



## Multipanel- Building Panels

### Overview:

Durable, lightweight and zero VOC building panels made partially from plant-oil base and high-density polyurethane. Suitable for various indoor and outdoor applications.

### Product Description:

Extremely lightweight, rigid building panels made partially from renewably sourced plant-base and high-density polyurethane foam, with zero VOCs. The panels are approximately 60% lighter than traditional building materials. Multipanel provides a suitable alternative to MDF, fibre cement sheeting, particle board or plasterboards, marine plywood, balsa wood core products and other composite materials. Multipanel can be used for similar applications to these traditional materials.

Panels can be a suitable replacement for timber based comparative products, conserving forests. Lightweight material saves in transport energy and allows for easy installation.

Manufacturer states the product has similar structural qualities, and Thermal Resistance values show superior thermal properties, relative to comparative building panels.

Durable and waterproof, panels are compatible with a variety of finishes including textured coatings, acrylic paints, laminates, timber veneers, tiles, granite, stonework or metal.

Can be used for applications across a wide variety of industries including building and construction, marine, trains, aviation, caravans, refrigeration, fencing, landscaping, waterfeatures, signwriting and more.

Multipanel recommends the use of a solvent-free, one part polyurethane moisture curing adhesive (see minor Issues of Concern). This solvent-free adhesive complements the already environmentally preferable and zero VOC product.

Multipanel recommends the use of Bostik: U-Bond, a solvent-free, one part polyurethane adhesive. The adhesive contains free organic isocyanates, and is moisture curing. According to the MSDS, the adhesive may be irritating to eyes, respiratory system and skin. There is limited evidence that skin contact may produce health damage, and cumulative effects may result following exposure. There is also limited evidence of a carcinogenic effect. Personal protective equipment (PPE) is recommended.

MultiPanel is not considered harmful by Worksafe. Victoria, however, eye, ear and mouth protection should always be worn whenever cutting or sanding MultiPanel.



Assessment Criteria Satisfied

ENERGY/GREENHOUSE
Low energy in production Potential less GHG/ODP down stream
HABITAT & LAND
Reduced terrestrial impact
RESOURCE DEPLETION & EFFICIENCY
Reuse potential Reduced transport energy Reduce material use
HUMAN HEALTH
Low/reduced offgassing Reduced toxics or carcinogens
POLLUTION TO ENVIRONMENT
Reduced chemical toxicity through Life Cycle Reduced smog-forming potential
OTHER VITAL SIGNS
MSDS Independent Verification Doc Manuf Claim Environmental info about product Australian Standard



# Technical Data



## Panel size

Standard sheet size: 8' X 4' (2400mm x 1200mm)  
 Standard thicknesses: 5/16" to 1 3/16" (8mm, 12mm, 16mm, 18mm, 25mm, and 30mm)

Note: All sheets are supplied calibrated sanded ready for finishing. Sheets can be supplied raw, laminated with fiberglass-reinforced plastic, or with high-grade luxury veneers

## Test results

Reference	Sample result
<b>Closed cell content</b>	95%
<b>Cell structure</b>	Fine and even
Water Permeability	Dry – pass
Freeze–thaw	Pass
Soak–dry	Pass
Warm water Pass	Pass
Mechanical and physical	Pass
AS/NZS 2908.2:2000	CSIRO tech asses 312

Thermal Resistance	R Value (m <sup>2</sup> -k/w)	R Value (hr-F-ft <sup>2</sup> /Btu)
8mm	0.30	1.7
12mm	0.44	2.5
16mm	0.59	3.4
18mm	0.67	3.8
25mm	0.93	5.2
30mm	1.11	6.3

## Structural Testing

### Density

ASTM C 271-94 210kg/m3

### Tensile strength

ASTM C 297-94 2.9MPa

### Compressive strength

ASTM D 1621-94 2.7MPa

### Compressive modulus

ASTM D 1621-94 105 Mpa

### Shear strength

ISO 1922 :2001(E) 1629 kPa

### Shear modulus

ISO 1922 :2001(E) 13920 kPa

### Flexural modulus

at 100mm flex 120330 kPa  
 at 50mm flex 64035 kPa  
 ASTM D790

### Building Code

BCA 2005 Vol 1 Class 2, 3, 5, 6, 7, 8 & 9v

## Fire testing

Reference	Sample result
-----------	---------------

### Simultaneous Determination of ignitability, flame propagation, heat release and smoke release

AS/NZS 1530:3:1999	15, 0, 0,4
CSIRO Report No.	FNE 8562

### Airworthiness Standards: Transport Category - Airplanes

FAR Part 25 -1995 Section 25.853 FAR 25.853 APPF AWTA Test No.	COMPLIES 7 – 549611 – AV
---	-----------------------------

The MultiPanel fire retarded foam system is tested to BS 4735/ISO 3582 standards specified by LNG plant constructors and operators globally. Test results indicate low mean extent of burning, short mean extinguishing times and low rates of burn

### Flammability

Mean extent of burning	4mm
Mean extinguishing time	3 seconds
Mean rate of burn	Self extinguishing

## Fire retarded foam system

MultiPanel is a PU technology; the panels are being produced with an added fire retardant. This unique blend of fire retardant additives contains no leachable Halides. This additive works by promoting charring when the foam is exposed to a source of ignition and starving the fire of oxygen. The additive is non corrosive and is specially formulated for applications where foam can be in contact with metal surfaces in areas of high humidity.

## Acoustic properties

MultiPanel is not a sound deadening material however it has noise reduction of 15–20 decibels insertion loss.

## Technical Support

MultiPanel offers support throughout the duration of your project. Please call us at (416) 502-2800 .

## Further information

For Material Safety Data Sheet  
 CSIRO detailed test Report  
 USQ detailed Engineering Tests  
 Detailed fire tests  
 Contact us (416) 502-2800