

STYROMAX EBOOK

BUILDING A  
**POP-TOP  
EXPEDITION**  
WITH STYROMAX PANELS



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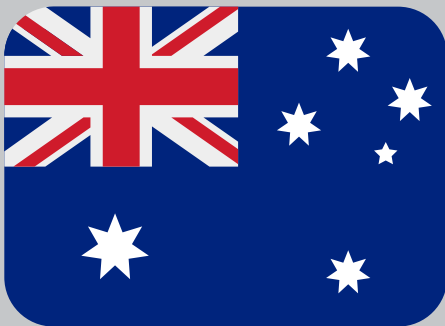
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# Who is StyroMAX?



## A LITTLE BIT ABOUT US

StyroMAX was formed in 1998 and is part of a group of companies that focus on manufacturing for the transport industry and have done so for well over thirty years.



Located at Darra in Brisbane, we are a specialist designer and manufacturer of fibreglass composite insulated panels. Our capabilities extend across a wide range of applications for the RV and transport industries such as mobile homes, caravans, trailers and truck bodies.

We also manufacture panels for the boating, building and construction industries to just about any job that requires an insulated composite panel.

# What is a StyroMAX Panel?

A StyroMAX panel is essentially what's known as a 'sandwich panel'. StyroMAX panels consist of two facings and a core (but can also contain other intermediate layers and reinforcements).

The facings are European FRP (fibre reinforced plastic) sheeting and the core, DOW Styrofoam (closed cell, rigid extruded polystyrene).

The components are bonded together using a two component polyurethane adhesive system. One being a polyol resin component and the other, an isocyanate hardener.

The bonding process is carried out on our large, flat bed vacuum tables. The negative pressure these tables create presses the sandwich panel together. In this way, the adhesive is evenly distributed to produce a sandwich panel of a constant thickness.

## CNC Cutting

After the laminating process, panels that are to be cut are sent to our CNC profile centres for trimming.

A 3D solid model of the panel is sent from our drafting department directly to one of our 3 CNC routers. This solid model file allows the CNC router to carry out its process, ensuring the finished product is trimmed to exact engineering requirements and tolerances.

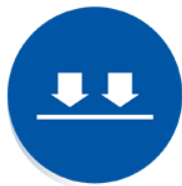
Panels can be manufactured to a maximum length of 14.4mtr and maximum width of 3.2mtr.





# Why choose StyroMAX?

StyroMAX panels are different to other traditional manufacturing methods and therefore you need to consider some of the benefits when evaluating the product.



## **INCREDIBLY STRONG!**

StyroMAX panels are incredibly strong. They have enormous mechanical advantages: The facings absorb traction and compression forces while the core material resists shear and thrust forces. Being structural, they eliminate the need for either a steel or timber frame within the panel.



## **EXTREMELY LIGHTWEIGHT!**

Amazingly, StyroMAX panels are extremely lightweight due to our exclusive use of DOW's Styrofoam (rigid extruded polystyrene) as a core and lightweight European FRP (Fibre reinforced plastic) sheeting. With this, they offer industry leading KG/SQM weight ratios.



## **SUPERIOR WATER RESISTANCE!**

Once laminated, each StyroMAX panel becomes a one piece insulated structure. The use of DOW's Styrofoam as a closed cell core, enables it to resist all forms of water and moisture penetration.



## **SUPERIOR THERMAL INSULATION!**

The use of DOW's Styrofoam in every StyroMAX panel means you won't have to turn up the heating to full in winter and there will be no need to blast out air-conditioning all summer. This, in turn, will reduce your energy consumption and save you money.



## **PRECISION CUT!**

Each StyroMAX panel is 3D modelled. After the panels lamination process, the solid 3D model is sent to our CNC profile centres for trimming. This process provides assurance that your panels are trimmed to exact engineering requirements and tolerances that will aid in the ease of assembly for your build.



## **UV STABLE!**

StyroMAX panels are UV stable. Our FRP sheeting utilises a top layer gelcoat that improves UV light and weathering resistance.

# Why choose StyroMAX?



## **IMPACT RESISTANT!**

*Due to their construction, StyroMAX panels offer exceptional impact resistance. This means fewer dents and dings and your panel will maintain the new look for years.*



## **HYGIENIC!**

*With the use of DOW Styrofoam as a closed cell core, StyroMAX panels will not rot, meaning no mould or fungal growth.*



## **EASY CLEAN!**

*StyroMAX panels are easy to clean. Externally, it's essentially the same as an automobile, wash it often and wax it periodically. Internally, everyday household cleaners can be utilised such as spray and wipe.*



## **CABLING AND PLUMBING FRIENDLY!**

*The core of any StyroMAX panel can be installed with conduits prior to panel lamination which provides passageways for internal cabling and plumbing. This process is carried out on our CNC profile centre.*



## **UNIQUELY PLIABLE!**

*Looking for an aerodynamic roof line? StyroMAX panels can easily be bent to follow a given radius. They will also retain their rigidity due to our specific manufacturing process for this kind of application.*



# Construction

CONSTRUCTING YOUR POP-TOP/ EXPEDITION WITH STYROMAX PANEL IS VERY QUICK AND EASY! SO EASY, YOU CAN DO IT AT HOME!

1

## Chassis

Starting with the rolling chassis, you will either have one already or will be buying one that suits your needs. Customers usually have their own ute back for this build.

Like any good build, a solid foundation is required.

Your chassis will determine two further factors:

1. What flooring options are available to use
2. How to fix your panels to your frame



*Can you recommend a chassis manufacturer?*

Because we have customers all over Australia and around the world, recommending a chassis manufacturer that is convenient to you and suits your requirements is very hard to do!





# Construction

2

## Flooring

Our most popular option for Pop-top and Expedition builds for flooring is StyroFLOOR/HD. This 19mm floorboard is 8.6kg per sqm and is sold in 2440mm x 1220mm boards. Spacings for this can be up to 610mm.

We also have the option of the StyroFLOOR/LT which is 12.7mm thick and 5.5kg per sqm and is sold in the same 2440 x 1220mm size as the HD boards.



### STYROCHAT

Want to see what the strength of the StyroFLOOR/HD is like? We're going to drive a 3000lb AMC Hornet Drag Car over the top of it!



### STYROFLOOR

what options are available with StyroMAX?

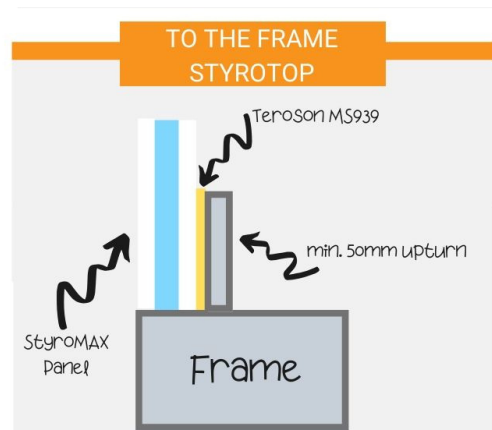
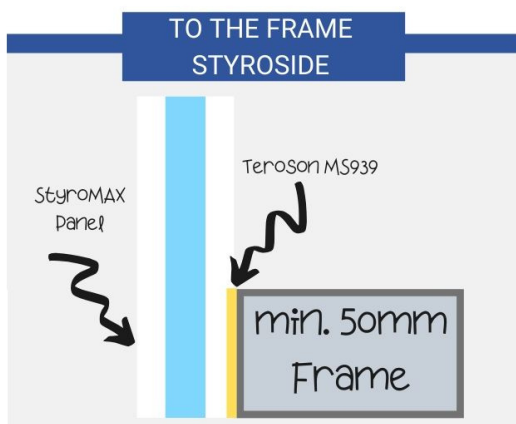


# Construction

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## Bonding

Depending whether your chassis is at full width or not, you will either bond the panels to the side of the chassis frame, or on top of the frame. Either way, you need 50mm minimum surface area to bond to.



*Do you really just glue it?*

Absolutely! Check out our 2 destruction videos we have on our [YouTube Channel!](#)





# Construction

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## Panel Inserts

Panel inserts are an excellent way of creating areas within the panel where you can mount fixing, run plumbing and cabling; or provide additional structural support.

The most commonly used items are the StyroBEAM/LT which can be used as a structural support around an opening, like an AC, or to run plumbing or cabling; and StyroPLATE, which is often used for fixtures such as TV's and Awnings.



*What panel inserts are available?*

Check out our [YouTube video](#) on panel inserts available. We have a huge range to suit your needs.



# Construction

## 5

## Roof

Generally speaking, you can opt for either a full height roof or a Pop-Top roof.

Pop-Top units from Aussie Traveller come in three different kit sizes:

- 4mtr
- 4.8mtr
- 6mtr

You can lift the Pop-Top kit of your choosing with scissors, actuators or struts.



# Construction

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## Body

Usually our Pop-Top and Expedition builds are all manufactured with our StyroRV/RG composite panels including the roof and side walls, making it a self-supporting body.

This means it is strong enough for you to stand on without the requirement of any frame work. Be mindful though as flexing can still occur.

StyroSEAL/LT will allow you to build custom hatch doors.

We recommend checking out the following products:

- StyroCAP/LT and StyroCAP/HD
- StyroTRIM/RG
- StyroSEAL/LT and StyroSEAL/HD
- StyroLOCK(SML,MED & LGE)
- StyroT-HANDLE



# Construction

## Assembly



Assembling the panel is very easy.

Essentially it is panel bonding with the side wall panels rebated to accept opposing panels.

For those who are assembling at home, you can use clamps, straps and StyroTAPE to hold the panels in place while the adhesive cures, which is a minimum 48 hours.

Sequence of assembling is normally side panel and internal walls/rear panel; then the other side and the front panel. Roof is always last.

*Can I see one being assembled?*

You sure can. Check out our [YouTube Channel](#) videos on builds that we have done in house. [STM/14-110](#) is an excellent example of a detailed time lapse.





# Construction

## 8

## Accessories

We have access to both Aussie Traveller and Coast to Coast catalogues, so we are able to get your accessories, generally 10% off retail price.

Both Aussie Traveller and Coast to Coast have such an extensive range, we can't possibly carry it on our website. Be sure to head directly to their website to see what accessories you can kit up with your panel set.



We are also a stockist for LED Autolamps and can provide you all your lighting requirements for both inside and outside of your build!

LED Technologies  
Excellence in  
Lighting Solutions







# Construction

## Trim

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Depending on the shape of your Expedition, you have one of two options:

1. StyroTRIM/RV- suitable for rolled roofs
2. StyroTRIM/RG- suitable for chamfered or angles bodies

Be sure to check out our product videos on our [YouTube Channel](#).





# FREQUENTLY ASKED QUESTIONS

## TRANSPORT OPTIONS

Using different third party logistics companies, we can freight across Australia!

We recommend crating the panels to protect them from damage. Whilst the crate box and transport can be an additional cost, there are other options to collect or have StyroMAX assemble for you.

*I live interstate, how can I get the panels?*

**We utilise national third party logistics companies to deliver Australia wide. From Atherton to Broome, they can deliver your panel set.**





# FREQUENTLY ASKED QUESTIONS

## TRANSPORT OPTIONS

Collecting your panel set is a great option to save on transport cost.

Sometimes you can coincide your collection with a weekend away, a mini holiday or a special event in South East QLD.

We recommend collecting on a flat bed trailer (no mudguards), if possible.

*Can I collect my panel set?*

**You certainly can. We encourage a flat bed to collect so that the panels can remain flat during transport, reducing the risks of damage.**







# FREQUENTLY ASKED QUESTIONS

## ASSEMBLY OPTIONS

Another option is to have StyroMAX assemble the build for you. Whilst this isn't our core business, we can accommodate approx 2 builds per month, so if you are happy to join the wait list, we can assemble for you.

*Can you assemble my build?*

**We can assemble on a rolling chassis or a sub frame, if it is a slide on camper. We can assemble to a dry lock up stage, where windows, hatches and doors are installed.**









# FREQUENTLY ASKED QUESTIONS

## VALUATION AND INSURANCE

Previous customers have valued their builds with Astute and then proceeded to insure with CIL Insurance.

***How do I insure my Expedition/Pop-top?***

**Previous customers have used Astute to value their build and then CIL Insurance to insure it.**



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# Next step

*Order a Designer's Sample Pack.*

*This sample pack contains everything you need to start planning your build.*



*Be sure to subscribe to our YouTube Channel to stay up to date with product and build videos.*



*Start with your design. Sketch out the shape of your build and add your dimensions on the next page.*



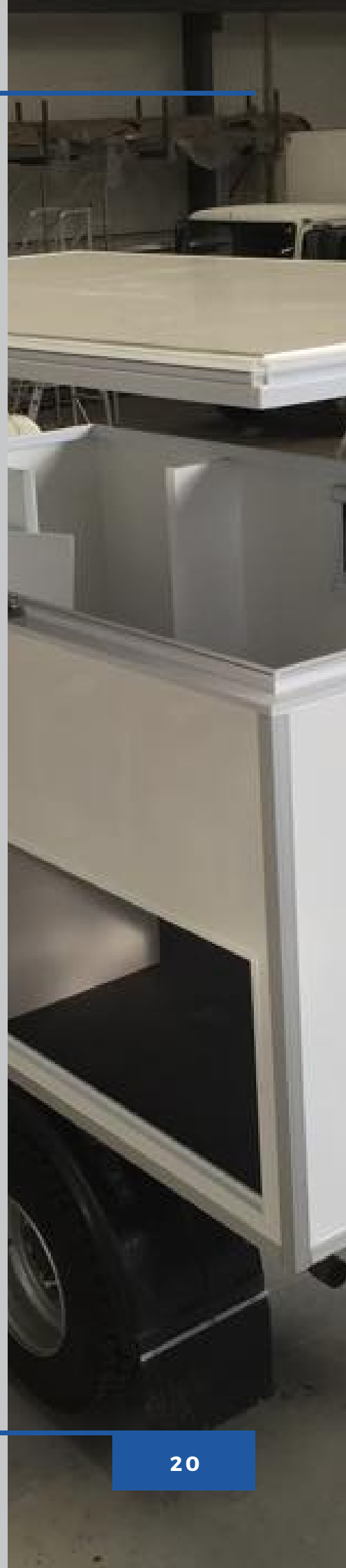
*Consider the accessories you need. Windows, doors, vents, trim, flooring, lighting etc.*



*Consider the panel inserts you will need for the accessories.*



*Email through your design and build requirements to  
[Samantha@styromax.com.au](mailto:Samantha@styromax.com.au)*



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# Pop-Top/Expedition Example

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STM/16-250

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The build you see in the example photos above are from build STM/16-250 Pop-Top camper truck body. This body was manufactured with StyroRV/RG+ panel by StyroMAX.

The dimensions of this build:

- 4700mm overall length
- 2250mm overall width
- 1460mm inside height (closed)

This job came in at \$16,065.46 including GST.

This job includes:

- 1 x StyroRV/RG+ CNC cut panel set.
- 6 x StyroT-HANDLE/LT for hatch doors.
- 3 x StyroSEAL/LT alloy extrusion for hatch doors.
- 4 x StyroTRIM/RG alloy extrusion for body edging.
- 1 x StyroPOP-TOP 4.8M Pop-top extrusion (not including scissors or lifters).
- 2 x EV-450-900 Eurovision Window 450 x 900.
- 1 x Caravan Door.
- 12 x Teroson MS939 body adhesive by Henkel.
- 1 x CAD conversion of supplied sketches.

We assembled this build for \$7,920.00 including GST on the customers vehicle.

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## SKETCH OUT YOUR IDEAS

Your initial sketch can help us to provide an accurate estimate. Remember to keep it clear and simple. Please consider the including the following information to your sketch.

- Height
- Length
- Width
- Windows
- Doors

When you have finished with your sketch, you can email it through to [info@styromax.com.au](mailto:info@styromax.com.au) for a initial estimate.