

# *ModuSec*

**The Secure Modular Construction System**  
**Designed To Meet All The Criteria Required For**  
**The Protection Of Critical Environments**



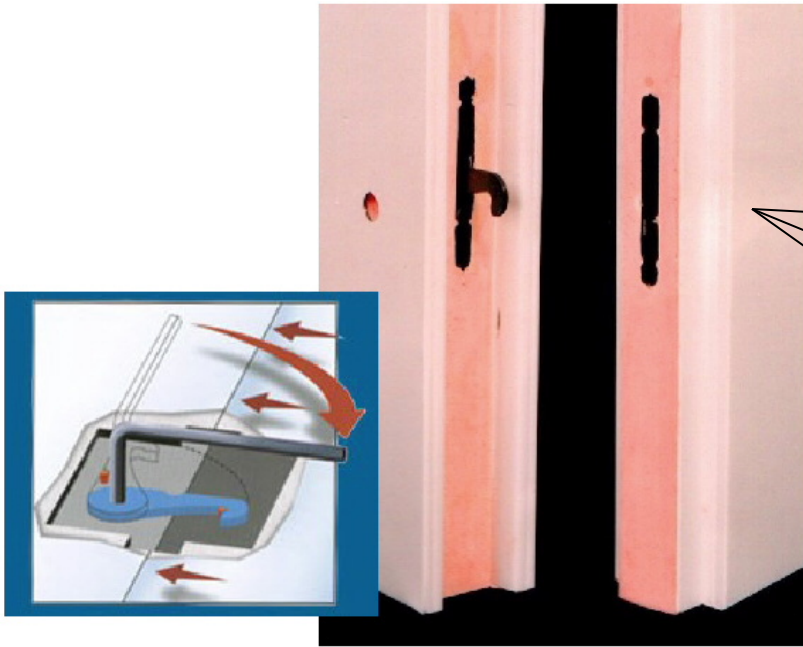
**To *Any* Size**

**As A Complete Enclosure**

**Or As Walls Only**

**- Inside Or Outside**

# The ModuSec System



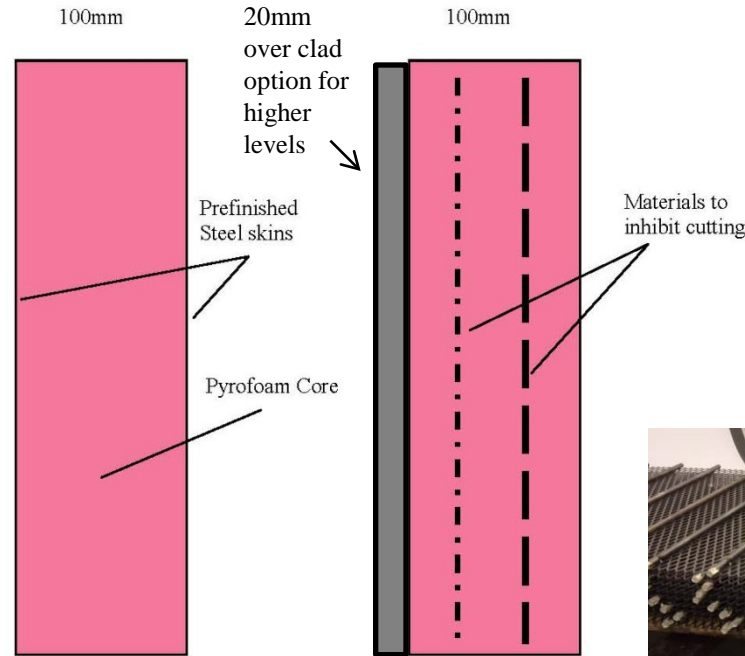
**100mm steel faced pre-finished wall and ceiling panels with a high performance thermal barrier core (Pyrofoam) mechanically lock together to form a protective enclosure. Each panel is manufactured to size and specification allowing rapid installation on site.**



# Security Rated Panels

Walls and ceilings available as standard or in a range of security standards.

All panels are interchangeable so that different standards are available for any wall/ceiling in the same build.

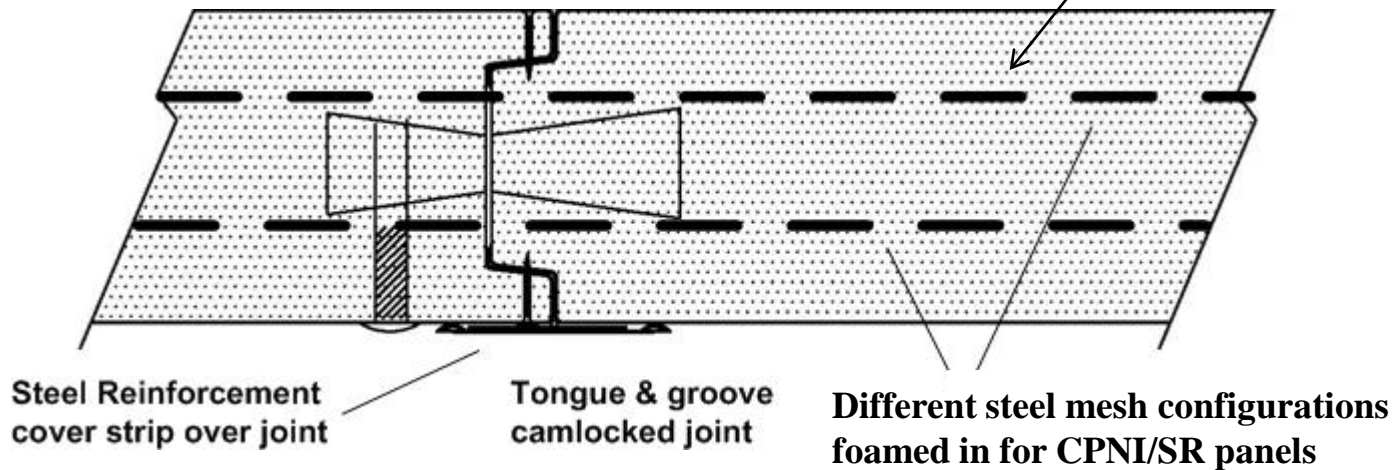


Standard Panels

Security Panels



Mesh foamed into in panels

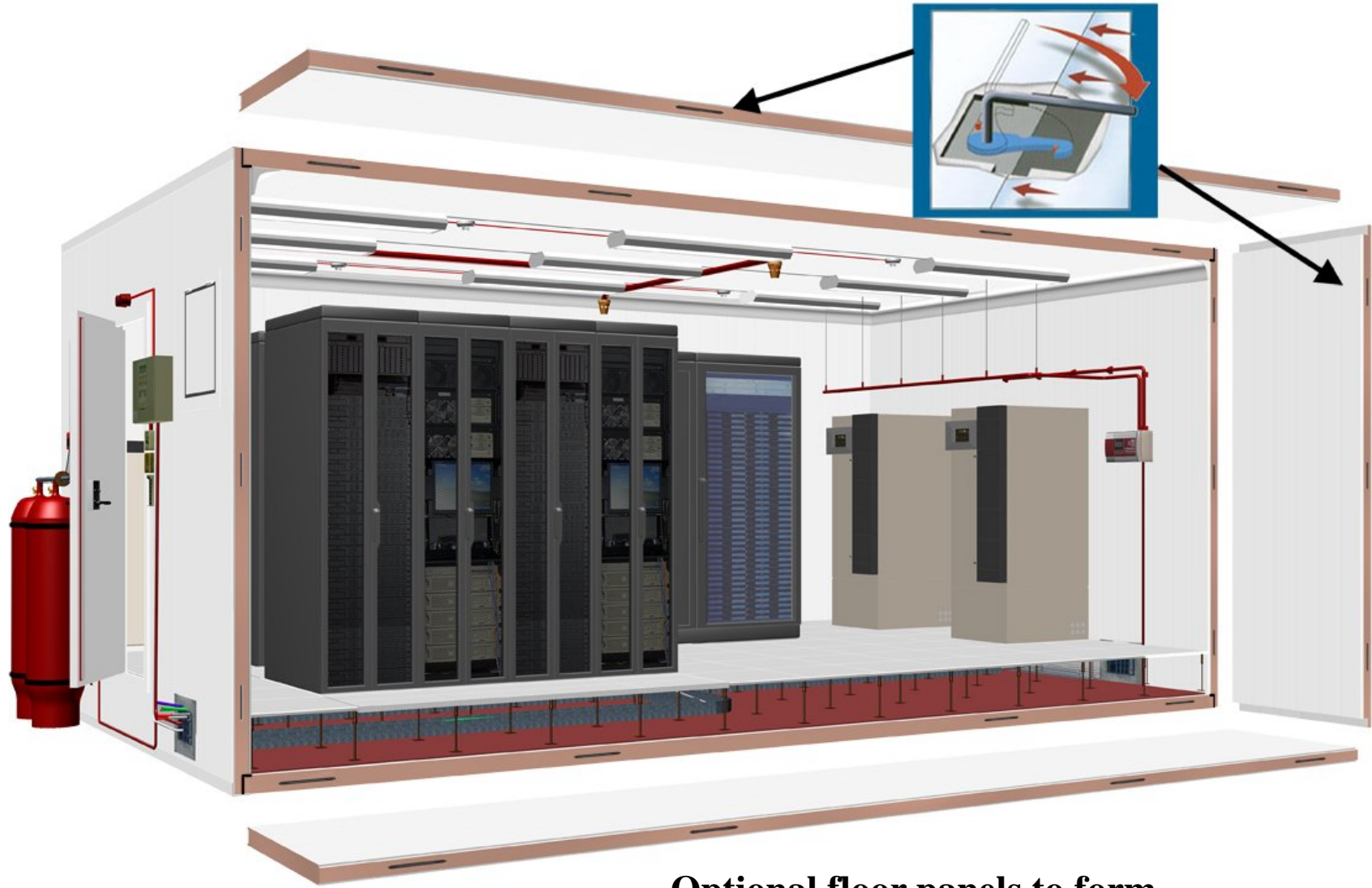


Steel Reinforcement cover strip over joint

Tongue & groove camlocked joint

Different steel mesh configurations foamed in for CPNI/SR panels

**No intermediate support required for ceilings spanning up to 6m for standard panels or 3.8m for SR 3+ panels**

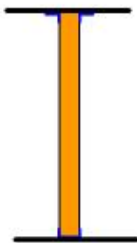


**Optional floor panels to form completely sealed 6 sided enclosure**

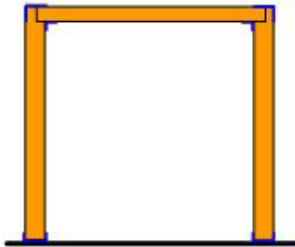
# Construction Options

INSIDE

Walls only

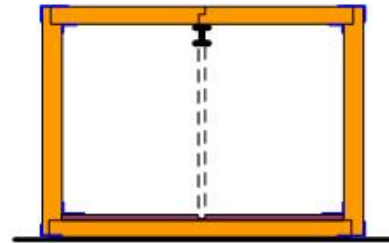
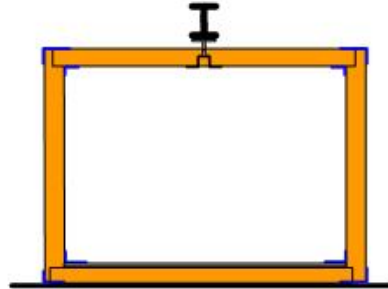


Walls plus self supporting walk on ceilings up to 6m spans

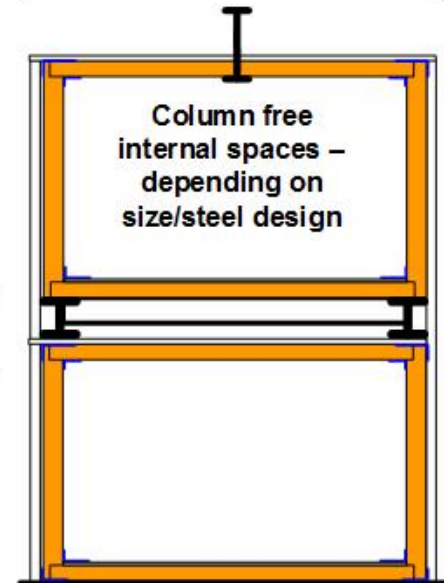
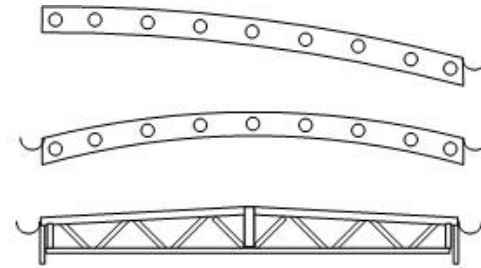


No floor

6m+ spans (3.8m for SR rated ceilings) supported on external or internal support structure



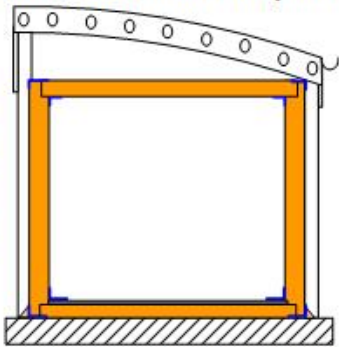
Panel floor with 2mm steel or resin board over



Column free internal spaces – depending on size/steel design

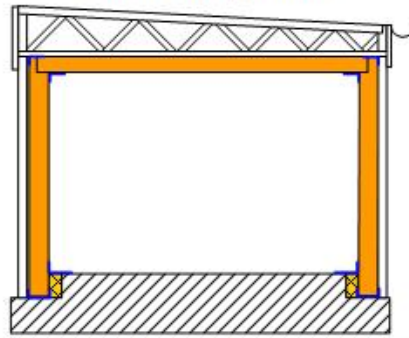
OUTSIDE

Curved standing seam trays over steel beam and purlins



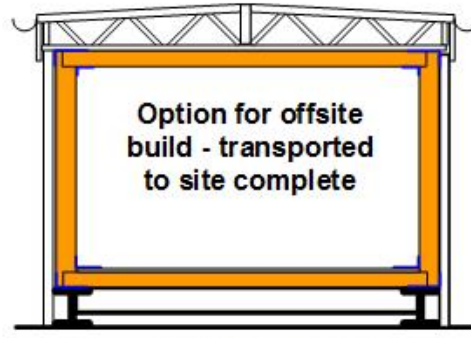
Panel floor over simple slab

Profiled roof sheets over steel beams and purlins



No floor. Walls off stepped slab

Single, double pitch or curved roof



Option for offsite build - transported to site complete

Panel floor on a steel frame

Double storey inside or outside with a pitched, curved or flat roof (for plant)

**Remtech/RCS has over 25 years experience in building protected spaces.**

**In house steel fabrication allows us to build to any size.**

**We are specialists in protecting large open environments – as full enclosures or walls only**

**Large single span enclosures with vertically orientated walls**



**Ceilings supported in the web of the steels (shown) or on top of the steels**



**Smaller internal steels with shorter spans**



**Horizontally fixed wall panels allow construction to any height (over 8m in this example). High security testing cell**



SR Server Room with curved roof & architectural cladding



Server Room with single pitch roof and self coloured ModuSec wall panels



High security mains water pumping station with external timber cladding



2 storey data centre plus flat roof deck for plant. External cladding.



**External Construction with flat, curved or single or double pitch roof  
With or without additional architectural cladding - Single or double storey**



# Proposed 2 phase high security data centre project



External ModuSec panels onto internal steel frames with standing seam steel tray roofs

# Transportable Pods



High security pod for a nuclear site with ModuSec external panels.



Complete equipped server room being shipped to Africa.



## **Forced Attack Options**

**CPNI (ModuSec GS)**

**LPS1175 Security Rating (SR) 1, 2, 3, 4 and 5**

**BS EN 1627/1630 to RC5**

## **Fire**

**EN1364/EN1634 – 90 minutes integrity & 90 minutes insulation for panels & doors -**  
meeting limit temperatures recommended under **BS/EN1047-2** for the protection of IT hardware

## **Water/Smoke**

Resilient to IP66 plus options for IP67

## **Blast**

Option: Independently tested with 100Kg TNT equivalence at 15m.

## **Ballistics**

Option: Tested to BS EN 1522 Anti-ballistic rating FB4 with further protection up to FB7





# Forced Attack Testing, Tools & Standards



**What do you want to protect against and for how long?**

Given enough time and the right tools, any barrier can be penetrated .  
**Consider all measures together.**

**Test Criteria: To cut a body sized hole for entry 400mm x 225mm with the designated toolset in time set for the standard**

Standard	Attack/Test Times (minutes)	Main Tools In Designated Toolsets
LPS 1175 SR1-SR2 Opportunist attack	1/10 – 3/15	
LPS1175 SR3 Forced entry with small manual tools	5/20	
LPS1175 SR4 Experienced attack with higher level tools	10/30	
LPS1175 SR5 Serious attack with high end battery powered tools	10/30	
EN 1627/1630 RC5 Serious attack with high end mains powered tools	15/40	



Further enhanced security available against higher level tools like these large petrol driven disc cutters - plus Ballistic EN1522-1 level FB4 (or higher) & Secondary Blast

**CPNI**®

Centre for the Protection  
of National Infrastructure

**ModuSec GS**

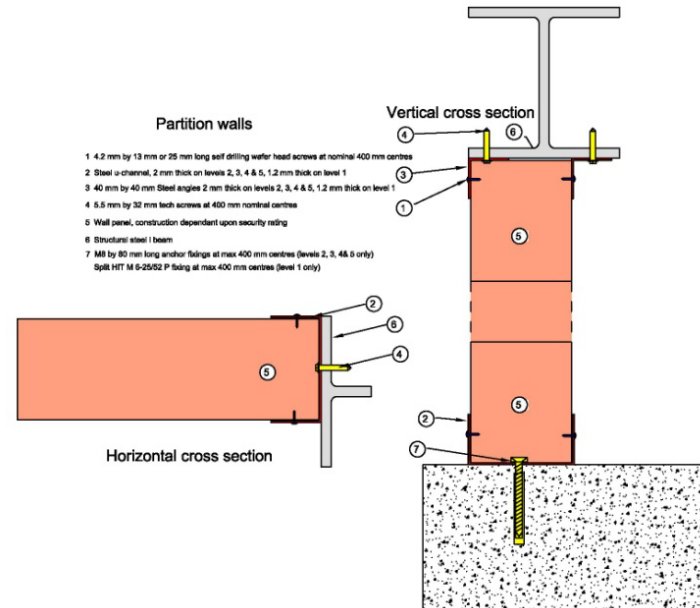
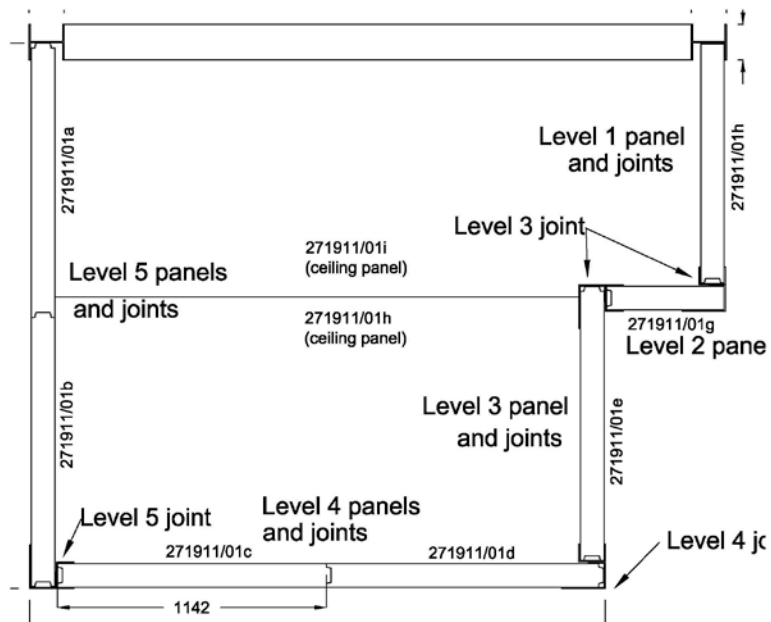
**Approved for UK Government Use.**

For details contact CPNI.

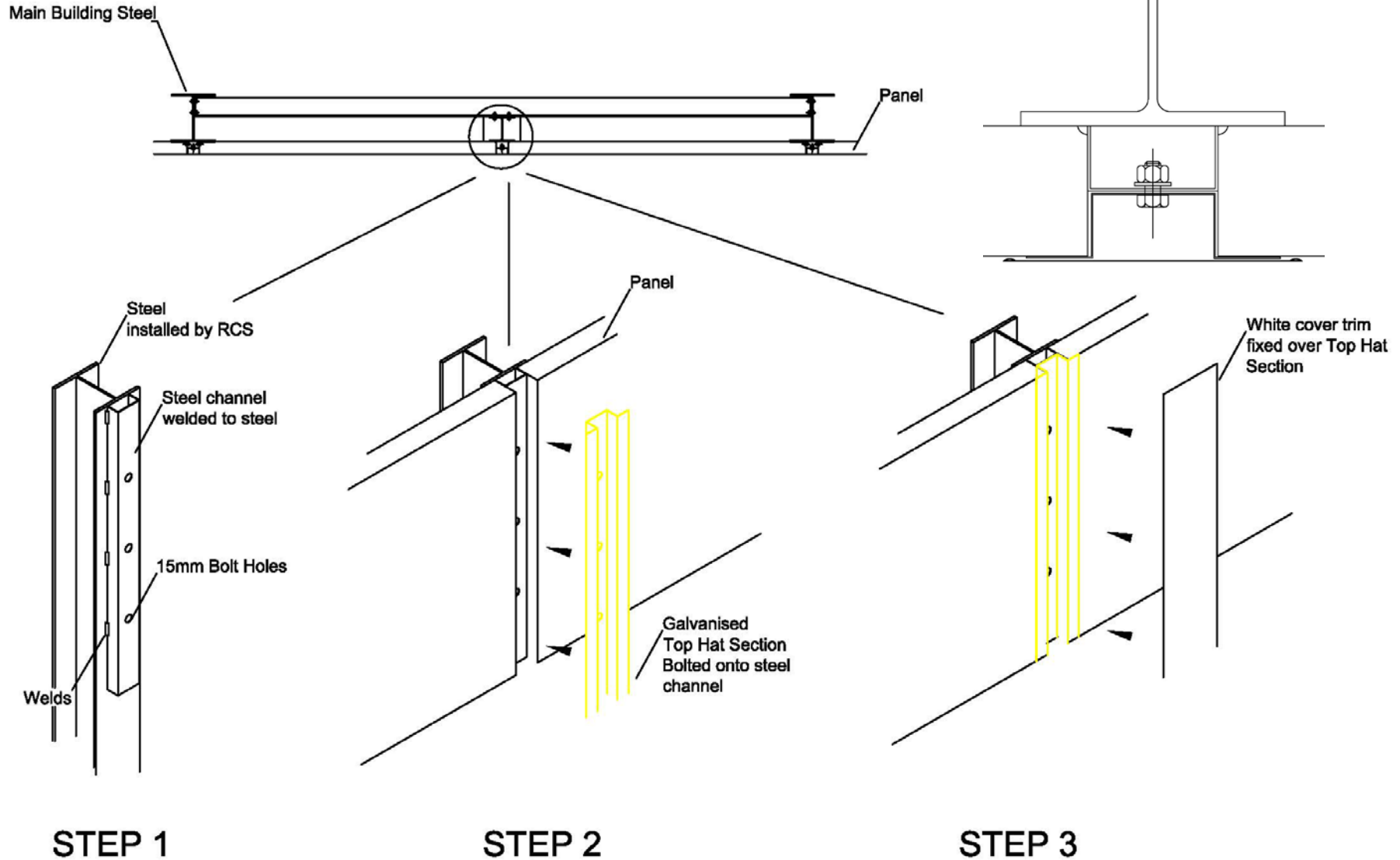
# Forced Attack Certification

## LPS1175 SR1 to SR5

All joints, corners, fixing to existing fabric included in the test procedure



# Column Fixing For Horizontal Panels



# Fire Certification

- BS476/EN1364/EN1634 - 90 minutes integrity & 90 minutes insulation for panels and doors.
- Paper will ignite and spread a fire at just 180 °C. Hardware will be destroyed at 70 °C. ModuSec stayed within 70 °C for over 90 minutes at the cold face with 1000 °C on the furnace side.
- Up to 6m panels approved – so will protect environments of *any* size.
- Complete building assessment carried out by an independent test house (Warrington Fire). Tested for internal or external fires. Doors, windows, service entry all tested mounted in the panels.



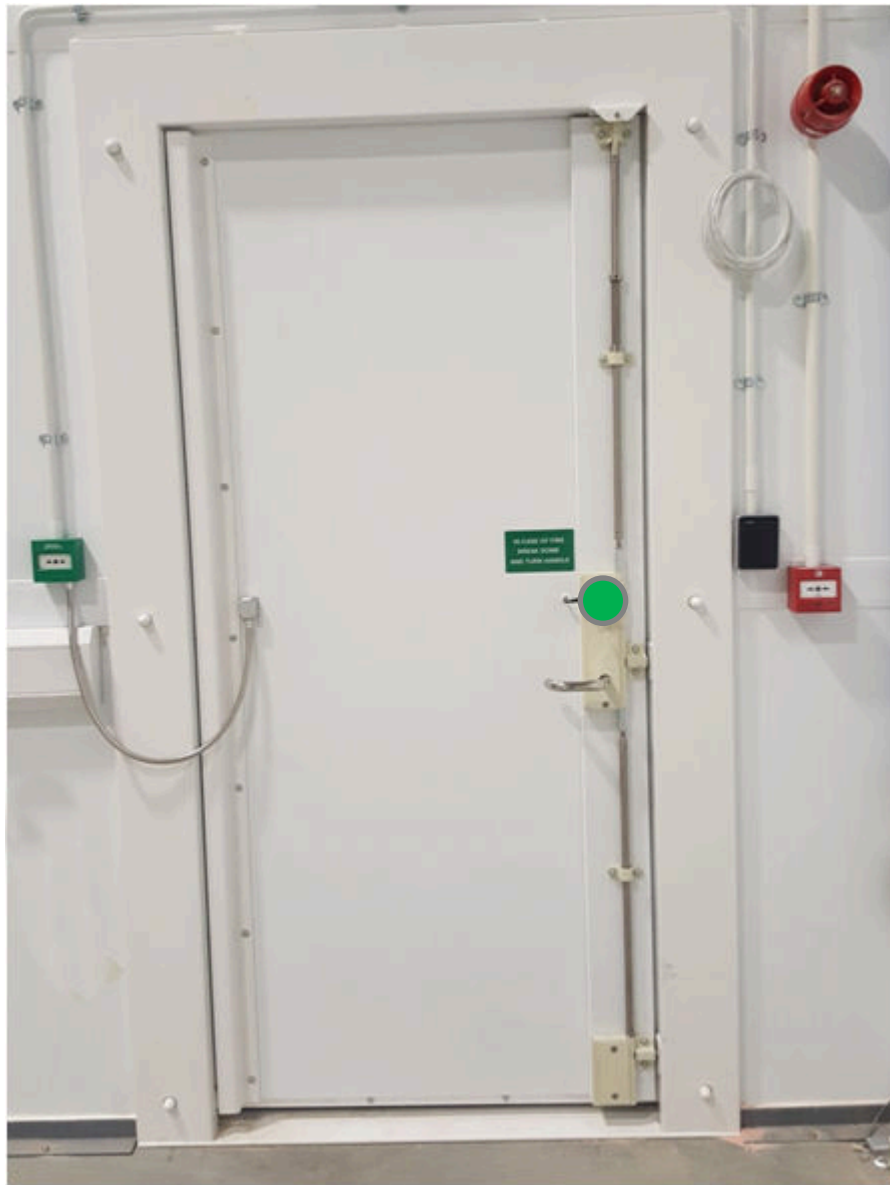
**Obviates the risk of fire spreading between cells in co-location environments**



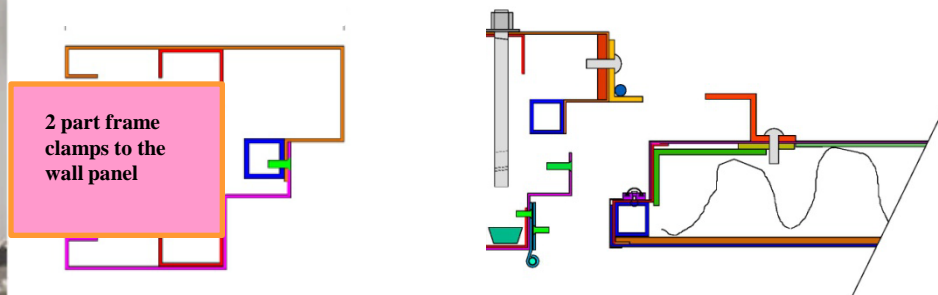
Recent arson attack on one of our server rooms in Denmark. Accelerants used and was many hours before fire services could gain entry. All hardware remained in working order.



# Doors: 90/90 fire rated & security tested - including locks & cable way for access control



Designed & tested specifically for the ModuSec System



Single or double doors available with a range of locking options to meet the highest levels of security

# Large Doors

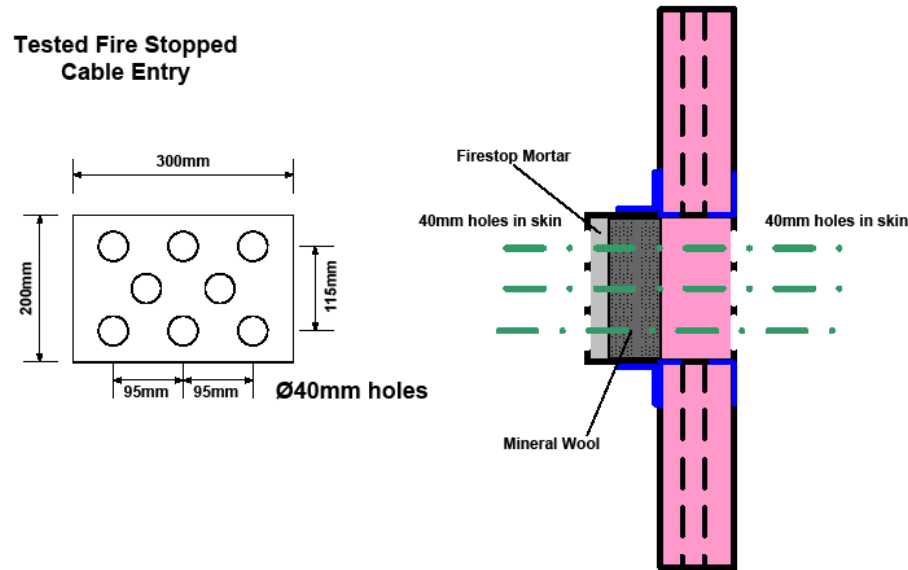
Roller Shutter Door:

- LPS1175 SR5 & other standards
- Combine with a 2 hour rated fire curtain

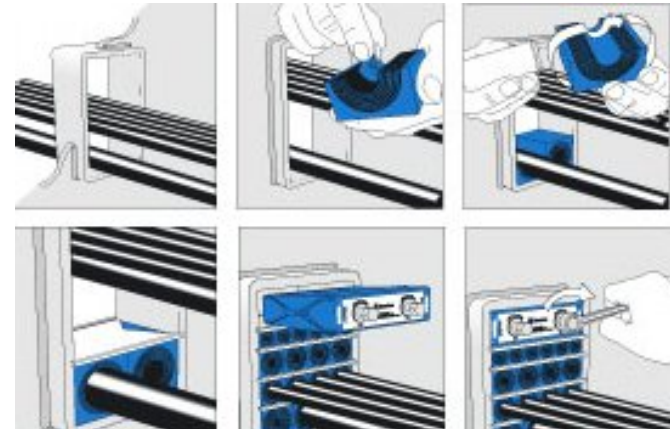


Sliding/Folding Door

# Protected Service Entry Options



- Service entry can be provided at any point to any size or shape on site
- Pre-determined notification not required – allowing total flexibility during fit out.
- Fully tested firestopping service available



# Security Grilles

- Manufactured in house for the protection of service entry points – to match security standard of the panels.

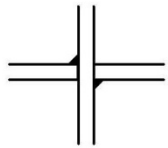
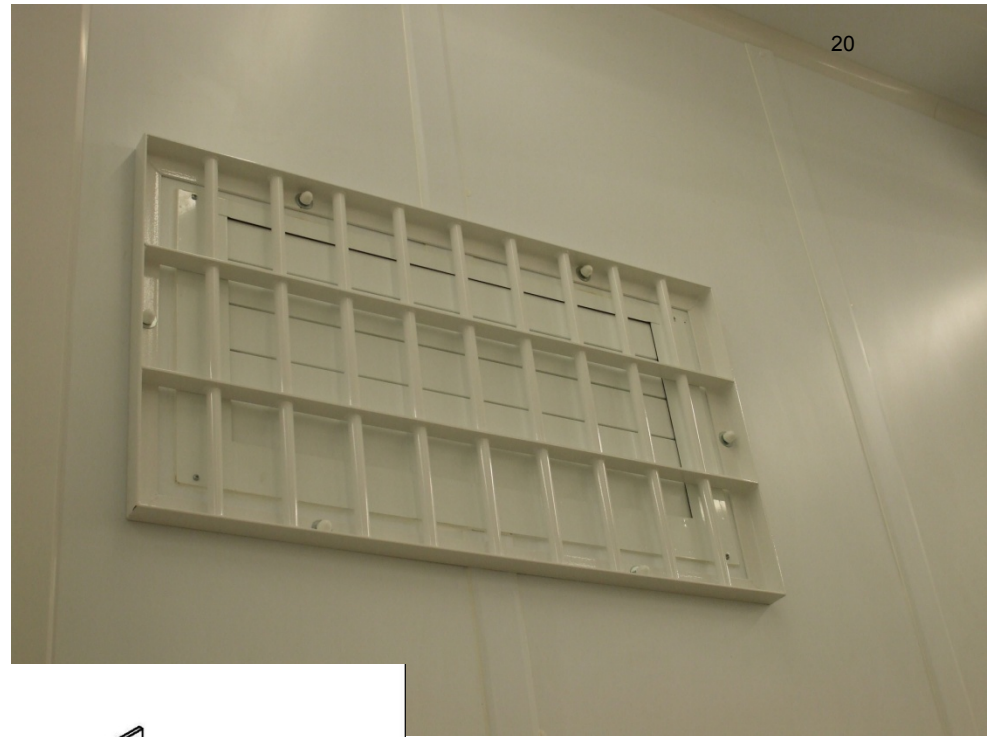
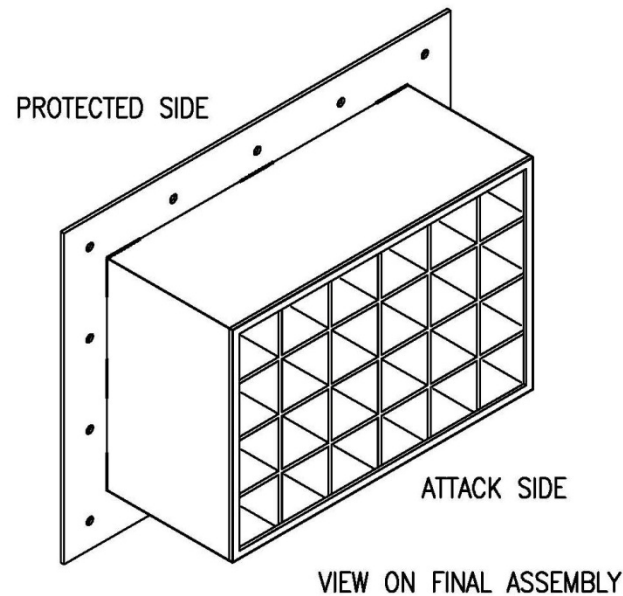
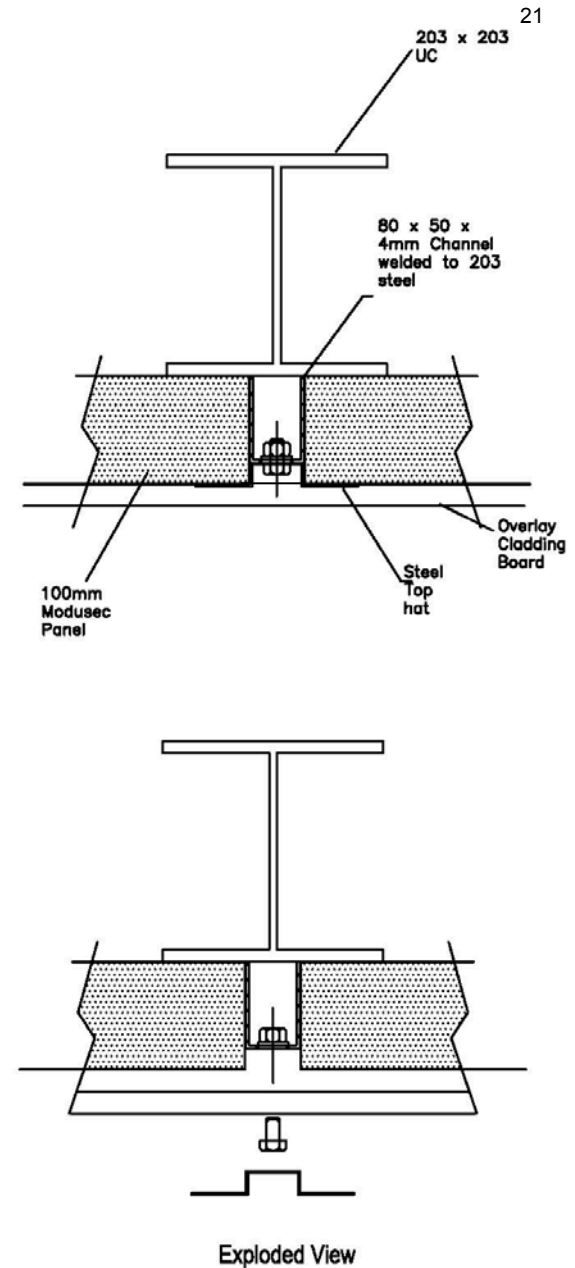


Plate welds  
positioned thus



# Multi-Threat Option for Blast & Ballistic Protection – With 18mm Overclad

- Tested by DNV-GL  
Tested to C15 - 100KgTNT Equivalence at 15m  
See Multi-Threat document
- Tested by DJ Goode (UKAS Approved) to  
BS EN 1522/1523 Anti-ballistic rating FB4 - FB7  
See Multi-Threat document
- Tested to LPS 1175 SR5 & EN1627/30 RC5 using a  
mains powered reciprocating saw as opposed to  
current battery driven SR5 test. Hence far more power  
available.



# Summary of Benefits & USP's

- In house design, manufacture of panels & doors, steel fabrication, delivery and installation guarantees a complete project will meet the specified standard.
- Proven track record and experience with free design advice to meet security standards.
- Core business is large scale high security projects
- The only system to be approved to LPS1175 SR5 at any size for partition walling or enclosures
- ModuSec GS panels approved to CPNI UK Government forced attack standard
- Build to any height with horizontally mounted panels & ceiling to any clear span with support
- Option for BS EN 1522/23 Anti-ballistic rating FB4 (0.44 Magnum Hand gun) or higher rating
- 90/90 fire rating on panels and doors with doors, windows, service entry tested mounted in the panels
- Blast tested with 100Kg TNT equivalence at 15m
- Wipe clean surfaces with no wet trades mean a quick, clean build and maintenance free surfaces
- Standard non security panels integrate with the system for a complete seamless build

**For further details contact Remtech on 020 8786 8787**