

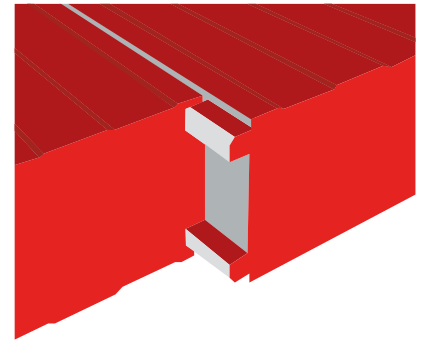
# Sandwich Panels



## Sandwich panel safety

Sandwich panels are a building product used extensively in cold rooms, freezers and clean room areas as entire buildings or as rooms within other buildings.

As the name suggest, a sandwich panel comprises an insulating core bonded between two metal faces. The core can be combustible such as polystyrene (EPS) or polyurethane (PU), non-combustible (mineral, glass or rock wool or fire resistant such as polyisocyanurate (PIR) or phenolic foams.



Fire losses in buildings containing sandwich panels with combustible cores can be significantly higher than in buildings that don't have this kind of building product, or those that use non-combustible or fire resistant cores.

While sandwich panels don't physically cause fires, where the core is combustible it becomes a potent fuel source once ignited – swiftly transforming to liquid, and spreading fire more easily. That's why it's important to do everything possible to prevent the inner core from being exposed to heat or flame.

Ideally sandwich panels with non-combustible or fire resistive cores should be chosen for new builds or where older sandwich panel is replaced.

Irrespective of the core material there are a few easy things that can be done to reduce the risk.

## Electrical and other services

- Best practice is to surface mount electrical switches, light fittings etc. where electric cabling passes through sandwich panel is encased in either a metal or PVC conduit.
- Electrical switchboards and/or gas/electric heating equipment should not be positioned directly against sandwich panels.
- Battery chargers for forklifts and other goods handling equipment should be located at least 3m from combustible sandwich panel walls. Where this is not possible sandwich panel next to or above the chargers is to be lined with a fire rated panel to 3m in all directions.

## Smoking

Smoking and vaping should be limited to designated areas only and be outside the building and at least 5 metres away from any sandwich panel.

Suitable facilities are to be provided for the safe disposal of cigarettes, matches and other smoking materials.

## Controlling hot work activities

Hot work, for example welding can be dangerous if not controlled properly. Avoid hot work activities within 5 metres of any sandwich panel walls. Where this cannot be avoided nearby sandwich panels should be protected by welding screens or non-combustible covers.

All hot work is to be approved by site management and carried out by a trained and competent person together with another person designated as the fire watch.

Prior to starting hot work all movable combustible material are to be removed from the area. Items that can't be moved are to be protected by welding screens or non-combustible covers.

Hose reels (if installed) or adequate portable fire-fighting equipment must be kept to hand within the vicinity of any hot work operations, The fire watch should be trained to use this equipment.

After completing the work the area is to be inspected for hot spots, embers, hot materials etc. and another inspection carried out 30 minutes after that.

## Compromising the core

It's always best to keep the sandwich panel core intact by avoiding penetrations or fixtures. Sometimes this isn't possible, as electrical and other services may need to be mounted, inserted or secured to the panel, so we recommend:

- Only using cold methods to cut the metal cladding and make holes in the inner core. Methods that use or generate heat can ignite a combustible core.
- Using a non-combustible pipe or sleeve through the penetration, while the pipe ends should be finished with a non-combustible facing (e.g. metal or PVC). Ensuring the core isn't exposed when attaching hooks and brackets.

- That any joints between panel sections are securely sealed with joint cover strips or seals. If these are removed or damaged, they must be replaced.
- If the panel is damaged and the core exposed it should be repaired this as soon as possible by the damaged area with a suitably sized non-combustible material (e.g. rivet a piece of metal over the damage).
- Remember to complete regular inspections checking the condition of the sandwich panel, electrical and other services and undertake any maintenance required without delay.

## Housekeeping

Combustible items, such as idle pallets and waste skips, should not be stacked against building walls. They should be moved away from the wall as far as possible, ideally by 10 metres.

Other combustible plant or property outside of the building should also be stored 10 metres or more away from any sandwich panel walls. Where the building is sprinkler protected and there are external drenchers covering this plant or property this distance can be reduced.

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