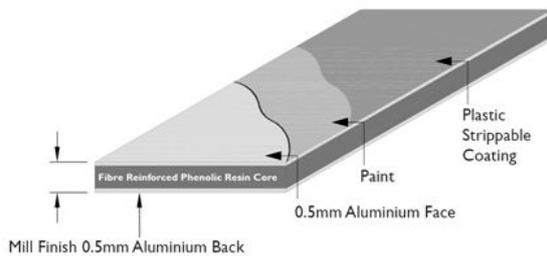


SymoniteHD (*heavy duty core*) is an aluminium composite panel *uniquely* manufactured using a heavy duty fibre reinforced phenolic core *not* a thermoplastic material. Thermosetting compounds provide vastly superior performance characteristics in comparison to thermoplastics such as polyethylene or polyphenylene. That is why thermosetting compounds such as fibre-reinforced phenolics are used extensively in military, aerospace and transport applications where safety and performance are paramount.

Thermosetting compounds change from the fluid state to the solid state liberating heat. Once in the solid state they are temperature stable and do not revert to the fluid state even under extremes of temperature. Once this process has taken place the panel becomes inert emitting zero VOC's.

The phenolic core delivers a highly rigid and durable panel designed to outperform.



*SymoniteHD is Australian made and Owned*

## The Advantages of SymoniteHD

Extreme Impact Resistance makes SymoniteHD a much more practical choice over softer polyethylene panels in public areas subjected to high traffic flow, mechanical damage or on facades prone to damage from hail.

Fire Resistance makes SymoniteHD a suitable building component where compartmentalisation of fire is an important aspect in fire safety engineering and design.

High thermal temperature stability prevents creep and telegraphic deformation of the external face of the panel on high ambient or high surface temperature conditions because the core does not soften

UV Stability means that the panel edges can be fully exposed to elements thus introducing design and fabrication options for architects and designers, which can reduce total installed costs.

Silicone Edge Bonding means panels can be structurally glazed thus increasing design options and also reducing fabrication and installation costs.

Homogenous thermal expansion means no differential thermal expansion between the panel's aluminium skin and its core therefore ensuring panel flatness over a wide temperature range.

SymoniteHD and the Smartfix system is the only Australian manufactured and mechanically fixed aluminium composite panel façade system approved for use in cyclone regions

SymoniteHD is fully developed in Australia

Proven impact resistance between 300% to 500% superior than a typical polyethylene core

Cost competitive compared to solid metal sheets

SymoniteHD can be manufactured between 3mm and up to 25mm thickness.

The only aluminium composite panel able to be anodised locally specifically to your requirements

Colours can be specified to match corporate identity and branding. *MOQs may apply*

## Finishes and Coatings

*PVDF– (Used As Standard)  
(Polyvinylidene Difluoride)*

The most enduring, cost effective paint system available today, this finish is used extensively worldwide for curtain walling and facades. PVDF paints, because of their flexibility, are



ideal for finishes where panels require rolling or folding.

The PVDF paint system in typical applications has an expected minimum life performance of 20 years under normal conditions.

### *Mill Finish Aluminium*

This is the natural, uncoated aluminium finish and will contain nominal scour and scratch marks. It is generally unsuitable in this format for architectural applications but is ideal for the use as the back of the panel or industrial uses such as containers, packaging, slave pallets and flooring.

### *Finish Quality Aluminium*

A high grade aluminium surface finish suitable for many professionally applied decorative coatings;

**Anodising** - available from professional anodisers in their range of colours that showcase its exciting metallic appearance.

**Two Pak Polyurethane** - professionally applied paint system available in an unlimited colour range suitable for smaller custom projects or corporate branding.

**Photo Printed** - using the latest digital technology, UV stable photo quality imagery can be printed directly on to SymoniteHD, allowing endless design possibilities.

## Impact resistance

SymoniteHD because of its vastly greater impact resistance can be used in areas of high pedestrian traffic. Where rival products cannot be safely used because of their vulnerability to damage from trolleys, bicycles, accidental knocks and kicking.

In some countries with severe climatic incidents such as hailstorms, SymoniteHD has proved through long Australian experience to be highly resistant to damage.

SymoniteHD's rigidity and stiffness means it requires less support to resist deflection under load.

Because of its hard thermosetting phenolic resin core, SymoniteHD exhibits a superior resistance to impact (denting) compared to composite panels with cores made of thermoplastic materials.

A test procedure that is a predictor of dent resistance is the modified Du-Pont method. This method involves ground steel balls of 300gm and 500gm weight being dropped from a controlled height of 300mm and 500mm onto composite panels and the resultant indentation depth measured.

test results can be seen on Table 1

## Protective Film

Standard SymoniteHD is supplied with a "peel-off" protective film to the exterior face. The protective film is to protect the face during manufacture, fabrication, transportation and installation only. It should be removed as soon as possible after installation but not more than three (3) months.

*Note: Timing for removal of the protective film should consider tradespeople still working on site.*

## Handling and Storage

Panels must be stored flat, in a dry and clean environment free from debris and airborne contaminants. Panels must be stored on panels of the same size. Pallets must be stored on pallets of the same size. Gluts and packers must be vertically aligned to avoid bowed panels.

Whilst in storage, panels should be kept in original protective packaging and should be protected from rain, moisture etc.

Panels should be lifted by two or more persons and not dragged. Dragging may lead to scratching.

Do not mark protective film with markers and/or labels including but not limited to inks and tapes.



Table 1 - Modified Du-Pont Method

		<i>Depth of Indentation (mm)</i>				
		300g	300g	500g	500g	
		X	X	X	X	
		Drop Height	300mm	500mm	300mm	500mm
Sample 1	4mm SymoniteHD Phenolic Resin Core	0.056	0.080	0.108	0.150	
Sample 2	4mm Thermoplastic Polyethylene Core	0.280	0.310	0.324	0.420	

The test results clearly demonstrate that SymoniteHD's resistance to indenting is between 300% to 500% superior to a typical polyethylene core composite panel.

## Fire Performance

<i>Surface Burning Characteristics</i>					
Country	Size	Standard			Result
Australia	3-10mm	AS1530	Part 3	Ignitability Index (0-20) Flame Spread Index (0-10) Heat Evolved Index (0-10) Smoke Development Index (0-10)	0 0 0 0-1
UK	4-6mm	BS476	Part 5 Part 6 Part 7	Designation Fire propagation Index Spread of flame	P 0.7 Class 1

Note: Design consideration should be given to project specific applications.

