



# SANDWICH PANEL SYSTEMS

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## How do sandwich panel systems work? :

- ✔ Precast concrete sandwich panels can either be load-bearing, or non load-bearing
- ✔ Sandwich panels can be used as the entire wall structure (internal and external), with no need for internal plaster lining
- ✔ The depth of the insulation can be adjusted to attain the required U-Value
- ✔ The two concrete layers are typically connected using stainless steel or plastic connectors, allowing for the suspension of the outer leaf so it can expand and contract within its plane
- ✔ This connector system provides structural integrity without relying on the insulation for any transfer of loading. Thus, fibrous insulation materials can be used, and a cavity may be included.
- ✔ The thermal bridge through the steel/plastic connectors, is minimal (typical diameter of 4mm for steel)
- ✔ To fully optimise the system, the inner leaf of the panel should be load-bearing so as to support floor units



# > SANDWICH PANEL SYSTEMS

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## What are the benefits of a sandwich panel system? :

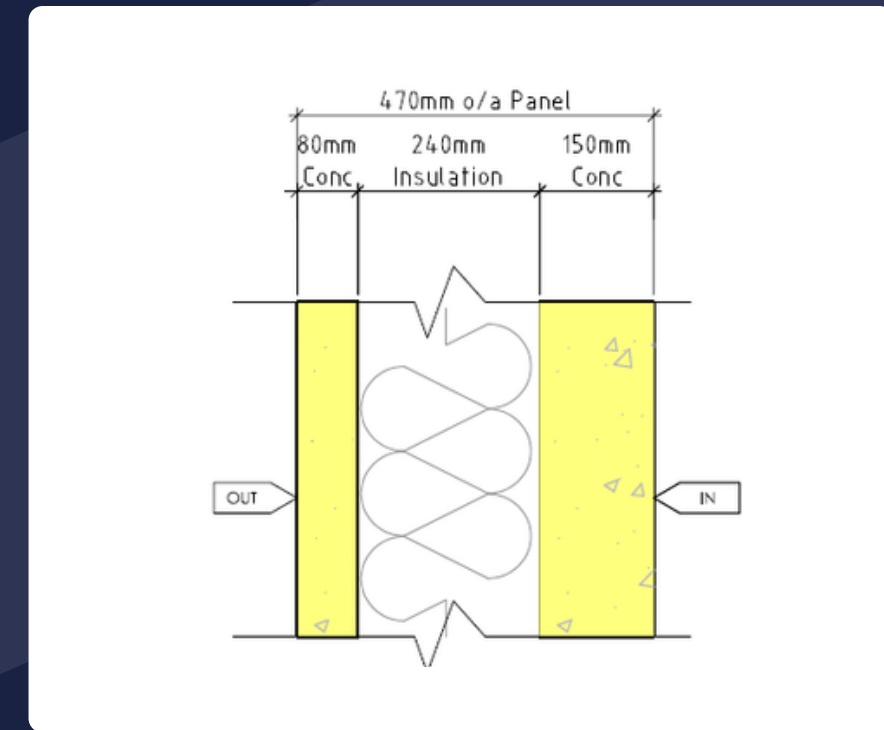
- ✔ Sandwich panel facades act as part of the structure
- ✔ Provide an energy efficient solution for exterior walling
- ✔ Available in a broad range of widths, lengths, depths & exterior finishes
- ✔ Significant programme benefits as the facade is installed along with the structure
- ✔ Number of columns required around the perimeter is minimised offering further economies and also reducing the need for coordinating different trades
- ✔ They are energy efficient, fire-resistant & durable



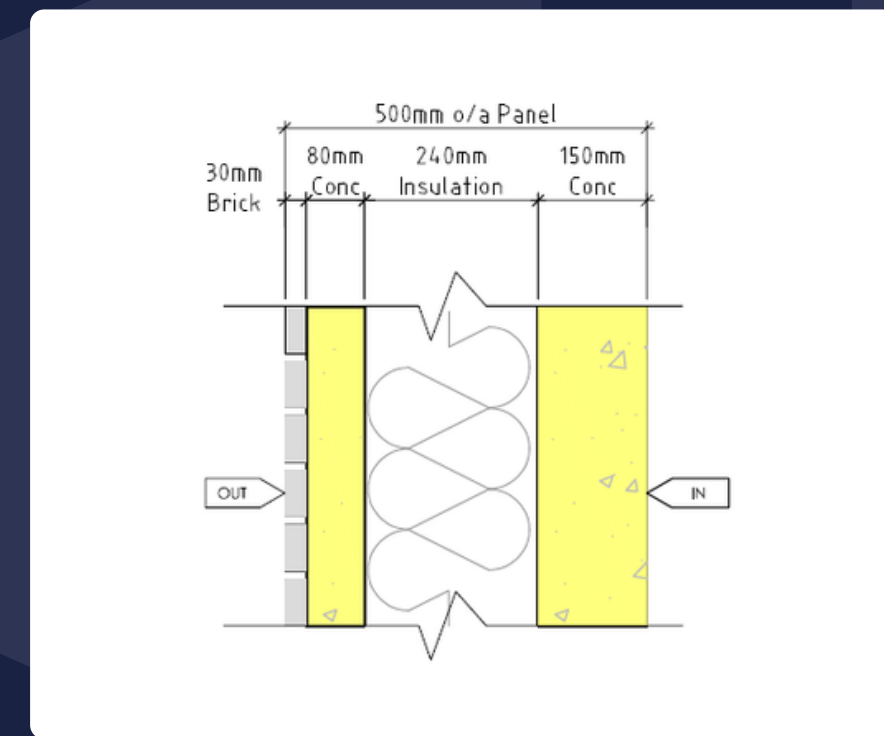
# TYPICAL WALL BUILD-UP

## A typical wall build-up consists of :

- ✓ An outer, non-load bearing leaf (typically 80mm) with an architectural finish
- ✓ An inner, load bearing leaf of grey concrete (typically 100-200mm)
- ✓ An insulating layer sandwiched between the inner & outer layers to meet regulation U-Value.
- ✓ The layers are connected with stainless steel or plastic connectors, allowing for expansion, or contraction of the outer leaf.



**Typical recon. stone sandwich panel section (U-Value 0.15)**



**Typical brick-facing sandwich panel section (U-Value 0.15)**

# > SANDWICH PANEL PROJECTS

## BRENT CROSS, LONDON

**Contractor:** Galliford Try / PCE | **Architect:** Allies & Morrison

**Type & Finish:** Brick-faced & reconstructed stone sandwich panels, punch windows.

**Project in Numbers:** 649 panels, covering 9,850 sqm.



# > SANDWICH PANEL PROJECTS

## FULTON & FIFTH, LONDON

**Contractor:** PCE | **Architect:** JTP

**Type & Finish:** Brick-faced & reconstructed stone sandwich panels, punch windows.

**Project in Numbers:** 1,968 panels, covering 26,330 sqm.



# > SANDWICH PANEL PROJECTS

## DAKOTA HOTEL, MANCHESTER

**Contractor:** PCE | **Architect:** Kilmartin and Plowman & Partners

**Type & Finish:** Brick-faced sandwich panels, punch windows.

**Project in Numbers:** 131 panels, covering 1,676 sqm.



# > SANDWICH PANEL PROJECTS

## DURHAM UNIVERSITY STUDENT RESI.

**Contractor:** PCE | **Architect:** Willmore Iles

**Type & Finish:** Brick-faced & reconstructed stone panels, punch windows.

**Project in Numbers:** 2 blocks, 1,500 panels, covering 12,500 sqm.



# > SANDWICH PANEL PROJECTS

## COMMERCIAL ROAD, LONDON

**Contractor:** PCE | **Architect:** Dexter Moren

**Type & Finish:** Brick-faced sandwich panels, punch windows.

**Project in Numbers:** 223 panels, covering 2,562 sqm.



# > SANDWICH PANEL PROJECTS

## TECHRETE FACTORY

**Contractor:** Elliots | **Architect:** John Smyth Architects

**Type & Finish:** Industrial sandwich panels.

**Project in Numbers:** 906 panels, covering 10,600 sqm.



# > SANDWICH PANEL PROJECTS

## TECHRETE OFFICES

**Contractor:** Elliots | **Architect:** John Smyth Architects

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**Type & Finish:** Industrial sandwich panels.

**Project in Numbers:** 730 panels, covering 9,700 sqm.



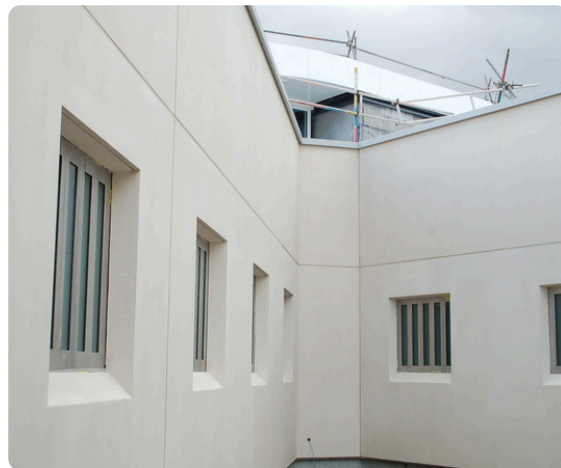
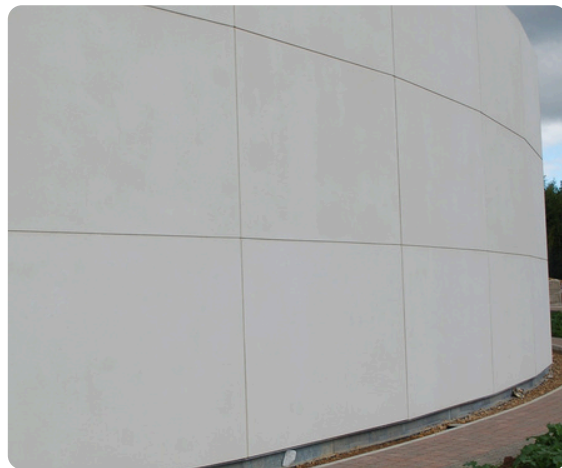
# > SANDWICH PANEL PROJECTS

## NORTHUMBERLAND POLICE HQ

**Contractor:** Miller Construction | **Architect:** Ryder Architecture

**Type & Finish:** Combination of sandwich and single skin panels.

**Project in Numbers:** 725 panels, covering 8,300 sqm.



# > SANDWICH PANEL PROJECTS

## LEEDS DHQ

**Contractor:** Interserve | **Architect:** Jacobs

**Type & Finish:** Combination of sandwich and single skin panels.

**Project in Numbers:** 570 panels, covering 7,208 sqm.



# > SANDWICH PANEL PROJECTS

## HMP MILLSIKE, FULL SUTTON

**Contractor:** Kier / PCE | **Architect:** Ministry of Justice

**Type & Finish:** Structural sandwich panels.

**Project in Numbers:** 417 panels, covering 5,344 sqm.



# > SANDWICH PANEL PROJECTS

## HMP FEATHERSTONE

**Contractor:** Kier Construction | **Architect:** Pick Everard

**Type & Finish:** Combination of sandwich and single skin panels.

**Project in Numbers:** 1,200 panels, covering 22,800 sqm.



# > SANDWICH PANEL PROJECTS

## HMP MOORLAND

**Contractor:** PCE | **Architect:** Ministry of Justice

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**Type & Finish:** Structural sandwich panels.

**Project in Numbers:** 164 panels, covering 2,414 sqm.



# > CERTIFICATIONS



ENERGY  
ISO 50001:2018  
NSAI Certified

> ISO 50001 - ENERGY



ENVIRONMENT  
ISO 14001:2015  
NSAI Certified

> ISO 14001 - ENVIRONMENT



QUALITY  
ISO 9001:2015  
NSAI Certified

> ISO 9001 - QUALITY



HEALTH  
& SAFETY  
ISO 45001:2018  
NSAI Certified

> ISO 45001 - H&S



READY-MIX  
CONCRETE  
I.S.EN 206:2013  
NSAI Certified

> IS EN 206 - CONCRETE



> SUSTAINABILITY CHARTER



> BUILDING REGULATIONS



> HEALTH & SAFETY



> 'VERY GOOD' RATING



> AEO AUTHORISED



V&A  
OPEN  
15  
09  
18

 **Techrete**  
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**40** YEARS