DOUBLE CARPORT
6.125 X 5.650m
10 STEP CONSTRUCTION GUIDE FOR FREESTANDING CARPORTS IN CYCLONIC AREAS C&D
Building a carport using LYSAGHT® steel products offers clear advantages for both the builder and homeowner alike. Construction is made easier with dimensionally accurate and quality components joined using custom made connectors.

For the homeowner, long term enjoyment is assured with the pre-painted, corrosion resistant materials.

As with all building materials there are some particular things you should keep in mind to ensure you get the full benefits of using LYSAGHT® steel building products.

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**Step 1 - Component Check**

Find a level area in your front or back yard and place all of the delivered components so they are identifiable. Extra fasteners are included in addition to actual quantities required to build the carport.

Check the following components off against the bill of materials from the Lysaght delivery receipt.

<table>
<thead>
<tr>
<th>Component</th>
<th>Quantity</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIRMLOK® beam (x 7)</td>
<td>(F200)</td>
<td></td>
</tr>
<tr>
<td>FIRMLOK® brackets 200mm (x 6)</td>
<td>(HCC200)</td>
<td></td>
</tr>
<tr>
<td>Slotted Gutter (x 1)</td>
<td>(GSS)</td>
<td></td>
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<tr>
<td>Gutter stop-ends (x 2)</td>
<td>(GSSE)</td>
<td></td>
</tr>
<tr>
<td>Cuphead Bolt M8 x 60mm</td>
<td>(FBC60)</td>
<td></td>
</tr>
<tr>
<td>Hex. head Bolt M10 x 150mm with washer and nylok nut</td>
<td>(FBH150)</td>
<td></td>
</tr>
<tr>
<td>Metal Tek® 14-10 x 150mm</td>
<td>(FT150M)</td>
<td></td>
</tr>
<tr>
<td>Metal Tek® 12-14 x 50 with EPDM washer</td>
<td>(FT50M)</td>
<td></td>
</tr>
<tr>
<td>Metal Tek® 12-14 x 20</td>
<td>(FT20M)</td>
<td></td>
</tr>
<tr>
<td>Rivet</td>
<td>(FP72)</td>
<td></td>
</tr>
<tr>
<td>Wafer head</td>
<td>(FWH22N)</td>
<td></td>
</tr>
<tr>
<td>Metal Tek 12-14 x 50 (FT50-WCA with EPDM and cyclonic washer)</td>
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<td></td>
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<tr>
<td>Steel post (x 4)</td>
<td>(PS90)</td>
<td></td>
</tr>
<tr>
<td>Barge capping 0.55mm (x 3)</td>
<td>(BC1)</td>
<td></td>
</tr>
<tr>
<td>SPANDEK® 0.42mm x (8 sheets)</td>
<td>(R53)</td>
<td></td>
</tr>
<tr>
<td>Gutter fascia strap (GSTRAP)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silicone (x 1)</td>
<td>(SILIC)</td>
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</table>

**Silicone (CLEAR)**
Carport Construction

Step 2 - what tools & materials do you need?

<table>
<thead>
<tr>
<th>Step</th>
<th>Tools/Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step ladder</td>
<td>Spirit or laser level</td>
</tr>
<tr>
<td>Hack saw</td>
<td>Rivet gun</td>
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<tr>
<td>Tape measure</td>
<td>Post hole digger or shovel</td>
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<tr>
<td>Pliers and tin snips</td>
<td>PVC downpipe &amp; strap</td>
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<tr>
<td>Angle grinder</td>
<td>Electrical lead</td>
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<tr>
<td></td>
<td>PVC downpipe elbow</td>
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<tr>
<td></td>
<td>Silicone gun &amp; clear silicone</td>
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<tr>
<td></td>
<td>Adjustable stands (props) and clamps</td>
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<tr>
<td></td>
<td>Adjustable spanner</td>
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<td></td>
<td>Bags of concrete</td>
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<td></td>
<td>Drill &amp; adaptors</td>
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<tr>
<td></td>
<td>Safety equipment (PPE)</td>
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<td></td>
<td>Saw horses and planks</td>
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</table>

Step 3 - before you start!

It is recommended that all Lysaght Carports are assembled and installed under the supervision and direction of a person with some level of building experience.

Safety is of utmost importance at all times. Always make sure that even basic construction tasks are done utilising safe building practices.

It is very important to read both the installation instructions and the supplied construction drawing. They should both be referred to in preparation for the installation and at every step during the construction process.

Every dimension, hole location and level should be double checked for good measure before cutting, fixing, screwing or bolting to any structural component.

Your carport is designed to resist wind uplift and the footing size is based on the wind classification. If in doubt, go to the Lysaght website (www.lysaght.com) and use the wind classification system to check the design wind speed or seek expert advice to ensure correct wind classification is selected.

If you do not have the necessary tools or know-how, please contact your local Lysaght branch for guidance.

Step 4 - marking out the carport position

Use in-ground stakes and tie up string lines to position the steel post locations referring to the construction drawing. Check diagonals are equal for a square shape.

FIRMLOK® beams and SPANDEK® sheeting lengths are reliant upon these measures being 100% accurate.

Check depth and width of the footing according to the construction drawing and remove soil.

Mark and cut posts to length and prepare the bottom of the posts as per the construction drawing with intersecting fixings.

Ensure the footings holes are aligned and the final intended locations of posts correct in accordance with the construction drawing. Slopes of the ground will need to be taken into consideration to ensure holes are dug to appropriate depth and posts are subsequently aligned in terms of height.

Once the digging is complete, simply place bricks/pavers squarely in the bottom of each hole so the posts can be positioned on solid ground.

After the return beams are installed, place the posts in the holes and temporarily clamp off level with the top of the beams and brace.
**Step 5 - laying out the beams**

Using the drawing, lay the beams close to the point where they will be assembled.

**Intermediate purlin**
You will have three FIRMLOK® F200 beams – these are your intermediate purlins.

**Head beams**
You will have received two FIRMLOK® F200 beams – these are your head beams.

**Return beams**
You will have received two FIRMLOK® F200 beams that are the longest in length – these are your return beams.

**Step 6 - assembling the beam and posts**

**Head and return beams - connection to posts**
Place the head beams on adjustable stands (props) and level the front and rear head beams at the correct height, also ensuring you have the correct fall. The gutter fall needs to be a minimum 35mm for every 1m in length. The FIRMLOK® beam ends sits inside the connectors as shown. Return beams are fixed to the connector with Tek® screws.

**Intermediate purlin - connection to return beams**
The universal beam connectors are fixed to the return beams using the appropriate fasteners at points 1/4 of the length of the return beams. The FIRMLOK® beams sit inside the connectors. Note that the connectors for the intermediate purlins should be fixed to the return beams before they are lifted up to the head beams.

**With the framework now in place, double check every dimension against the construction drawing provided and check the diagonals for good measure.**

See Step 9 for determining the final width of the structure to see if the sheeting width measured in Step 9 is bigger than the drawing width.

There is tolerance in each of the head beam connectors in case you need to make the structure slightly wider.

With the measurements checked you can now fix through the beam connectors to complete the frame assembly.
Step 7 - concrete the posts

Mix the concrete as per manufacturers instructions and pour into holes, ensuring posts are plumb in both directions.

The concrete should be finished slightly raised at the post, ensuring water runs away from the post.

Leave overnight or until concrete has fully cured and posts are firmly fixed in place.

The props can now be removed.

Step 8 - gutter installation

Proceed to attach both ends of the gutter with end stops using the specified fixings. Silicon seal to ensure a waterproof finish.

Measure the hole at the lower end of the gutter to suit the size of the downpipe nozzle. Install by using specified fixings and seal with silicone.

Make certain the hole lines up with the post where the down-pipe will go.

Fix the gutter to the head beam with appropriate bolts evenly spaced as specified on the construction drawing. Fix the top end of the gutter at least 5mm below the top of the beam. Make certain the fall of at least 12mm is to the intended position of the downpipe.

Please note that you will be required to provide a suitable nozzle and downpipe and fix this according to the manufacturer’s instructions.

Complete installation of the gutter by attaching the provided gutter straps with the specified fixings at the correct spacings according to the construction drawing.
Step 9 - roof sheeting

Lay the SPANDEK® roof sheeting from one side of the structure to the other on the ground and measure the overall width. Check this against the width on the drawing.

The diagram below indicates the correct laying direction and details the lapping necessary to ensure correct installation of roofing material.

You must lay the first sheet at the opposite side of the prevailing wind direction to ensure lapping is protected from conditions.

Fix each sheet in place as you move along the structure as stipulated in the construction drawing provided.

Start each new sheet in this fashion until the whole structure is covered.

Be careful not to over-tighten the screws as this will crush the ribs and spread the sheet wider.

For better weather-tightness at the top end of the sheets, the pans can be turned-up using a spanner. Be careful not to tear the sheets.

Step 10 - barge cappings

As a final step, install barge capping material on the remaining 3 sides of the carport.

The side capping should be attached first – utilising the specified fixings in the construction drawing at the appropriate spacings.

The capping should be attached to the sides of the roof sheeting profile so it sits flush as per diagram.

With the side capping now attached, the top capping should be fixed through the crests on the roof sheeting at the same spacing as specified for the side capping. Silicon seal at overlap of capping.
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