


SANDWICH PANELS



INDUSTRIAL SANDWICH PANELS



Take the first steps towards aesthetic and functional cladding 

Industrial sandwich panels

by techrete

A variety of industrial type buildings are finding key benefits can be achieved by specifying insulated precast concrete wall panels. These include manufacturing facilities, warehouse distribution centres, high-tech facilities, retail outlets and food-processing centres. All require durable, wide-open spaces that are ideally suited to this material.

These 'sandwich panels' comprise an outer leaf of precast concrete, an insulation layer and a backing leaf of plain grey concrete. They are cast monolithically and the insulation, installed under controlled factory conditions, is well-protected by the concrete. The type and thickness of insulation contained in the sandwich panels can be varied to achieve the required U-value of the project.



The two layers are connected by proprietary stainless steel connectors, typically consisting of wind and shear connectors. The latter are strategically positioned orthogonally to achieve suitable suspension of the outer leaf.



Coldbridging through the steel connectors is minimal as these have a typical diameter of 4mm. Furthermore, the system provides structural integrity as it does not rely on insulation for load transference.

9,670
9,655

8,500

ES100

ES100

ES100

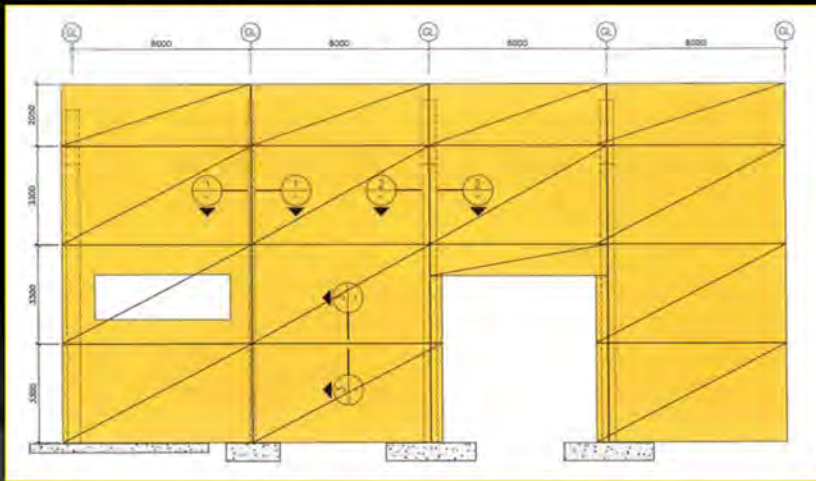
400

400

100

60

Technical Data:

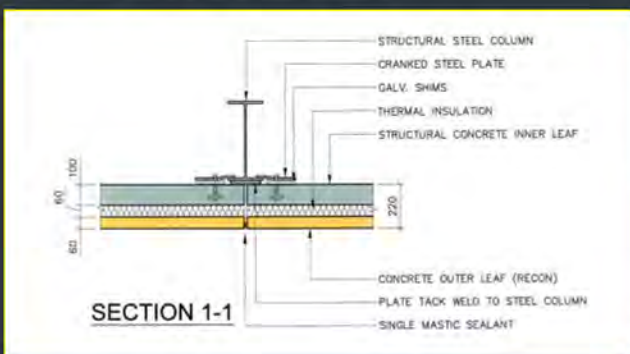


Techrete precast panels are designed to the requirements of British Standard Codes of practice BS-8110, BS-8297, BS-8298, BS-6399, BS-5950 and other relevant codes and project specifications

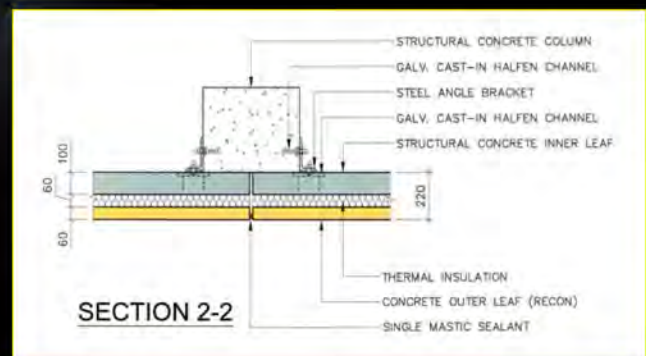
Standard Dimensions:

- Standard Panel Lengths up to 6.0m.
- Standard Panel Heights up to 3.30m.
- Standard Panel Thickness of 220mm.

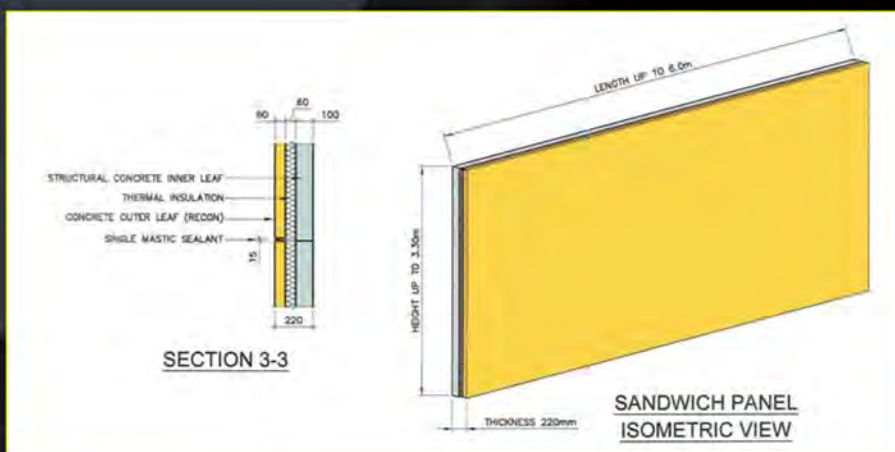
Thermal Performance:



Techrete's industrial sandwich panels contribute to achieving an overall U-Value of 0.33W/m²K with no risk of interstitial condensation. This complies with the Building Regulation thermal performance U-Value requirement of 0.37W/m²K.



Fire Performance:



Techrete cladding has a fire resistance period of 90 mins. All our construction materials have Class 0 surface spread of flame classification.

Advantages:

Durable

Prefabricated manufacture in a controlled environment ensures increased accuracy and quality of finish and decreases weather dependency. Its low maintenance means savings over the entire life of the building.

Fire Resistant

Precast concrete has inherent fire resistance. The 60mm thick insulation is installed under factory conditions and is well protected between two layers of precast concrete, the inner layer being 100mm thick and the outer layer being 60mm thick.



together quickly on site without the need for storage space. Prefabrication and phased delivery to site accelerates the construction programme and achieves a weather-tight building enclosure at the earliest opportunity.

Economical

Economies are achieved through reduced requirements for formwork, access scaffolding and less reliance on wet

Energy Efficient

Precast industrial buildings can reduce energy requirements by providing an insulated space needing little heating or cooling. The concrete's thermal mass creates an effective insulating value in a relatively thin and durable panel.



Acoustic Control

High sound attenuating properties result from the two layers of concrete combined with the insulating core. The

trades. Precast panels also allow for easy expansion or adaptation of the building to new uses during the life of the building.



Structural Integrity

In order to optimise the cladding system, the inner leaf of the sandwich panel may be used as a load bearing structural element to support floor units. This provides further efficiencies for the construction process and minimises the need to co-ordinate different trades.

insulated panels provide acoustic dampening in the order of 63dB. This would minimize the impact that noisy equipment might otherwise have on the local environment.

Fast-track Construction

Fast erection allows the building shell to be enclosed rapidly in all seasons ensuring no long delays due to bad weather. Produced to close tolerances, the panels fit



Summary

Whether tied to an all-precast structure or other framing system, the advantages in speed, aesthetics, durability and design flexibility are leading more high profile companies to build their industrial and warehouse facilities with precast concrete sandwich panels.

Attractive Finishes

From a visual point of view, architects have the flexibility to select from a wide range of shapes, finishes, colours and sizes. This allows buildings to project a stronger, more attractive image than many industrial facilities portray, which aids their visibility in high traffic areas.



E2



E3



E5



E6



E1



E8



E9



E4



E11



E12



E7



E14



E15



E10



E13



E16



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