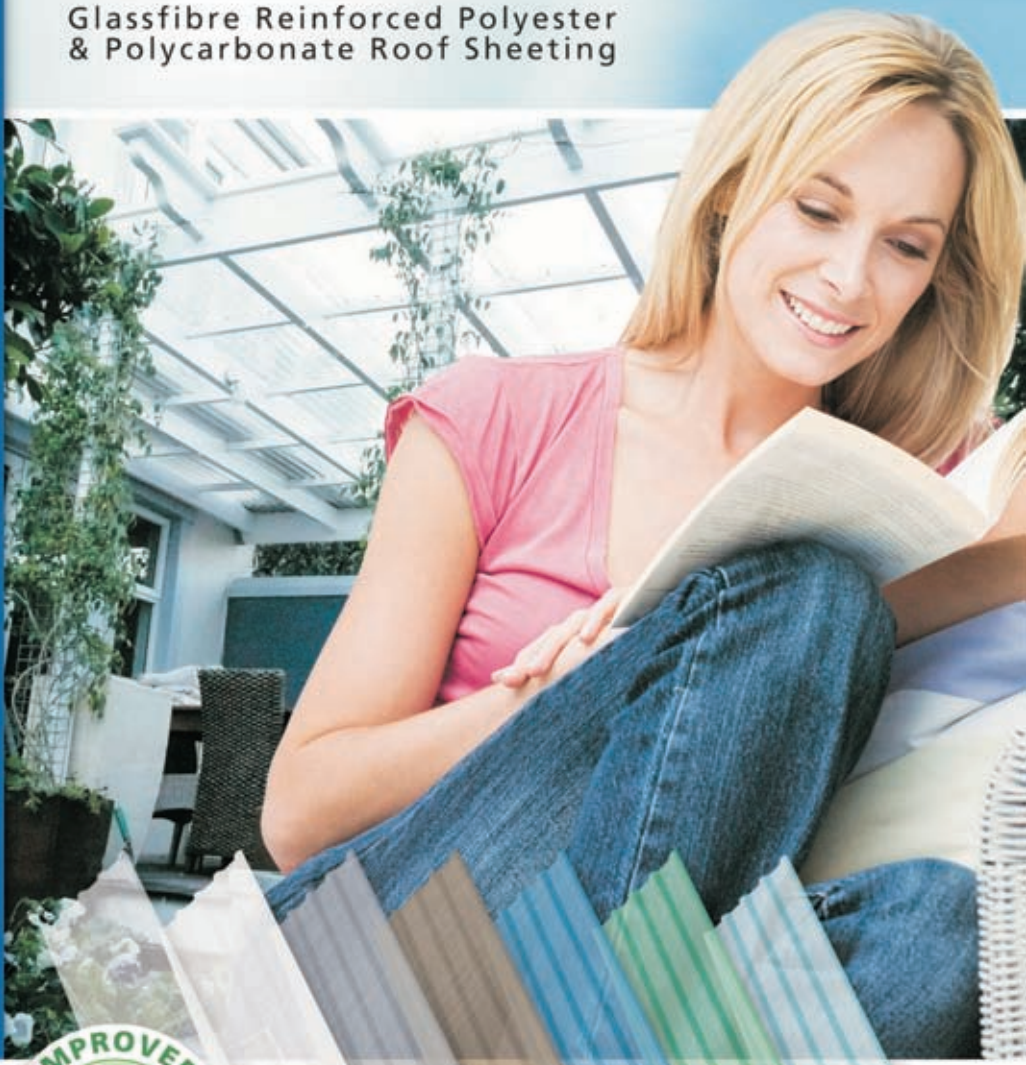
Information & Installation Guidelines

MODEK

Glassfibre Reinforced Polyester
& Polycarbonate Roof Sheeting



IMPROVED MATERIAL FORMULATION

Ampaglas Plastics Group

The Ampaglas Plastics Group of Companies is the largest manufacturer of plastic sheeting for industrial applications in Africa, with production exceeding 15 000 tons per annum. Ampaglas has been the innovative market leader in extruded rigid plastic sheeting for 35 years, with products that have been tested and proven time and again.

MODEK is a wholly owned subsidiary of the Ampaglas Plastics Group of Companies that specialises in the manufacture and supply of translucent and chemically resistant roof sheeting.

BEE & Support Local

As the only BEE level 4 accredited manufacturer of GRP and Polycarbonate roof sheeting in the country, Modek believes in employing locally, supporting our economy and in doing so, striving to benefit all South Africans.

AMPAGLAS
Plastics Group
Leading the way in extruded plastics

MODEK

Glassfibre Reinforced Polyester
& Polycarbonate Roof Sheeting

MODEK is Africa's leading manufacturer of translucent roof sheeting also known as roof-light material. The two main product ranges offered are **GRP** (glassfibre reinforced polyester) and **Polycarbonate** used for both domestic & commercial roofing and cladding.

MODEK products meet the highest specification requirements and have been specifically formulated to endure the harsh African climate.

MODEK is committed to delivering quality products through ongoing technological development supported by exceptional quality and customer service.

GENERAL PRODUCT INFORMATION

GRP

MODEK GRP sheeting is manufactured using a UV stabilised unsaturated polyester resin and glassfibre reinforcement material. The weathering surface of the industrial range is covered with a highly UV stabilised gelcoat layer. The domestic ranges have a resin rich surface protection. These processes exceed general GRP manufacturing standards.

All our GRP products are specificaly designed to withstand the harsh African climate conditions and gelcoated products are manufactured to SABS 1150/1984.

GRP sheets are manufactured by an auto-mated continuous lamination process. This ensures consistently high product quality in successive consignments.

Polycarbonate

MODEK Polycarbonate sheeting is a high quality, virtually indestructable translucent roofing material. Polycarbonate is one of the most advanced polymers available.

All **MODEK** Polycarbonate sheets have a co-extruded layer of highly UV stabilised polymer on the surface to create a weather resistant surface.

The sheets have exceptional impact strength, have outstanding flame retardant characteristics and resistance to weathering. These qualities make Polycarbonate an attractive and cost effective choice.

UNDERSTANDING TECHNICAL TERMS

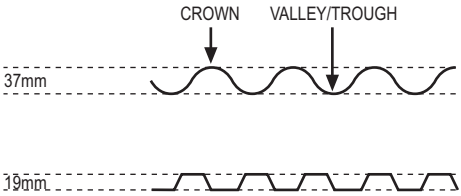
COVER WIDTH

Cover width is defined as the measurement across the sheet using the middle of each of the outer crowns and taking the distance between these two points. This will vary in some instances depending on product choice.
(see Product Specification table for details).

It is important to get correct cover width when calculating the amount of sheets required for any project.

CROWN & VALLEY

The crown by description is the highest point of the roofsheet profile. The valley or trough is the bottom or lowest area between crowns on the roofsheet. Distances between crowns and heights between crowns and valleys will vary depending on the product choice.
(see Product Specification table for details).



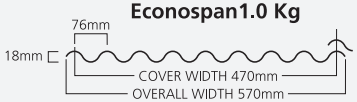
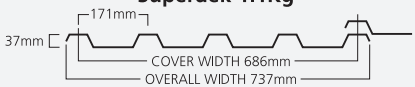
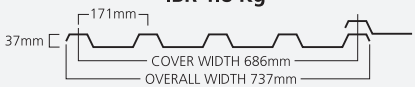
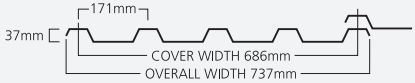
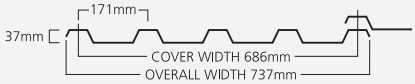
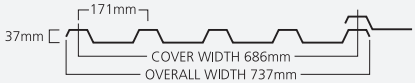
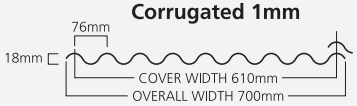
PURLIN SPACING

Purlin spacing is the distance measured between purlins from centre to centre. This will vary in some instances depending on product choice.

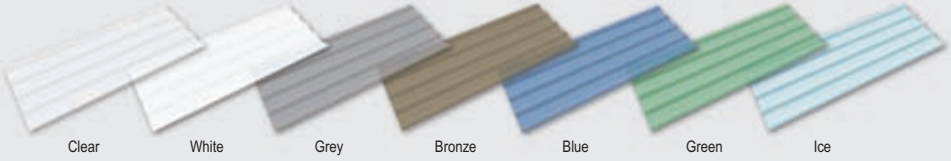
SHADING COEFFICIENT

This is referred to as an indicator to how the roofsheet is thermally insulating (shading) the interior when there is direct sunlight on the roofsheet.
Shading coefficient is usually a value ranging from 1.00 to 0.00, where 1.00 offers the least amount of shade and 0.00 the most. This unit of measurement is particularly important for areas that will receive a high degree of sunlight that require light but not necessarily heat. Light Transmission percentages will help you determine the amount of light desired vs amount
of shade achieved from each particular colour in our roofsheet range.

PRODUCT SPECIFICATIONS

	Colours available	Profile Name Sheet / Cover Width	Guarantee
Fibreglass	Clear, White, Green, Blue, Grey, Bronze & Ice	**Econospan1.0 Kg** 	5 YEAR
	Clear, White, Green, Blue, Grey, Bronze & Ice	**Superdek 1.1Kg** 	5 YEAR
	Clear, White, Green, Blue, Grey, Bronze & Ice	**IBR 1.8 Kg** 	15 YEAR
Polycarbonate - UV Stabilised	Clear, Opal50, Opal10, Bronze, Green, Blue & Heatstop	**IBR 0.8mm** 	10 YEAR
	Clear, Opal50, Opal10, Bronze, Green, Blue & Heatstop	**IBR 1mm** 	10 YEAR
	Clear, Opal50 & Bronze	**IBR 1.25mm** 	10 YEAR
	Clear, White & Bronze	**Corrugated 1mm** 	10 YEAR
	Clear, Opal50, Bronze, Green, Blue & Heatstop	**Grecca** 	10 YEAR

Please refer to our website www.modek.co.za for guarantee details.



MAKING THE RIGHT SELECTION

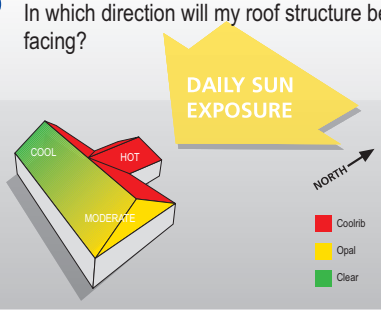
Selecting the correct sheet is important. Take time to examine the weather conditions vs. the desired end result before making a final decision on which product, profile and colour you are about to purchase and install.
If you are unsure seek the advice of a professional, or visit **www.modek.co.za** for assistance.

Q: Does it matter which profile I use?

A: No, unless: you need to match an existing profile
there is a specific water run-off requirement
particular physical requirements are needed (e.g. rigidity)

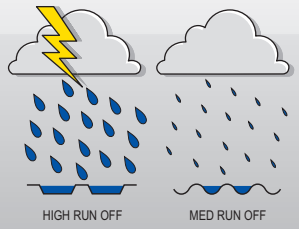
Below are a few factors to consider prior to your purchase:

In which direction will my roof structure be facing?



Clear sheets are perfectly FINE for plantlife.

How much water will my roof need to cope with?



Blue & Green sheets NOT suitable for plantlife.

GRP & Polycarbonate roofsheets come in a wide range of profiles & colours designed to suit specific lighting requirements.
For more info visit www.modek.co.za.

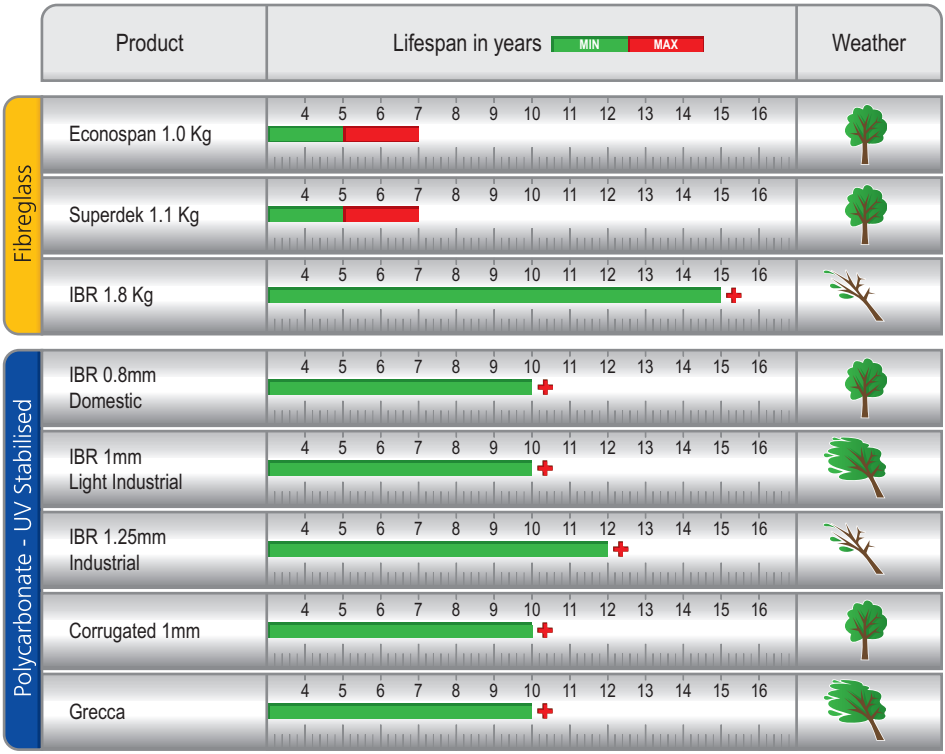
LIGHT TRANSMISSION

Light transmission is the amount of visible light that passes through the translucent roof sheet.

Glass Fibre sheet	Clear	Ice	Green	Opal 50	Grey	Blue	Bronze
Transmission	85%	75%	50%	50%	45%	40%	40%
Shade Coefficient	0.97	0.88	0.76	0.67	0.66	0.69	0.58

Polycarb sheet	Clear	Blue	Opal 50	Grey	Green	Bronze	Opal 10
Transmission	90%	65%	50%	45%	40%	40%	25%
Shade Coefficient	1.00	0.86	0.68	0.46	0.68	0.69	0.37

OUR PRODUCT LIFECYCLE



MEASURING UP & QUANTITIES

Once you have selected your roof sheet profile & colour refer to the Product Specification table for the correct cover width. This is important as it will help determine how many roof sheets you will need for your project.

Width of structure ÷ cover width of roof sheet = number of sheets required

Example: 3000mm ÷ 686mm = 4.4 sheets x required length

(In this instance you will round off to 5 sheets, the last sheet will need to be trimmed down to fit.)

Profile	Number of sheets required per structure width			
	3.0m	4.0m	5.0m	6.0m
Econospan	7	9	11	13
Superdek	5	6	7	9
IBR	5	6	7	9
Grecca	6	8	10	12
Corrugated 10.5	4	6	7	8
Corrugated 8.5	5	7	9	10

HANDLING & TRANSPORTATION OF ROOFSHEETS

- Please tie your sheets down well when transporting on a rack or trailer. Ensure that the front of the sheets are well secured, as wind can lift the sheets and cause damage.
- It is advisable to use lengths of timber (your purlins) on top of the sheets when tying down for transportation. This can also prevent sheets lifting and bending in the wind. It is common practice to roll sheets into tight bundles. (Polycarbonate only)
- When loading and unloading be extra careful in windy conditions. A gust of wind can easily lift a sheet out of your hands or blow a sheet way, if left unsecured.
- Edges of sheets are sharp and it is advisable to wear gloves to avoid possible cuts and grazes whilst handling sheets.
- Avoid standing, or walking on sheets; they are not designed to carry the weight of a person and could be damaged.
- If you have long lengths (longer than 3,600m), support the sheets in the middle when carrying to avoid kinking.
- If you need to store your sheets, pack them on pallets (off the ground), under cover, and avoid stacking higher than 700mm.
- Polycarbonate sheets are not scratch resistant and extra care should be taken when handling.

For more information on regarding available profiles
please visit www.modek.co.za.

WORKING WITH YOUR STRUCTURE

Below are some points to assist you with the design your structure.

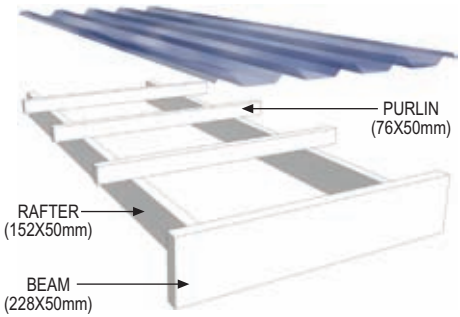
The digrams provided in this booklet and on our website are for your reference.
We recommend professionally drawn plans to suit your specific property or requirements prior to final construction.
Submission will usually consist of a site plan which indicates boundary lines, existing buildings, elevations and sections of the structure in relation to adjacent levels.
Your Local Authority can answer any specific queries you may have.

Single carports normally measure 3m X 6m, whereas double carports should be a minimum of 6m X 6m - length might vary slightly depending on the length your vehicle.

The recommended minimum height for a carport is 2,4 metres from the finished floor to the underside of the crossbeams. No structure should be less than 2,1 metres in height unless used as a decorative feature.

Timber is the most commonly used roof structure material. Local selection is commonly a choice betwen SA Pine or Meranti. Ask your supplier which type of timber will best suit your local weather conditions as well as the type of structure you intend building.

To avoid sagging or warping please confirm recommended maximum lengths for the timber you intend using. In some instances laminated beams are required to span longer distances.



Timber	Single Carport (3x6m)	Double Carport (6x6m)
BEAMS	228 x 50mm	228 x 50mm
RAFTERS	152 x 50mm	152 x 50mm
PURLINS	152 x 50mm	76 x 50mm

Sizes provided above are for un-planed timber.
Planed timber will lose approx 5mm per measurement

With your supporting structure erected please remember to space the purlins not wider than **900 mm** apart. Ensure there is a minimum **5° fall** for water run off. If any preparation is to be done to the supporting structure, eg: painting, varnishing,etc do it before you fix your sheets.

Please note: Polycarbonate is not compatible with Creosote.

Square and rectangular structures must be accurately set out ensuring 90 degree angles to avoid unnecessary complications when fitting your roof sheets.

INSTALLING YOUR ROOFSHEETS : Preparation

Make sure you have all the necessary tools and equipment.

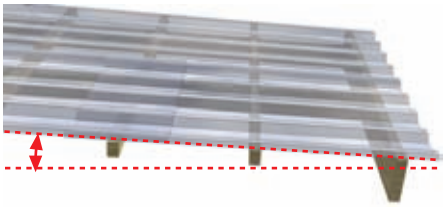
- ✓ Ladder
- ✓ Hammer
- ✓ Hand Drill and Drill Bits
- ✓ Fixing Nails
- ✓ Tape Measure
- ✓ Straight Edge (Timber)
- ✓ Pencil
- ✓ Duck Boards (flat sheet of timber)
- ✓ Sealant (Non PVC for Polycarbonate)
- ✓ Sondor Polybutton to match profile
- ✓ Safety goggles for cutting

Cutting GRP Fibreglass:
Use a fine tooth saw (hacksaw or angle grinder)

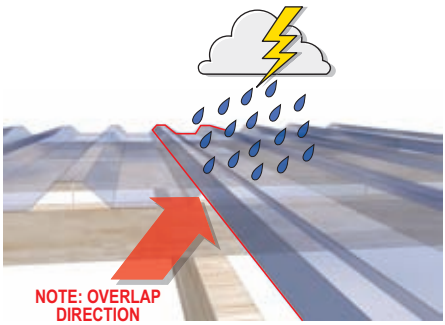
Cutting Polycarbonate:
Use a circular saw. Blades should be tungsten carbide tipped and firmly supported during cutting.

Safety tips while cutting:
- Always wear safety goggles.
- The use of gloves is recommended.
- Ensure the sheet you are cutting is well secured & prevent movement.

IMPORTANT: Your roof structure should have a minimum of 5 - 10˚ fall to allow for water run off.



If there is a normal direction of weather in your area (eg: rain from the North-West in the Cape), ensure that the side laps of your sheets are installed away from the prevailing conditions.
This means you always start fixing towards the prevailing wind.

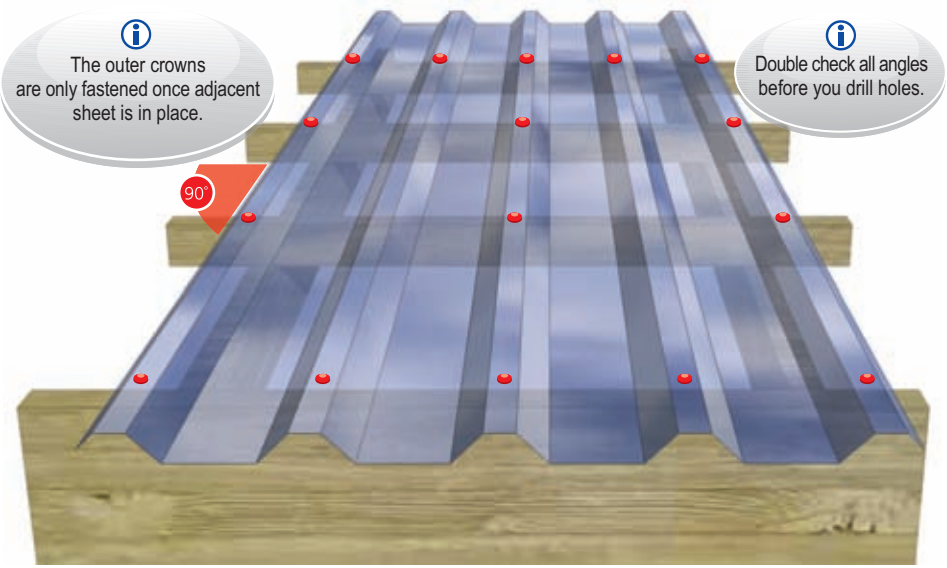


For tips on how to submit plans, calculate levels and get started please visit the D.I.Y. section on our website at www.modek.co.za.

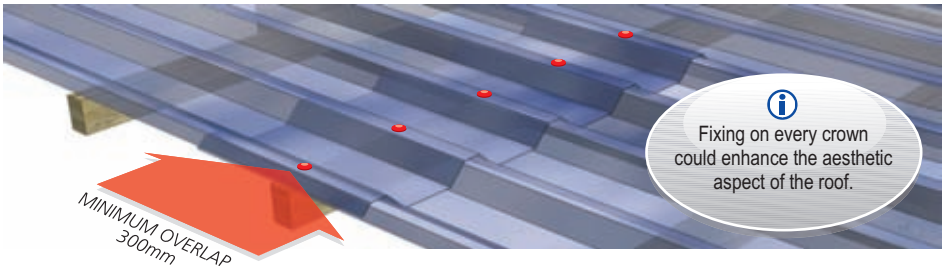
INSTALLING YOUR ROOFSHEETS : Getting Started

1. Taking your time on the first sheet, ensure that it is placed square to the purlins and to the structure in general.

2. Mark the crowns to be fastened. You will fasten every crown at both ends of the sheet, and alternative crowns on intermediate purlins.

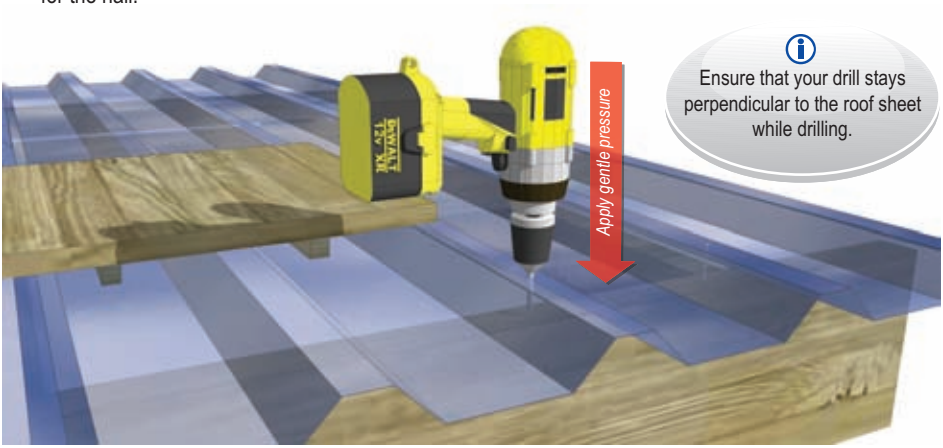


If there are end laps (overlapping sheets generally required when covering large areas), these will be fixed at every crown. *(Note: Do not fasten through the valley of the profile).*

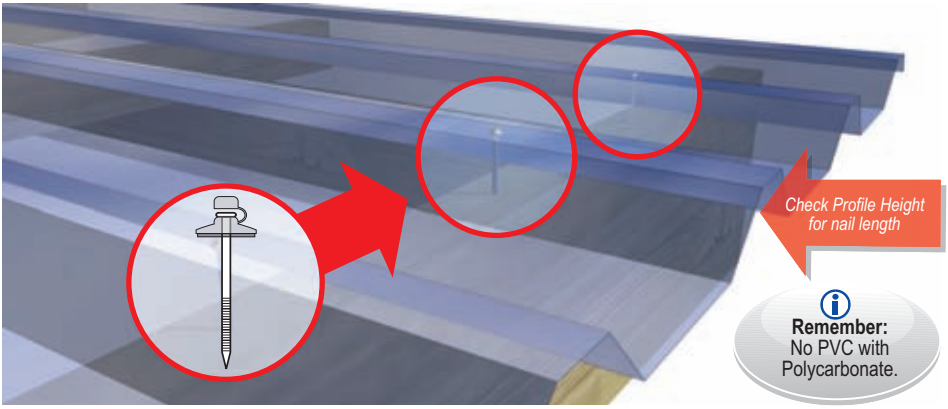


INSTALLING YOUR ROOFSHEETS : Getting Started

3 Drill the sheet at these points, allowing a 1mm - 2mm clearance for the fixing nail for GRP (Fibreglass) and 2mm - 6mm oversized for Polycarbonate to accommodate expansion and contraction. If a hard wood purlin (e.g. Meranti) is used you may find it necessary to drill a pilot hole in the wood for the nail.



4 Use a fixing nail which has a polyethelene (or similar) soft washer backed with a steel cup washer. The length of a nail will be determined by the sheet profile used. All **MODEK** domestic sheets use a 50 mm, 63 mm or 75 mm roof nail.



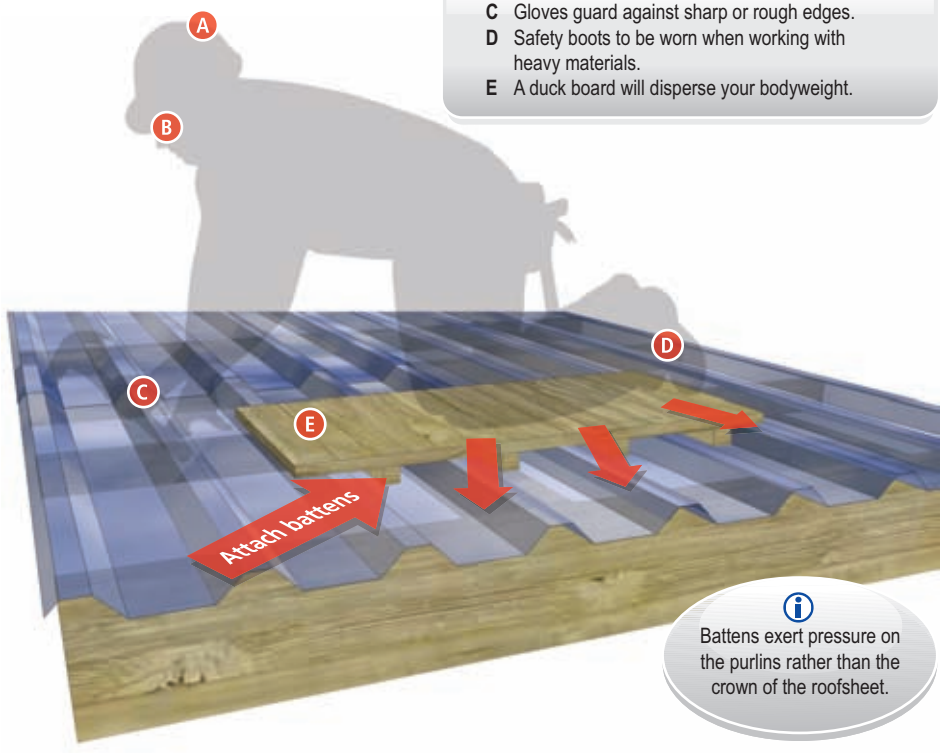
For tips on how to construct a lean to or pergola please visit the D.I.Y. section on our website at www.modek.co.za.

INSTALLING YOUR ROOFSHEETS : Getting Started

5. Use a duck board (piece of flat timber - to straddle purlin to purlin) on the roof to distribute your weight evenly when working.

6. Nail the starter sheet down, leaving the side laps (and end laps if using more than one sheet in length) to be nailed when the next sheet is in place. (Note: end overlaps should not be less than 300 mm)

7. When fastening the sheet, take care not to accidentally hit the sheet, and do not over-tighten. Hammer the nail down until the soft washer just takes up on the crown sheet.The crown will now be held slightly in tension.

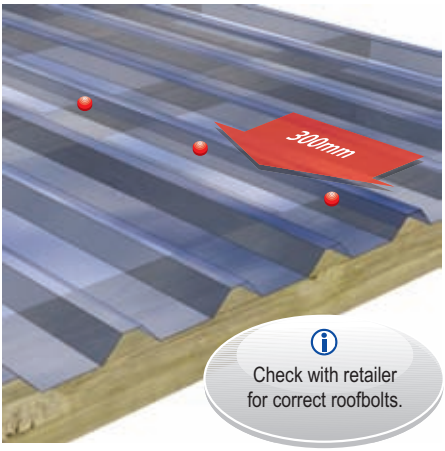


A Wear a hardhat when working at height.
B Safety goggles must be worn while cutting.
C Gloves guard against sharp or rough edges.
D Safety boots to be worn when working with heavy materials.
E A duck board will disperse your bodyweight.

Battens exert pressure on the purlins rather than the crown of the roofsheet.

INSTALLING YOUR ROOFSHEETS : Getting Started

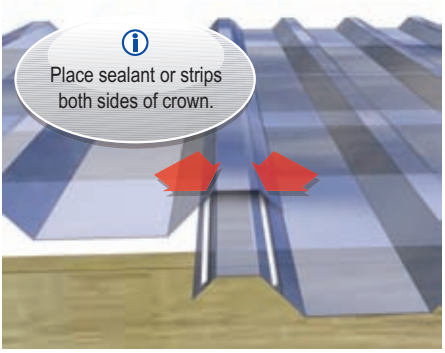
8 Side stitch at 300 mm intervals in windy areas using roof bolts.

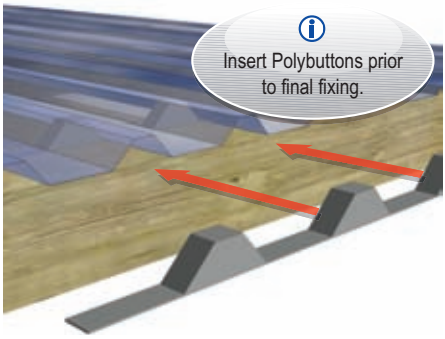


9 The overhang at the last purlin should not exceed 200mm.

10 If waterproofing is a necessity, we advise to seal end laps on roof sheets which have a pitch of less than 20 degrees. Use a PVC or Mastic sealant for Fibreglass. Polybuttons are available for IBR, corrugates and Grecca profiles.

11 PVC washers and sealants must NOT be used with Polycarbonate roof sheets, only Sealing strips and Silicone sealer are suitable.





For tips on how to plan and construct a carport please visit the D.I.Y. section on our website at www.modek.co.za.

MAINTENANCE

CLEANING FIBREGLASS SHEETING

Sheets may be washed down once or twice annually with a non-abrasive detergent i.e. a solution of water and dishwashing liquid to avoid a build up of grime. Occasional hosing down will help to keep your roof looking clean.

CLEANING POLYCARBONATE SHEETING

Sheets may be washed using a mild soap solution with a soft cloth. Do not use abrasive cleaners such as thinners and acetone.

MODEK

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& Polycarbonate Roof Sheeting

A subsidiary of

AMPAGLAS
Plastics Group
Leading the way in extruded plastics

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