



BUILDING FOR THE FUTURE

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**Pre-Fabricated Bases and Walls
For domestic buildings**

Durabase Assembly Instructions

Steel Base - Walls & Skirts

ASSEMBLY INSTRUCTIONS

GUIDELINES, TOOLS AND TIPS. READ THIS SECTION CAREFULLY

Contained within this instruction manual are step by step instructions to guide you through the installation of your conservatory base.

IMPORTANT

Read ALL the instructions completely BEFORE commencing any work, more than one read may be necessary. Understanding these instructions and familiarity with procedures will make the build process much easier and an enjoyable project to undertake.

RECOMMENDED TOOLS & EQUIPMENT.

Tools may vary depending on external finish.

Wheel barrow
Builder's shovel
Extension lead
Tape measure (5m min.)
1.2m Spirit level
Electric drill (hammer action)
Steel drill bits: 5.5mm & 10mm.
Masonry drill bits: 8mm, 10mm & 16mm.
Cordless screwdriver 12v. Min.
Posi screwdriver bits
8mm tec driver
Spanners 10mm, 13mm & 30mm or adjustable wrench.
Socket 17mm.
Silicone Gun
Stanley knife
Cross cut saw
Skill saw
Bucket
Pointing trowel
Pointing tool
Soft brush

HEALTH, SAFETY & ENVIRONMENTAL ISSUES

As with any type of construction work, there are inherent dangers when assembling a conservatory base. The following supplement is designed to supply the installer with general health, safety and environmental information that may be required during the assembly of a conservatory base. The appendix is

a guide to 'best practise' but cannot be considered as comprehensive.
You are advised to work safely at all times.

1. General Site Safety

All sites are different and have different hazards. Have a general regard to what can cause harm. The construction site itself should be made a restricted area. Particularly at risk are children and animals. You also need to consider the security issue.

Organise your space. Don't open boxes haphazardly and leave components lying around that can get damaged, lost or pose a trip hazard. Be aware of the weather forecast. Wet conditions cause specific hazards. Put controls in place to manage any possible vehicular movement on site. Protect the environment by disposing of your rubbish appropriately.

2. Personal Protective Clothing

The following PPE should be worn throughout the construction:

Safety footwear

The following PPE should be worn under certain conditions: (Follow machinery guidelines where applicable)

Safety glasses when drilling
Hearing protection when drilling
Dust mask if dust is likely to be generated
Gloves as applicable
Advisable to keep arms and legs covered.

Be aware of sharp edges on steelwork.

It is advisable to have a first aid kit handy – just in case.

3. TOOLS

The tools you use are your responsibility.

We advise:

-Check the condition of your tools prior to use, for obvious damage. Get them checked out if in doubt. Arrange for your tools to have a portable appliance test.

- Any electric hand tools are 110 volt or used in conjunction with a residual circuit breaker.
- Don't use tools other than for their intended purpose.
- Follow manufacturer's guidelines as applicable.

FORMAL PROCEEDURE FOR THE USE OF KNIVES AND CHISELS

- Ensure when using a knife / chisel you always keep your hands behind the blade. Ensure that you cut away from your body – NEVER towards yourself.
- Ensure that the position of others is away from the cutting direction.
- Keep the tooling in a sharp condition so you don't have to exert excessive force to cut.
- Always pick up the tool by the handle.
- Always ensure the tool is stored safely where a sharp edge cannot cause injury.
- Only use the tooling for its intended purpose where possible.

4 MANUAL HANDLING

All modular wall sections are a two-man lift. Lift correctly. **STOP & THINK.** Plan the lift.

Where is the load going to be placed?

Use appropriate handling aids if possible.

Do you need help with the load?

Remove and obstructions such as discarded wrapping materials. For a long lift, such as floor to shoulder, consider resting the load mid-way on a table or bench in order to change grip.

PLACE THE FEET.

Feet apart, giving balanced and stable base for lifting. Leading leg as far forward as is comfortable.

ADOPT A GOOD POSTURE

Bend the knees so that the hands when grasping the load is as nearly level with the waist as possible. Don't kneel or over flex the knees. Keep the back straight and lean forward slightly

over the load if necessary to get a good grip. Keep the shoulders level and facing in the same direction as the hips.

GET A FIRM GRIP

Try to keep the arms within the boundary formed by the legs. The optimum position and nature of the grip depends on the circumstances and individual's preference, but it must be secure. A hook grip is less fatiguing than keeping the fingers straight. If it is necessary to vary the grip as the lift proceeds, do this as smoothly as possible.

DON'T JERK

MOVE THE FEET

KEEP CLOSE TO THE LOAD

PUT DOWN, THEN ADJUST

If precise positioning of the load is necessary, put it down first, and then slide it into the desired position.

TEAM LIFTING

It is important that team members are physically evenly matched. One person should take responsibility and co-ordinate their actions.

ADEQUATE VISION

Clear vision may mean multiple trips with smaller loads, but it is safer.

5 CONTROL OF SUBSTANCES HAZARDOUS TO HEALTH.

Pointing mortar & concrete

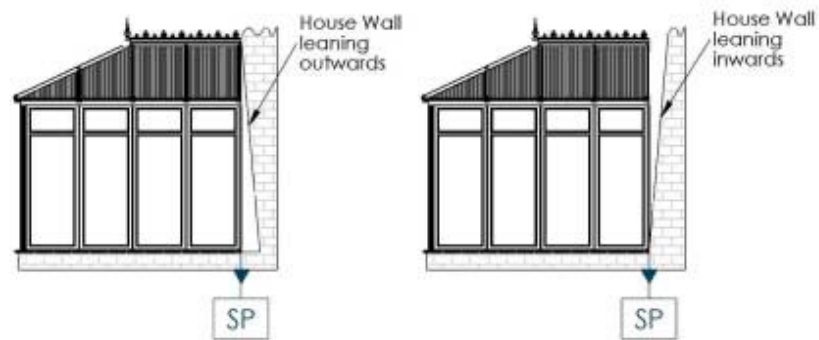
Portland and other cements when mixed with water can cause skin irritation. If eye contamination occurs, wash out with copious amounts of water and if irritation persists seek medical advice.

Bond and Seal Brick Adhesive and Sealer.

You are advised to follow the guidance on the packaging.

Base Setting Out

This section explains the necessity to ensure that your base is assembled in the correct position from the parent wall. Any discrepancies should be noted and measures taken to adjust as necessary.



The wall(s) you are going to fix the conservatory against must be of sound construction and flat. The wall needs to be free from coverings such as cement render, pebble dash or cladding. If any of these are present, they **MUST** be removed until you are back to bare brick/stone.

Setting Out

As the conservatory will need to be built at 90° to the ground it is important to check the angle of the wall you will build your conservatory against. If the wall leans outwards, a plumb line should be fixed to the highest point where the roof will touch the wall. Where the plumb line meets the ground is where the base should be set out from (SP). The gap will need to be filled with packers (not supplied) so that the wall bar can be attached vertically. The base and dwarf wall size will need to be started from this point. If the wall leans backwards the base

should be started against the wall (SP). The gap in this situation is at the top therefore packers (not supplied) will be needed to ensure the wall bar is attached vertically.

Please note: Any additional trims to cover large gaps are not included with the base or conservatory and should be purchased separately.

NB: Please note in diagrams SP refers to the Setting out Point.

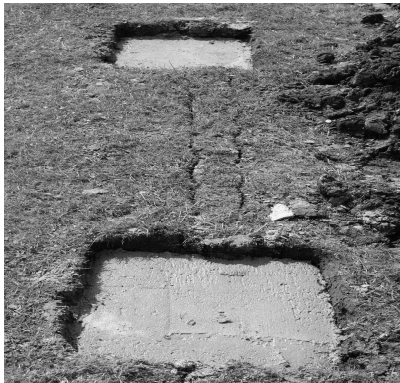
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PREPARING THE SITE

The modular base could be installed on an existing patio or concrete area providing the foundations are adequate. If the foundations are not adequate or the base is to be installed on bare ground, then a concrete pad is required under each adjustable leg, except on the rear sill section, which are non-load bearing.

Refer to concrete pad layout plan.

For each pad dig out a hole, 450mm square x 450mm deep (*subject to local conditions*). If the base of the hole is not firm it will be necessary to dig deeper until you reach firm ground. If this is the case fill the bottom of the hole to within 450mm of the top with well compacted hardcore. Mix the concrete and fill holes to level specified on the enclosed plan.



Typical Concrete Pad finish

On the pad plan there will be a height from top of pads to top of steel base. This height will be calculated from the depth of skirt and the height from ground to DPC on the order form.

Note: The top of steel base line is also top of skirt line.

If all measurements are correct the bottom of the skirt panels should not touch the top of the concrete pad.

The skirt should be deep enough to go into the ground for a clean and tidy finish and the top of the concrete pad should be low enough to not hit the bottom of the skirt.

NOTE: If the top of the concrete pad is above ground level, there may be something wrong.

ASSEMBLY

Refer to steelwork layout plan.



Fig.1

- 1) Screw lock nuts onto all adjustable legs. (See Fig. 1)
- 2) Screw adjustable legs into the nuts welded onto the underside of the back sill section. Position the back sill section against the house wall in the required position (the

ends will be 25mm short of the overall base size). Rest the legs on something firm to prevent them sinking. Adjust the jacking legs to the required level; remember to allow 18mm for the thickness of the floorboards plus the floor finish that you intend to use. (See Fig.2)

Pilot drill through the fixing holes using a 10mm masonry drill bit. (See Fig.2)

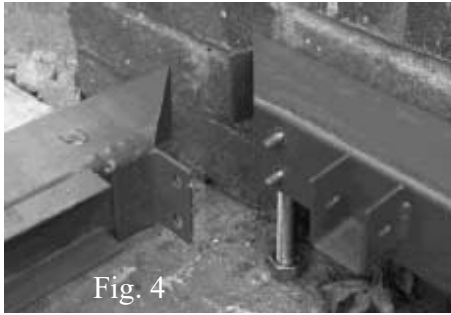


Fig.2

Remove the sill section and re drill pilot holes to a depth of 70mm using a 16mm masonry drill bit. Insert the rawl bolts into the holes and remove the bolts. Replace the back-sill section, insert bolts and tighten using a 17mm socket.

Fig. 3

- 3) Assemble fixing down plate and legs (See Fig. 3), and screw into the nuts welded onto the underside of the two side sections. Fit to the rear section by inserting the pre-welded internal flange inside the rear sill section. Then push back towards the wall until the forward projecting bolts locate in the corner fixing bracket. Fix with nut supplied but do not fully tighten at this stage. (See Fig.4)



4) Screw adjustable legs into the nuts welded onto the underside of the front



sill section. Note; Use only one fixing down leg assembly on each concrete pad. For second legs landing on a pad use standard jacking legs as Fig.1

Attach to the side sill sections in the same manner. (See Fig.5)

5) Position the load bearing plates (75mm square washers) under all jacking legs. Working your way around, adjust the legs to the required height and level using a spirit level. Check that the base is square and tighten all joints. Re-check levels and tighten lock nuts on the jacking legs (see Fig. 6). Fix leg assembly down to concrete pad using M10 x 50mm sleeve anchors supplied. Use only one fixing per fixing down plate. Pre-drill concrete using 10mm masonry bit.



6) Slot the floor joists into the 'u' support brackets, and secure using M6 x 60 bolts and nuts supplied. Tighten with 10mm spanner. If the

base is a shaped design the floor joists will differ in length depending on their position. Joist supports should be fitted centre of joist length and the legs adjusted and locked at this stage. Legs should be placed on something firm to prevent sinking. Eg. Paving slabs, blocks, existing concrete.



Fitting Brick Skirt

**For plain and render skirts, please see additional information.*

Refer to skirt plan.

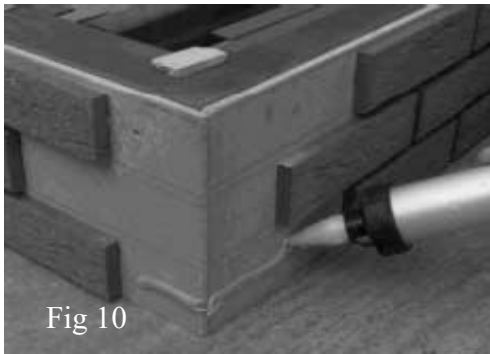
1) Lay out the skirt sections in the order they are to be fitted. The panels are numbered to correspond with the layout plan. Fit panels so the top edge line up with the top edge of the steel base sills. Make sure that the overlap on the corners is correct to accommodate the corner bridging tiles still to be fitted. (See Fig. 8) (This applies to rectangular and square models only. Shaped bases will have a butt joint)



2) When you are happy that everything is correctly positioned, fix in place with self drilling screws supplied. Fix where brick slips are still to be fitted and through perpendicular mortar joints if extra fixing is required. (See Fig. 9)



3) Use adhesive supplied to fix straight and corner brick tiles in place to complete joins. (See Fig. 10)



You will need some 10mm spacers to position the brick slips. Press brick slips firmly into place. (See Fig 11)



4) To point the joints, mix the mortar supplied to a smooth paste (Be careful not to add too much water). Fill completely the joints around the bricks. (See Fig.13)



Remove the surplus mortar with a flat trowel before initial curing takes place. Allow the mortar to dry until fairly firm. It should have a dull finish, be moist but not wet and somewhat gritty. Use a curved pointing tool to finish off the joint and remove any remaining mortar with a soft brush. (See Fig 14 & 15)



Caution: Do not tool the joint too soon. Tooling early and overworking the joint will create a creamy surface on the mortar. Allow the mortar to dry until fairly firm. (We would recommend that the mortar is firm enough that when pushed in with a finger only a small indentation is left behind). It should have a dull finish, be moist but not wet and somewhat gritty

***Plain Skirts** - fix in the same way as brick skirts using the 50mm screws provided. You will need to cut to length before fitting. It is recommended that air vents be fitted in the side skirt panels.

***Ready to Render skirts** - fix in the same way as a brick and plain skirt using the 50mm screws provided. You will need to cut to length before fitting. It is recommended that air vents be fitted in the side skirt panels.

Note: Be aware of the weather forecast during the building process, construction adhesive supplied can be used in temperatures between 5°C and 35°C.

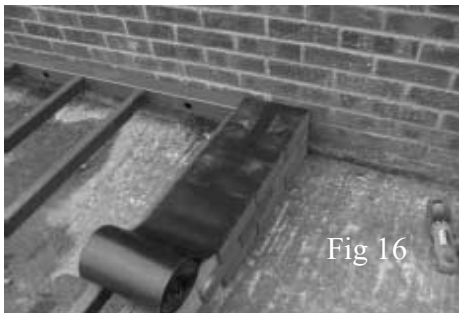
Render Walls.

When the walls are in position, there should be a gap of approximately 3mm to 5mm between the edges of the external render board for correct jointing.

Rendering. DO NOT apply a sand and cement, Monocouche, dash or thick coat render system to Knauf Aquapanel Exterior. Please see additional instructions on Aquapanel Exterior-**Taping and Jointing 3,4. Finishing 5,6,7. Exterior Render 8.**

Refer to Wall Layout Plan

1) Prior to fitting the damp course membrane lay a bead of bond and seal along the joint between the steel frame and the back edge of the skirt panel. Layout the damp course membrane so that the outer edge lines up with the outer edge of the skirt panels. Cut to length and press into the bead of adhesive. (See Fig. 16) Lay another bead of bond and seal along the top edge of the damp course membrane approximately 15mm back from the outer edge.



2) Lay out the wall sections in the order they are to be fitted. The panels are numbered to correspond with the plan.

3) Starting at the house wall place a bead of mastic approx. 20mm from the outer edge of the end that butts against the house. Offer panel up to the house wall but do not fix in position. The inside edge of the steel wall carcass should line up with the centre of the first parallel floor joist.

4) Following the layout plan place the next wall panel so that it continues on from the first, seal joints with a bead of mastic approx. 20mm from the outer edge. Insert the 4 no. M8 x 20 bolts supplied to fix the panels together. Do not fully tighten at this stage. (See Fig. 17). Continue until all wall panels are in place.



5) Once all panels are correctly sited, you can secure to the house wall. Check that the panel is upright before drilling an 8mm diameter hole x 80mm deep through the holes provided into the house wall. If you cannot utilise the holes provided drill a 10mm dia hole through the metalwork in the required position. Secure with the frame fixings supplied. (See Fig. 18)



6) Once fixed to the house wall, check that all panels are in line and the external render board is flush. The panels can now be fixed to the steel base using the hexagon headed tech screws supplied. (See Fig. 19) Also, fully tighten the M8x20 bolts making sure that all wall panels are still positioned correctly.



Fix as close to the flange edges as possible and fix through double flanges where possible. It will help to pre-drill the wall panels with a 5.5mm dia. drill, taking care not to drill through the steel base.

Brick Walls

Once fully constructed, seal the joints in the brick backer panels with the construction adhesive supplied. Use the same adhesive to stick the spare brick tiles in place. You will need to use some 10mm spacers to position the brick slips on the skirt panels. Press bricks firmly into place.



To point the joints, mix the mortar supplied with water until a consistency of a stiff cream is achieved. Fill the joints around the bricks completely using a pointing bag, these can be purchased from Durabase. Ensure you follow the instructions on the mortar supplied.

Note: Check correct consistency by filling the bag, the mortar should hang from the end of the nozzle when the bag is shaken down.

Allow the mortar to dry until fairly firm. (*We would recommend that the mortar is firm enough that when pushed in with a finger only a small indentation is left behind*). It should have a dull finish, be moist but not wet and somewhat gritty. Use a curved pointing tool to remove any remaining mortar with a soft brush when almost dry.



Note: Do Not be tempted to strike off when the mortar is too moist. Overworking the mortar may create colour changes. Every time you work it the moisture is drawn out, and could result in a lighter colour mortar when dry.



It is advised to fit the conservatory at this stage.

Please follow your conservatory supplier's instructions. Conservatory sills can be fixed to the top of the walls, using the 60mm long self drilling screws provided. Seal around the underside of the conservatory sill with mastic.



Fitting Under Floor Insulation.

- 1) Place top hat insulation securing brackets at suitable intervals over the floor joists. (See Fig.20)



- 2) Cut to size and lay the polystyrene to fill the gaps between the joists. The polystyrene can be cut using a long-bladed Stanley knife or a wood saw.

Please note that at the time of printing every care has been taken to ensure that these instructions are as accurate as possible. We reserve the right to make modifications from time to time without notice to ensure the ongoing integrity of the product.

Fitting the Flooring. *Note: In areas where there might be landfill gas, methane gas or radon gas contamination, special precautions may be necessary.*

Start laying the floor boards from the rear left-hand side of the conservatory, looking towards the house. Use the off-cut from the last run to start the next. Always trim the boards to ensure the joints fall on a joist. It is advisable to glue the joints with waterproof wood glue (see fig.21) Secure the flooring to the joists using the 50mm self-drilling screws supplied.

Your Durabase will include some 'Floor Edge Strips', they are plastic angles approximately 2500mm long. They are to be tucked under the edge of the chipboard flooring where it is unsupported by steelwork. e.g., where the joists disappear under the modular wall, and in the door aperture, they can be cut to length as required.



The floor is now ready for finishing with your choice of covering

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