



Small informational text on the wall to the left of the display case.

Small informational text on the base of the display case, including the heading "PERMANY'S ARMOUR, 1540-1550".



## MONO-3d a new way to build a showcase

*As easy to assemble as a temporary exhibition structure - but as highly specified as a specialist museum case. A new combination of convenience and performance.*

**A** common problem with high-performance museum showcases is that they are hard to build, and even harder to move. Lightweight demountable systems, conversely, are easily constructed, but tend to be lacking in performance.

The new MONO-3d showcase system solves this dilemma. Whilst ideal for temporary exhibitions, it is equally at home in a permanent installation. With its precision-made frame, concealed locks, tamper-proof hinges, interchangeable seals, and design compatibility with MONO casefronts, it not only meets the highest performance standards, but also allows a new line of creative thought.

### Flexibility

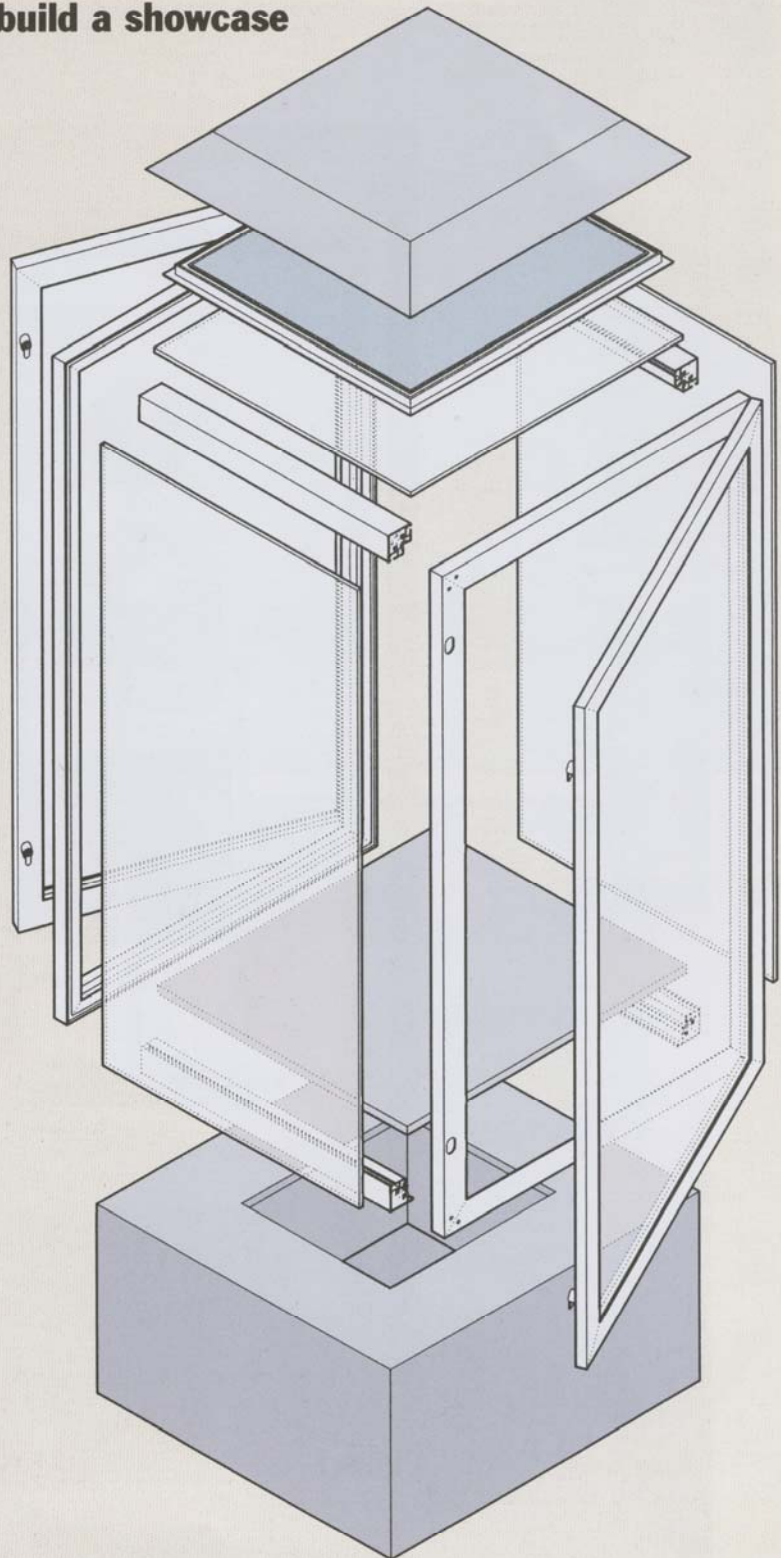
**T**he concept is simple: all critical mechanical elements - door-frame, door, locks, hinges and seals - are supplied as part of a factory-built unit which remains permanently assembled. A pair of units, with a set of rails and intermediate panels to link them together, goes together quickly to make a free-standing structure.

The resulting case not only looks good: it is also highly adaptable. With a range of options on seals, infill materials, finishes, lighting, humidity control and shelving, you get much the same design freedom as with the other specialist Click systems such as INCA and CLAM. You also get some operational advantages which are unique.

### Inspiration

**B**est of all, you do not need a team of skilled fitters to put up a MONO-3d case: two competent people can do it in under an hour - and take it down again in half that time. Re-glazing or substituting timber panels for glass ones is a simple task, too.

So you can use non-specialist contractors, or your own staff, for all this work. Quite apart from the design possibilities, the cost-saving potential can be an inspiration in itself.



## Specification guide

### ● Lighting

The drop-on lightbox is made of powder-coated steel, and may be fitted with fluorescent and/or tungsten fittings. A diffuser frame fitted with aluminium louvre and/or opal glass is available either as a drop-on module or as a fixed infill. Fibre-optics kits can be provided with solid infills pre-drilled for lightheads.

### ● Horizontal rails

54mm deep to match the door frames, and up to 2500mm in length. A unit may be supplied with additional sets of rails, so that cases of different length can be built with the same end-modules.

### ● Infills

Panels are interchangeable, and can normally be refitted without the need for structural dismantling (but note that different glazing beads are required for different panel thicknesses). The following materials may be specified:

**Clear Glass.** 9.5mm Clear Laminated glass is the default material. For enhanced optical quality, White and Anti-reflective alternatives are available. For enhanced security, Anti-bandit glass up to 13.5mm thick may be specified.

**Solid panels.** Solid backs are made with 18mm MDF, sealed with clear acrylic lacquer, with an optional fabric finish and/or separate dress panels in 12mm material. Side and top panel may also be solid, with optional holes for fibre-optics (which may be plugged when not in use)

**Diffusers.** Glass with an opal interlayer may be specified for tops, sides or backs. If clear glass is used in combination with an external lightbox, a separate 'eggcrate' diffuser layer is added. If suspended shelving is required, the top panel is specified as a glazed diffuser frame with a peripheral channel.

### ● Doors

Doors may be panelled with any of the infill options, but the increased weight of materials thicker than 9.5mm may have structural implications in larger formats. See page 7 for size limit guidelines.

**Door fittings.** Doors are hinged vertically; or horizontally with the addition of stays. Cam locks, two per door, are concealed within the frame. Key access is via a 10mm hole in the front face of the frame. See page 7 for further details of locks and seals.

**Special configurations.** If hinged access is not practical for structural reasons, a door may be configured as a lift-off panel with four locks. Where no access is required, it may be fixed permanently shut without locks.

### ● Shelving

Shelves rest on cantilever supports fitted to solid back panels; or on corner supports fixed to the frame posts; alternatively, pendant frames may be fixed to the peripheral track of a top diffuser frame.

### ● Plinths

The standard construction is an MDF carcass with a laminate or paint-finished face. An all-steel alternative is available. Plinths can be specified as part of a complete package, or may be separately supplied by other contractors.

### ● Humidity control

Self-contained silica-gel kits can be supplied. Separate plinth access is required.

### ● Storage and handling

Ancillary equipment available with MONO equipment includes:

- Glass Sucker Handles
- Sleeves and cartons for panels
- Trolleys and racks

### Building a case

To indicate the simplicity of the process, here is a summary of the assembly sequence for a typical standalone case. The following basic elements are involved:

Door frames	2
Intermediate rails	4
Glazing beads	Up to 12
Intermediate panels	2
Top panel	1
Screws and fixing blocks and positioning jigs	

Ancillary elements, not necessarily supplied with the above, include:

- Plinth
- Light box with fittings
- Shelves & supports
- Silica-gel box

### Assembly sequence:

1. Plinth is positioned and levelled
2. Base rails are attached to plinth with fixing blocks
3. Door frames are fixed to base rails, using positioning jigs
4. Top rails are added to link the two door frames together
5. Intermediate glass is added with snap-in glazing beads
6. The base panel is put in position
7. The light box is placed on top  
The case is now ready for cleaning and dressing.





*MONO casefronts at the Buckinghamshire County Museum, Art Gallery.*



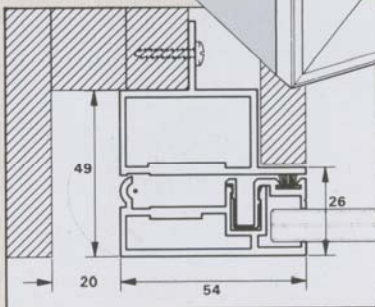
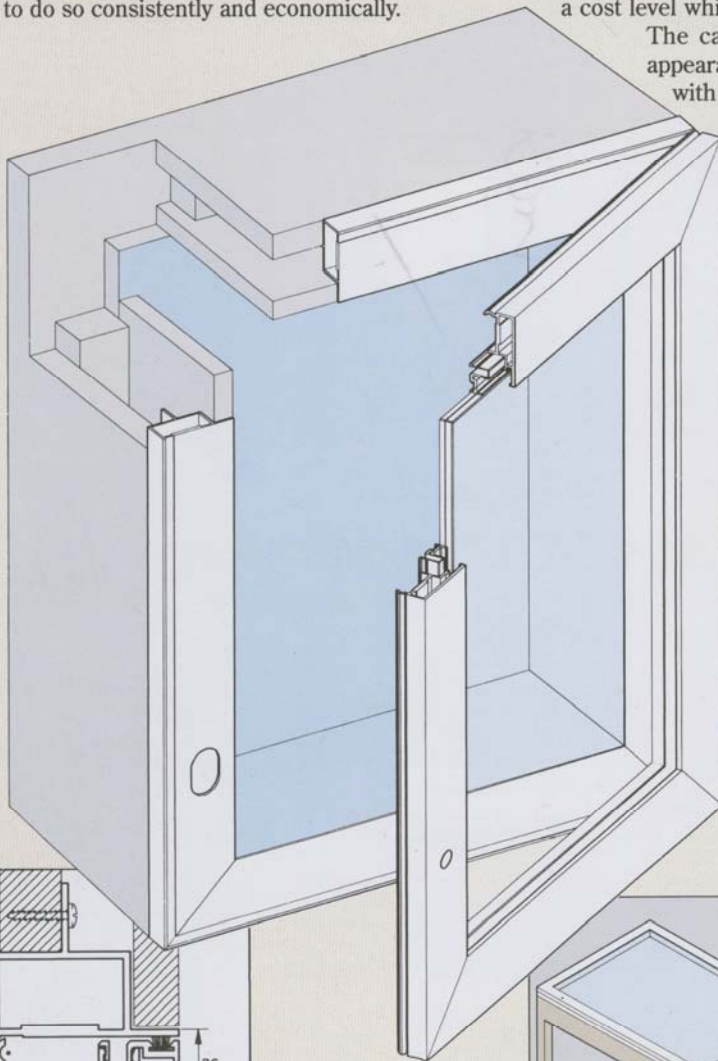
## The MONO casefront. A minimalist alternative.

*A means of adding a secure and reliable glazed door to an existing aperture or custom-built structure.*

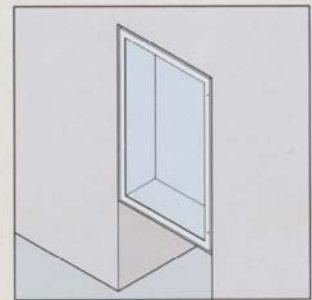
**T**he MONO casefront was the forerunner of the MONO-3d system described in earlier pages; and when introduced in 1995, it changed many designers' thinking about display glazing. For the first time, it was possible to achieve high standards of security and airtightness in a custom-built structure, together with easy access; and to do so consistently and economically.

MONO casefronts allow you to minimise not only the 'system hardware' element of a scheme, but also the area of glass used. One advantage of this approach is that glass specifications can be raised without unduly distorting a budget: for example it can become practical to use anti-reflective glass, a material with huge optical advantages, but a cost level which rules it out for most glazing situations.

The case-fronts are simple and unobtrusive in appearance, and can be successfully integrated with many different types of design. They come fully assembled, glazed and ready for installation - which can be done by a general contractor without the need for specialist fitters, Click providing all the necessary information and support.



**Aperture interface.** The casefront should be 40mm smaller than the aperture into which it is to be fitted, with a 20mm gap to accommodate the opening door. The rear carcass, as shown in 18mm material, is made to the same external dimensions as the casefront. The 12mm inner dress panels are optional.



**Hole in wall.** Casefronts can be made for existing apertures, as well as for custom-built structures. However, if the aperture is irregular or out of square, the 40mm differential should be increased to provide additional tolerance.



**Picture frame.** With an overall depth of 69mm, a MONO casefront fitted with a back panel can be fixed directly to a wall or another flat surface to provide a high-security enclosure with 30mm internal depth.



**Tabletop.** Fixed to a horizontal surface such as a table or a plans chest, a MONO casefront provides a neat and accessible glazed display.

## Specification guide



**Locks.** The special Abloy cam locks in a MONO casefront or standalone case may be matched to those in INCA or CLAM cases for purposes of suiting or mastering.

**Seals.** The quality of its seals, and how effectively they are fitted and maintained, is a key factor in the long-term performance of a showcase.

The seals in a MONO door are held in an aluminium channel, not glued in place, so they can easily be replaced if necessary; and they are always held in compression, which means they will continue operating efficiently over long periods of use.



### Frame finish

Frames are powder-coated semi-gloss in one of the colours indicated below. Non standard colours are available at extra cost: any RAL or BS colour can be matched.

	BS18B25 Dk. Grey
	BS00A05 Lt. Grey
	BS04E53 Red
	RAL9010 White
	BS08B29 Brown
	RAL5012 Lt. Blue
	RAL5010 Dk. Blue
	RAL1021 Yellow
	RAL9005 Black
	RAL3003 Maroon
	RAL1015 Beige
	RAL6018 Green



Two types are available: a nylon brush seal - the default specification - which provides optimum dust protection whilst allowing a controlled rate of air-change; and a soft silicone seal which minimises the rate of air-change.

**Horizontal or sloped use.** A casefront used in a horizontal or sloped position will be fitted with stays. Please note in this context that for specification purposes, it is always assumed that units are vertically positioned. Thus Width and Height refer to the distance between the outside edges of the frame, while Depth refers to the distance between



the front of the frame and the rear of the back panel.

**Carcase design.** Basic MONO carcasses are of simple box construction and can be made by any joinery contractor. But if performance guarantees are

required, or internal details have to be co-ordinated with other cases, Click can supply casefronts complete with carcasses.

Typical variants to the basic MDF box include holes for fibre optics light fittings; separate dress panels; shelving supports on side or rear panels; an open top to accept a diffuser panel for fluorescent lighting; a modified base panel to allow ducting for humidity control; and steel cladding for enhanced security.

Carcasses may be rested on any firm and level surface; but a supporting plinth with front access must be provided if separate silica-gel facilities are specified.

**Size limits.** The following limits, which are applicable to both MONO-3d cases and MONO casefronts, are given as guidelines. It may, depending on circumstances, be practical to exceed the limits if necessary.

Maximum door width:	vertical hinges	1200mm
	horizontal hinges	2500mm
Maximum door height:	vertical hinges	2500mm
	horizontal hinges	1000mm
Maximum area of door panel:		2m <sup>2</sup>
Maximum rail length for MONO-3d case		2500mm





Royal Armouries Museum, Leeds. Central armour display, War Gallery.



Click Systems has been developing display equipment for over 25 years, and our range of hardware options is among the most comprehensive in this specialist field. Our experience of system construction is unmatched in the UK, and is deployed world-wide. As the original designers of all our hardware, we are uniquely well-placed to advise on how best to use it, and to develop custom variants when existing solutions are not appropriate. Our technical staff is always available to help you decide between the design options, and to ensure that your Click-based equipment is effectively deployed, and remains in good operational order in future years. If you would like to receive further information, or to see examples of our equipment in use, please get in touch with Customer Liaison.



The Science Museum's travelling exhibition; Origins of the Modern World, Kobe, Japan.



The Museum of St. Bartholomew's Hospital, London. The Church Plate of St. Bartholomew the Less.

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