

Aluminium composite panels (ACP)

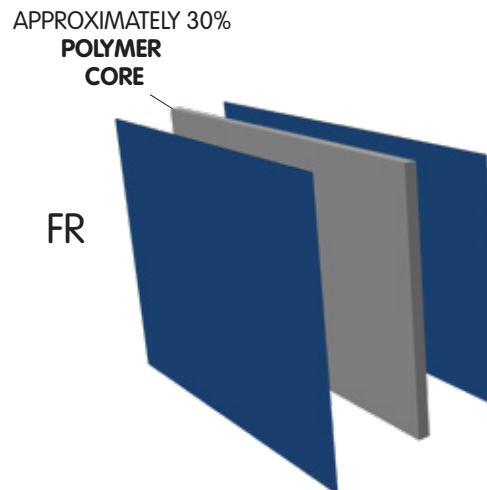
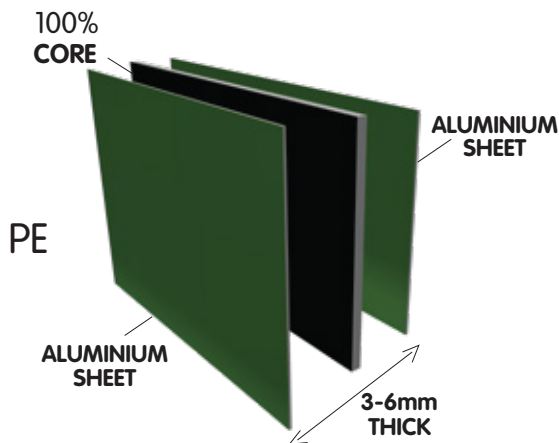
An aluminium composite panel (ACP) is made up of two thin aluminium sheets bonded to a polymer core.

It is the polymer core that makes this product dangerous in a fire.

The highest-risk ACP products have a 100 per cent polymer core – usually polyethylene – which is often black. This variety is known as 'PE'.

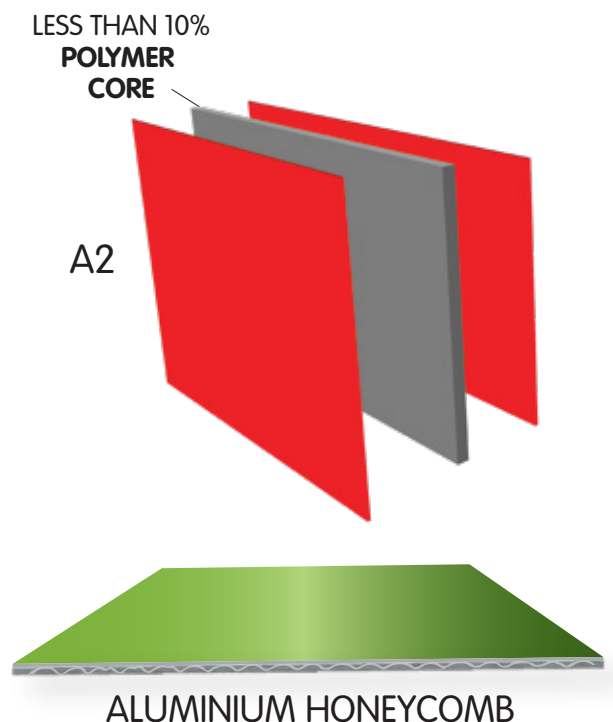
The VBA has noticed the 'PE' variety was mostly used on buildings constructed before 2012 and is less prevalent on recently constructed buildings.

There are many varieties of ACP. Typically, they span two to six metres in length, and 600mm to two metres wide. They do not generally add to the structural integrity of a building, but may contribute to energy efficiency and weatherproofing.



Other varieties include:

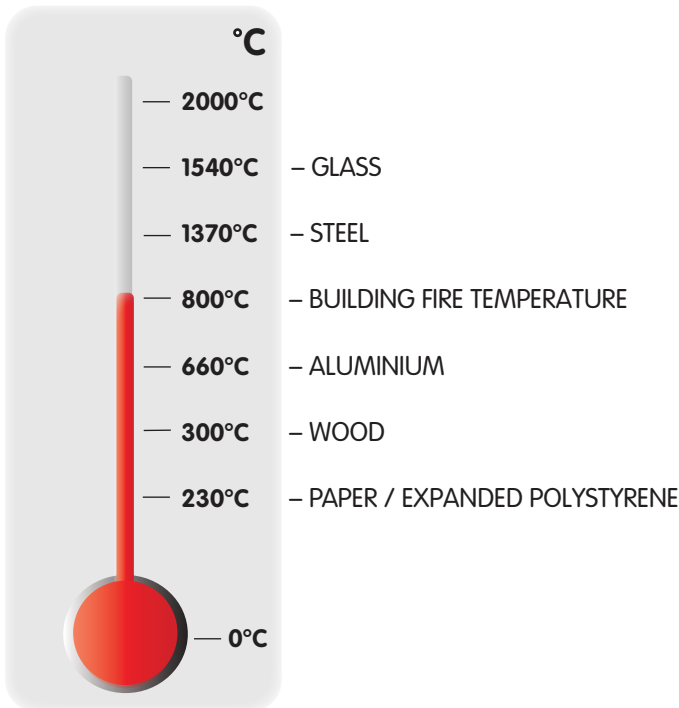
- **ACP 'FR'** products, which typically have a polymer core of approximately 30 per cent. Polymer core is often grey. Potential to spread fire is high.
- **ACP 'A2'** products, which typically have a polymer core of less than 10 per cent. Polymer core is often light grey. Potential to spread fire is low.
- **Aluminium honeycomb** products, which have no polymer core. Instead, they have a honeycomb-patterned aluminium core. Potential to spread fire is low.



Aluminium composite panels with a polymer core are combustible. They have the potential to spread fire up and around the building façade, and melt and drop molten material to the ground. They may also fall off a building in large pieces and cause spot fires away from the building.



MELTING AND IGNITION POINTS



Aluminium composite panels with a polymer core of 30 per cent have a poor reaction to fire and, generally, cannot be used on a multi-storey building without independent approval from the Building Appeals Board.

Aluminium has a low melting point of around 660°C. Temperatures will be around 800°C to 900°C in a fire, which will melt the aluminium skin of the panels and ignite the core.

The aluminium can be used in a process known as 'coil coating', which allows for a vibrant range of colour and provides excellent corrosion resistance. Aluminium composite panels are also cheaper than solid aluminium products. The qualities of aluminium composite panels allow architects to design curved buildings that are not possible, or as easily achieved, with steel, masonry or glass materials.

