

BUILDING A  
**TOY HAULER**  
WITH STYROMAX PANELS



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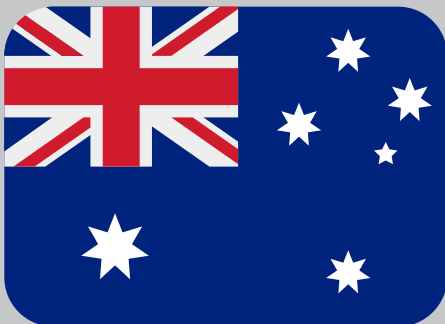


# Who is StyroMAX?



## 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.

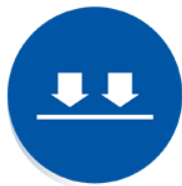
Panels can be manufactured to a maximum length of 14.4mtr and maximum width of 3.2mtr.





# 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 TOY HAULER 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.

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

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## Flooring

Our most popular option for Toy Hauler 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.



*What flooring options are available?*

Be sure to check out our [YouTube Channel](#) videos on what flooring options are available.



### 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?

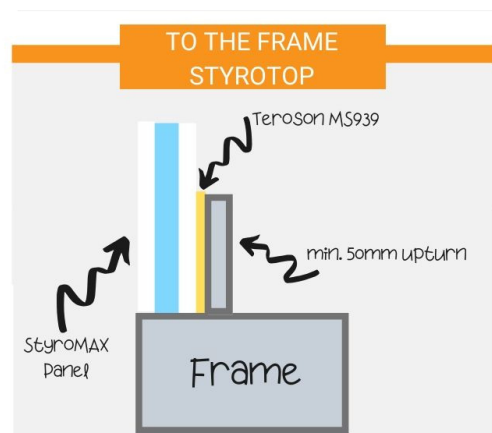
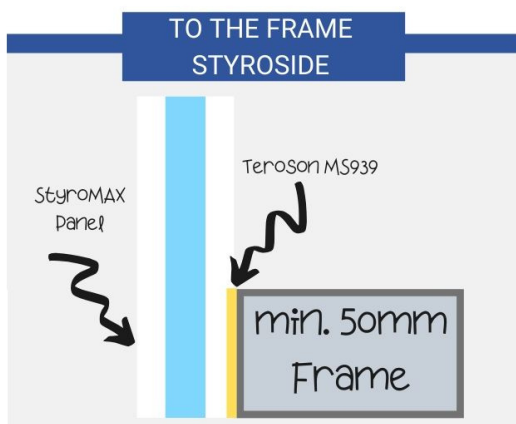


# Construction

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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.



*what material should I use?*

You can use steel! Ally or Gall! Check out 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

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## Seal and Trim

Generally speaking, our Toy Hauler builds always have custom hatch doors. We create these hatch doors using either StyroSEAL/LT or StyroSEAL/HD.

StyroSEAL/LT is very popular to create a flush finish with a tunnel boot; where StyroSEAL/HD is an excellent choice for a large hatch door, such as a rear opening.

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

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



*Will it be water proof?*

With correct installation (good mitres), your StyroSEAL will provide excellent sealing properties...but, it isn't a boat, so we wouldn't recommend submerging it in water!



# Construction

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## Rear Bow

Where you require a full width rear opening, a rear bow is normally installed.

This rear bow will allow for a full width door opening, using a combination of truck style locks, cams and seals.

We recommend checking out the following products:

- StyroCAP/LT and StyroCAP/HD
- StyroBOW
- StyroFLUSHLOCK/JP
- StyroFLUSHLOCK/IT
- StyroLOCK/LGE
- StyroHINGE/SIDE-(SML,MED & LGE)
- StyroHINGE/REAR-(SML,LGE,L-HD)
- StyroSEAL/UNI



# Construction

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## Assembly

Assembling the panel is very easy.

Essentially it is panel over frame 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.

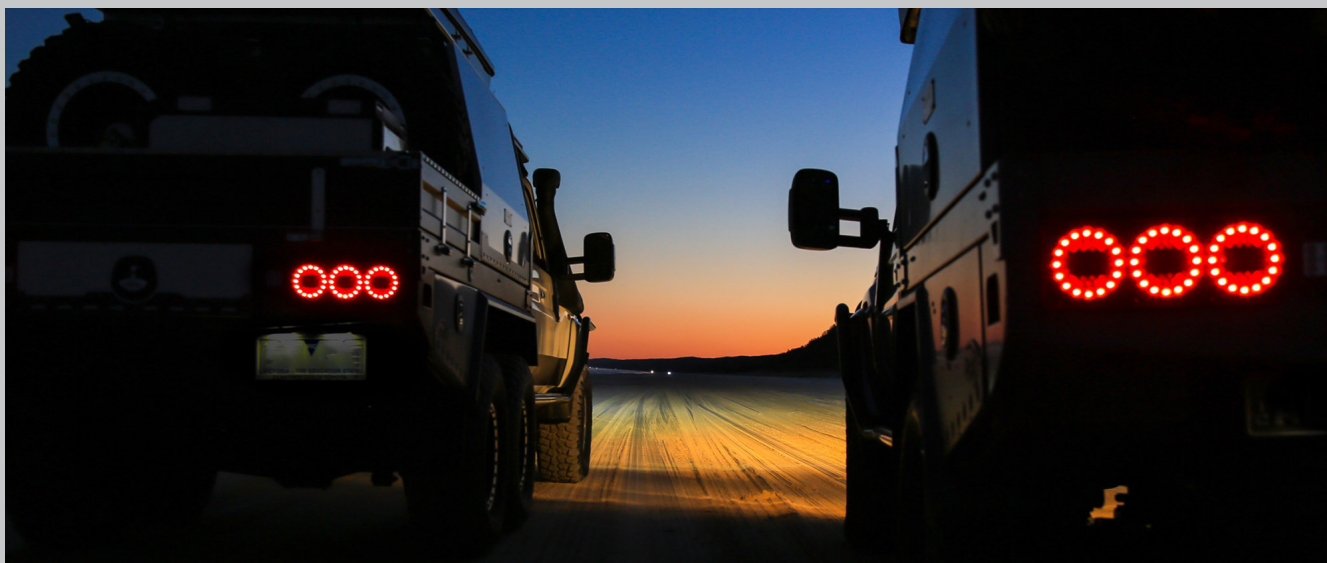
Sequence of assembling is normally 1 x side panel and internal walls/rear panel; then the other side and the front panel. The roof panel is always last.

*Can I see one being assembled?*

You sure can. Check out our [YouTube Channel](#) videos on builds that we have done in house. [STM/20-080](#) is an excellent example of a detailed time lapse.







*Did you know, you can  
find size and price  
guides on our website!*

# Construction Accessories

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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 Toy Hauler!

LED Technologies  
Excellence in  
Lighting Solutions





# 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.

## VALUATION AND INSURANCE

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

*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

## REAR DOOR OPTIONS

The rear door of your trailer can be used as a ramp, but it must be strong enough to handle your toy.

This can often mean you will need an internal frame, which can be put into the manufacturing process, creating an insulated rear door.

Alternatively, use the rear door as an awning and use ramps to get your toy into the hauler.

*Can I use the panel as a ramp?*

**You can but it must be strong enough to handle the weight of your toy. This often means that you will need a frame to support the weight of the car.**





# Toy-Hauler Examples

STM20-169

This quote price is based off the epic 18.5 foot toy hauler is manufactured with StyroRV/RG panels by StyroMAX.

The dimensions of this build:

- 5535mm overall length
- 2376mm overall width
- 2081mm inside height

This build came in at \$9,695.07 including GST.

This includes:

- 1 x StyroRV/RG panel set
- 1 x CAD conversion of supplied sketches.

Accessories for this build came in at \$4,263.29 including GST.

This includes:

- LED Side Markers x 10
- LED Rear End Markers x 2
- LED Interior Lamps x 3
- LED Front End Markers x 2
- Cable Twin Core wiring
- StyroSEAL/LT Door and hatch trim assembly
- StyroSEAL/HD Door seal assembly
- StyroHINGE/CONT continuous hinge x 4
- StyroT-HANDLE/HD T-Handle suitable for StyroSEAL/HD x 9
- StyroLOCK/MED Compression lock medium x 1
- StyroTRIM/RV- Anodizes/White infill Trim x 5 lengths (25m in total)
- Teroson MS939 White x 7
- Caravan Cover x 1

Assembly for this build came in at \$4,180 including GST

Our product range between AUD\$ 170.00 - \$ 180.00/manufactured sqm + GST – Ex Works #. (7.06kg/sqm – 29mm thick).



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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)*



## 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.