within a tolerance of ±10mm of the original installed height. Demountable partitions cannot be taken down without damaging or destroying some or all of the components.

Pods

Office pods: are informal meeting room solutions in offices and usually comprise acoustic panels, glass panels and either fixed or sliding doors.

Composite 50mm aluminium framed systems

Composite systems are designed to construct a generally demountable, lightweight, economical and easily erected office partitioning system.

Modules can be solid or glazed.

The system is based on a nominal 1200mm module and standard components provide for junctions, corners, or changes of direction.

The extrusions accommodate standard 46mm honeycomb or flaxcore panels for solid elevations and UVPC or aluminium glazing profiles for glazed elevations.

Fire performance: the system does not offer any fire resistance. Acoustic performance: through solid honeycomb panels an acoustic performance of circa 29dB(Rw), single glazing 32-35dB(Rw), double glazing 37-40dB(Rw), depending on glass types and thicknesses.

STUD AND BOARD SYSTEMS

Stud and board systems form demountable, non-loadbearing, lightweight performance partitioning systems.

Systems are generally based on 1200mm modules and are constructed with a framework of galvanised studs, faced on both sides with one or two layers of 12.5mm plasterboard.

The cavity formed can be used to incorporate insulation material to enhance the acoustic and fire performance of the partition.

Fire performance: can offer fire resistance of up to 30 minutes in most elevations and up to 60 minutes on 100mm double skin construction.

Acoustic performance: through solid elevations up to 52dB(Rw) can be achieved, whist glazed modules can achieve up to 42dB(Rw).

FRAMELESS GLASS PARTITIONS

Frameless glass partitions comprise of 10mm to 15mm safety glass, installed between head and floor tracks.

The edges of the glass are polished to accept a jointing method to provide a frameless glass partition.

The glass can be installed in module sizes of up to 1500mm wide (subject to access into and around the site), or can be equalised along the partition run, but this makes relocation more difficult.

Fire performance: up to 30 minutes possible.

Acoustic performance: single glazed systems, up to 38dB(Rw); double glazed with ghost post, up to 49dB(Rw); double glazed without ghost post, up to 48dB(Rw).

6 APPENDIX A (CONT'D)

TIMBER SYSTEMS

Pre-lacquered timber or veneered MDF (V-MDF) partition systems can offer fire resistance, good acoustic performance, a wide range of veneers, and generally an option of double or offset glazing.

As timber is a natural product, it should be noted that there will be differences in shade and grain. solid timber components are likely to be less similar than veneered.

BI-PANEL SYSTEMS

Bi-Panel systems are made up of two single, factory produced panels, usually in 1200mm or 1500mm module widths, hooked onto an upright stud.

Panels can be manufactured from steel faced plasterboard, veneered, painted and laminated MDF panels, as well as glazed panels.

The systems offer great flexibility with the ability to relocate, and opportunity to change module type as well as have different finishes on each side of a module.

Fire performance: 30 minutes is achievable in most module types and up to 60 minutes in solid module format.

Acoustic performance: up to 50dB(Rw) in solid modules and 45dB(Rw) in glazed modules can be achieved.

MONOBLOC SYSTEMS

Monobloc systems are manufactured and assembled in factory conditions to either specific or standard dimensions.

Each panel will arrive on site with its pre-finished face which can be solid, glazed, glazed with integral blinds, or half glazed.

This enables a fast installation time on site, flexibility of design, and simple relocation benefits.

Monobloc systems divide into three categories:

1) *Monobloc: generally full height, very good fire and acoustic specification, bespoke design, possibilities to accommodate working wall, usually installed by the manufacturer*
2) *Steel panel: which offers standard and bespoke products, single or double skin, full or partial height, predominantly steel or glazed modules, installed either by the manufacturer or the specialist contractor*

Fire performance: of up to 60 minutes on solid and glazed elevations, 30 minutes on door modules. In certain circumstances 90 minutes can be achieved on solid elevations.

Acoustic performance: of up to 47dB(Rw) on solid elevations, 45dB(Rw) on double glazed elevations and 43dB(Rw) on door modules can be achieved, but higher performance solutions can be provided as a bespoke manufacture.

OPERABLE WALLS

Operable walls are installed by the manufacturer or their specific agent and are delivered to site in their finished state ready for final installation.

During the installation process an acoustic baffle will need to be installed above the partition to at least maintain the acoustic performance of the partition.

6 APPENDIX A (CONT'D)

MANIFESTATIONS

Glass films are applied within partitions for a number of reasons:

- ***Document K** – manifestation is necessary in critical locations where people may not be aware of the presence of glazing and may collide with it.*
- ***Privacy** – privacy within meeting rooms and offices can be achieved without loss of light or change of partition design, by using all over or mid height cover.*
- ***Identity** – company logos, themes or room names can be included within film design to provide identity within the office environment.*
- ***Blast film** – designed to be used on toughened glass to eliminate glass shards being scattered following an explosion.*

7 APPENDIX B

ARCHITECTURAL IRONMONGERY

Architectural ironmongery can be defined as the manufacture and distribution of items made from iron, steel, aluminium, brass or other metals, as well as plastics, for use with doors, door assemblies, doorsets and windows in all types of buildings.

ACCESS CONTROL

Access control is the selective restriction of access to a place or other resource. Its purpose is to ensure that authorised people are free to move around authorised areas of a building at authorised times, while unauthorised people are prevented from entering those parts of a building where or when their presence is not permitted.

DOOR AUTOMATION

Automatic door operators are devices that power doors to open automatically, either by sensing an approaching person via sensor, or through an electrical impulse such as a push button or access control reader.

ANTI-MICROBIAL

Anti-microbial products kill or slow the spread of micro-organisms. Micro-organisms include bacteria, viruses, protozoans, and fungi such as mould and mildew.

DOORS

Doors are an integral part of a partition system and are the one element that users interact with daily.

It is important that doors are coordinated with the partition manufacturer, especially where sound and fire performance is required.

Many partition manufacturers also manufacture doors, so are able to supply doors in structural openings as part of a coordinated interior.

FIRE DOORS

The term 'fire door' usually refers to a fire door leaf, the main component of a fire door assembly or doorset.

The door leaf is installed into a fire-rated frame, complete with its 'essential ironmongery' to make the door perform correctly in the event of a fire.

The door is tested as a complete assembly or doorset, and can only work correctly if installed using the same compatible components as when it was tested.

Guild of Architectural Ironmongers

The Guild of Architectural Ironmongers (GAI) is the only trade body in the UK that represents the interests of the whole architectural ironmongery industry - architectural ironmongers, wholesalers and manufacturers. Its reputation is built on three key areas: education, technical support and community.

Its technical information service provides GAI members with advice on issues relating to the legislation, regulations and standards governing the use of architectural ironmongery and related hardware.

www.gai.org.uk

Finishes & Interiors Sector

FIS is the not for profit representative body for the £10 billion finishes and interiors sector in the UK. The organisation exists to support its members, improve safety, minimise risk, enhance productivity and drive innovation in the sector.

Its growing community of members is drawn from contractors, manufacturers and distributors of ceilings, steel framing systems, operable walls, partitions, plastering, drylining and specialist interior fit-out and refurbishment businesses operating in every type of building.

www.thefis.org