

## FACT SHEET

### Fire Performance of Mitten Vinyl Cladding Products

Plastic materials are increasingly attractive for use in environments requiring high levels of fire performance. Mitten vinyl cladding has **excellent performance characteristics in fire situations**. Due to its chlorine base, vinyl cladding's chemical makeup ensures that it **does not ignite quickly** and is **inherently flame retardant**.

All organic materials will ignite. But the higher the temperature a material has to reach before it flames, the safer it is. Vinyl cladding is composed mainly of polyvinyl chloride, more commonly known as vinyl or PVC. PVC will not ignite, even from another flame, until it reaches about 378°C, and will not self ignite until about 454°C. These ignition temperatures are significantly higher than common framing timber, which ignites from flame at 260°C and self ignites at 410°C. Also, ASTM D2863 tests show that rigid PVC's high Limiting Oxygen Index means that it needs unusually high amounts of oxygen to burn and stay burning. **Rigid PVC (vinyl cladding) will not independently sustain combustion** in air with a normal concentration of oxygen, so it extinguishes more easily.

Vinyl products are **slow to ignite, flame spread is slow, and they self extinguish once the heat source is removed**. The strong fire-safe characteristics of vinyl have been recognised for decades by the electrical industry through its approved use as a residential wiring insulator.

Results of the Standard Test Method for Surface Flammability of Materials Using a Radiant Heat Energy Source, show PVC as one of the materials with the **lowest radiant panel index** – meaning it does not release a large amount of energy when it burns and will not readily spread flames on its own. The low rate of heat release is a significant factor in reducing injury in fire situations.



In the tragic Victorian fires of February 2009, a **vinyl clad house survived remarkably unscathed**. The builder had spent considerable time researching building materials for fire performance, low maintenance and energy efficiency, and was impressed with how the vinyl products withstood the extreme conditions. The **vinyl weatherboards escaped any significant damage and protected the house from ember attack to the interior**.

A combination of factors saved the undefended house – good planning prior to construction, distance from trees, vinyl weatherboards and double glazed window frames with no air gaps and the consistent use of **fire retardant materials** both inside and out.