



## TILING GUIDE

### Introduction

This guide includes information to help with the installation of Verranova glass tiles. It is not intended to be a definitive guide to fixing glass tiles. We recommend you refer to British Standard BS 5385 Wall and Floor Tiling for more detailed technical information. We recommend all our tiles are laid by a professional tile installer who is experienced with the installation of glass tiles.

**This guide is for glass tiles only. If you have purchased Verranova glass panels, please refer to our Verranova Glass Panel Fitting Guide.**

Prior to installation, please ensure the tiles purchased are suitable for the application and thoroughly inspected. Ensure your tiler is aware of the expected finish of the tiles and there are sufficient tiles for the area. The tiles must be well shuffled by drawing tiles from all the boxes. Dry lay an area in suitable light as a final check before installation. For further information or if any doubt exists, please contact us at [verranova@reyco.co.uk](mailto:verranova@reyco.co.uk) for advice prior to commencing any tiling.

We have tested our recommended range of adhesive and grouts to ensure compatibility with all of our tiles.

### Disclaimer

The specifications and technical information given in this publication are intended for guidance and although they are to the best of our knowledge correct, they are given without warranty.

We cannot accept any responsibility for reliance placed upon the advice contained herein since practical expertise and site conditions are outside of our control. Neither do we accept liability for the performance of the product arising from such use. This does not affect your statutory rights.

## Suitability

Verranova glass tiles are suitable for internal walls in both wet and dry areas.

They are not suitable for:

- use as worktops, as they are susceptible to scratching.
- for floors
- external use
- for installation in submerged conditions such as swimming pools or fish tanks

### Wet areas

When fixing glass tiles in wet areas the walls must be fully waterproofed (tanked) prior to tiling. Most adhesive companies supply waterproofing systems that may be purchased from tile dealerships. Mapei and Ardex both supply waterproofing kits – see section below on Tanking.

### Heat sources

Always ensure that the tiles are a minimum of 3cm from any heat source and if behind a hob do not let hot pans touch the tile surface. This is to avoid cracking.

Do not fix to wooden substrates. Fix tile backer boards or cement sheets securely (in accordance with manufacturers' instructions) over the wooden wall prior to tiling.

### Scratching

Glass tiles are subject to scratching and only finely sanded or un-sanded grouts should be used. See Grouting section below.

### Weight

Make sure that the wall substrate is able to take the weight of your glass tiles, adhesive and grout. Add 3.5kg/m<sup>2</sup> or 6.4 lb/yd<sup>2</sup> for the weight of the adhesive and grout to the tile weight in kg/m<sup>2</sup> or lb/yd<sup>2</sup> and compare to the weights that the substrate will support:

Substrate	Weight per m <sup>2</sup>	Weight per yd <sup>2</sup>
Gypsum Plaster	20kg max	37lb max
Gypsum Plaster board direct	32kg max	59lb max
Sand cement render	40kg max	74lb max
Tile backer boards (polystyrene foam with cement base lattice outer)	40kg max	74lb max
Glass reinforced cement sheets	50kg max	92lb max

## Colour and shade variation

Lay out and mix the glass tiles prior to fixing to evenly distribute small variations in shade. Do not fix the glass tiles if you are unhappy with the shade variation or any other quality aspect.

No liability for shading issues can be accepted after installation.

As most tiles are individually coloured, there may be distinctive yet subtle variations in shade, especially between batches. This is an inherent feature of our tiles. You may wish, therefore, to spend some time to achieve the most pleasing distribution of shades before fixing. When planning designs it is important to dry lay the tiles prior to fixing. We strongly recommend that you buy all the tiles you need for your project at one time. Decorative tiles are made individually and therefore unique.

### Please note

It is the purchaser responsibility:

to check the tiles by laying them out and viewing them prior to installation. Please be advised that installation constitutes acceptance of the quality, colour, texture, shade and size of the tiles. This applies even if the home owner is not present during the installation process

To store products in an adequate, clean, dry and secure space that is free from frost and moisture

To ensure that installation is carried out in adequate artificial lighting conditions

To ensure that work is adequately protected during and after fixing

## Planning

### Surface preparation

Tiles can be fixed to most walls. The surface must be properly prepared, suitably level, sound, clean, dry, and free of dust, grease or any loose material.

All surfaces must be completely secure without any obvious deflection and capable of carrying the additional load.

Special care must be taken when tiling areas which may become damp or wet.

### Wet rooms and showers

Glass tiles can be used in showers provided you take certain precautions in preparing the surfaces and use the correct adhesive and grout.

It is vitally important to prepare all substrates in any area subject to frequent water (such as around a bath, basin or shower) carefully to protect them from water reaching the back of the glass tile. The best substrates are normally water resistant boards such as Wedi. The underlying surface must be waterproofed first, using a waterproofing kit known as a tanking system (see below), to prevent the ingress of water into the substrate. There must also be sufficient falls for water to drain away.

## Preparation

### Marking out the work area

First, make a tiling gauge.

Use approximately 1m length of straight, planed, wooden batten approximately 30 x 20mm in cross-section. Use a pencil to mark off the length of your tiles, plus the space between them. For instance, if you are fixing tiles that measure 200 x 200mm and have gaps between each tile of 2mm you will mark every 302mm.

Mark out the work area.

You must always check to see whether the ceiling is level first.

Aim to position the tiles so that they fit either at the top or at the bottom. This way you will be cutting one edge. This can only be achieved if the floor or ceiling is level.

The first row you fix is the most important. If this is sloping or uneven, then all the other rows will be uneven too.

If the skirting board or floor looks even you may be tempted to start tiling directly up to it. Don't! Very few properties, old or new, have walls and floors that are perfectly square so you will need to set the level for the first row.

Take a straight length of timber batten (dimensions as above). Using a spirit level, make sure the top of the wooden batten is perfectly level then lightly nail it horizontally along the area to be tiled.

NB. Check for concealed plumbing or electrical wiring before nailing into any walls.

Place your homemade gauge vertically against the wall, its end on the top edge of the fixed wooden batten. Work up the wall making pencil marks as you go, making sure that you won't have to cut lots of fiddly small tiles at the top.

Now use a measure to find the horizontal mid-point of the wall. Put your gauge against this point and work horizontally to determine the location of the last whole tile, and mark the batten. Again, make sure you are not left with small slivers of tiles at each end and, if necessary, adjust the 'mid-point' slightly to avoid this.

Next hang the plumb line so that the line hangs directly over the batten mark.

Alternatively, you can use a laser level, a long set-square or an upright spirit level to produce a vertical line. Once you have the precise starting point for your first tile you can begin tiling.

## Tanking Systems

We recommend using a tanking system for power showers, shower cubicles, steam rooms and wet rooms in hotels, guest houses, leisure centers, fitness centers and in domestic homes. These normally consist of a primer, a liquid waterproofing membrane that you brush onto the wall and floor, and a tape for reinforcing all internal corners. Please refer to specific manufacturer instructions or, preferably, get a professional to do this job. Tanking a previously painted surface is not recommended. You can usually apply the tile adhesive 24 hours after the wall is waterproofed.

For steam rooms and saunas use epoxy adhesives and grouts.

**We recommend that all waterproofing processes are carried out by a professional.**

## **Cutting Glass tiles**

Glass tiles are brittle and need special tools for cutting.

We would recommend that appropriate safety goggles or glasses are used and safety instructions supplied are followed. As with all aspects of an installation the quality of the tools will have a bearing on the end result so we do recommend new blades are used. Your professional installer will be able to advise on appropriate tools for cutting your chosen tile.

### **Cutting straight cuts in glass tiles with a painted back**

#### **Scribe and snap method**

To produce straight cuts in glass tiles, a manual type cutter is suggested.

Use a scribe and snap tool fitted with an 18mm scribing tool. Scribe face of the tile and then firmly snap the tile. Always snap the tile at one end or the other of the scribe line.

### **Cutting notched cuts in painted glass tiles.**

Sometimes it will be necessary to cut out a section of tile to fit around (for example) electrical back boxes or window reveals. This cut is often referred to as a 'notched cut'.

To begin the notched cutting process, the measurements for the cut must first be determined using a measuring tape. The measurements should then be marked onto the back of the tile using a soft pencil. To avoid a feathered cut, the internal corner of the cut must be drilled out using a 6mm diamond hole cutter.

The 6mm hole cutter must be introduced from the back of the tile first to a depth of approximately 3mm. The use of a suitable template and some water would normally be required to facilitate the cut with the hole saw. The outside edge of the hole should be positioned between the intended score lines of the cut.

Following the shallow hole being cut into the back of the tile, it will then be necessary to cut the hole through from the front in exactly the same position; the use of the hole saw template and water will again be required here.

With the hole completed, score the outline of the notched cut using a manual tile cutter. Ensure that the scribed lines align with the outside edge of the 6mm hole.

For the next stage of the cutting process, it will be necessary to use a water fed disk cutter fitted with a diamond blade designed for glass.

The glass cutting disk must be in good condition. Cut along the scribed lines at low rpm with minimum pressure on the glass tile.

Take extra care when cutting around sockets. Mark or trace the cut size on the tile. Drill a small hole (approx. 10mm) at each corner. This will prevent stress transferring through the tile. score the lines of the cut of the using a manual tile cutter. Carefully cut out the shape using a small disc designed for cutting glass tiles fixed to a small hand held angle grinder fed with plenty of water to cut between the holes.

When drilling use hollow tipped, water fed, diamond coated drill bits. Drill at a low rpm with minimum pressure.

## Drilling Glass Tiles

Measure carefully and mark the hole position on both the front and back of the tile. Using a diamond core drill bit designed for glass and a variable speed portable hand drill, drill the hole 2-3mm wider than required to avoid fixtures putting pressure on the glass tile. Do not apply excess pressure, but allow the drill to gradually drill the hole

Securely clamp down the tile.

Using a diamond core drill bit designed for glass and a variable speed portable hand drill; begin drilling from the back of the tile whilst continuously cooling the surface with water.

Do not apply excess pressure, but allow the drill to gradually drill the hole.

Drill no more than 5mm deep before flipping the tile over.

Continue drilling from the front, attempting to drill the glass from one side only will cause the tile to crack.

Once the drill is through gently run the drill around the hole edge to smooth the edge.

When using wall plugs drill the hole bigger than the plug to ensure the plug can be pushed through the tile. It is important that the plug is not in contact with the glass and is firmly secured in the substrate of the wall. This will prevent the glass tile splitting when the plug expands.

If any difficult cutting or drilling is experienced, the tiles may be cut at a water jet cutting facility.

**Please note this is a guidance for tiles only. If you are installing Verranova glass panels please refer to our Verranova Glass Panel Fitting Guide.**

**Unlike the tiles, Verranova glass panels are made of toughened glass and should never be cut or drilled.**

## Fixing Tiles

Install with a 2mm to 3mm grout gap grout gap. At changes of plane such as wall to wall and wall to floor and where the glass tiles meet materials of a different type such as shower trays, fill the gap with a neutral cure silicone to form an expansion joint.

Glass tiles must NEVER be butt jointed against one another as they could either crack or de-bond.

Where a large area is to be tiled with glass tiles incorporate a decoupling membrane between the substrate and glass tiles as an extra precaution against cracking due to expansion and contraction differences between the substrate and glass tile.

## Adhesives

For fixing glass tiles we recommend a thin-set white cement based, latex modified adhesive type such as Mapei Keraquick with Latex Plus (C2 S2) or an epoxy (R2) type in white such as Mapei Kerapoxy or Kerapoxy Design. In the USA Laticrete Platinum 254 in white with the use of a latex additive is a suitable option.

We do not recommend the use of cement based adhesives mixed with water as this forms alkalis which may attack some of the glass tile backings.

For steam rooms and saunas use an epoxy adhesive and grout.

Be careful when selecting modified cement based adhesives for fixing glass tiles as they may form very strong alkalis when mixed with water. The alkalis may attack some of the glass tile backings. If you mix appropriate cement based adhesives with latex instead of water alkali formation is limited and the likely hood of attacking the glass backing is minimised.

## Applying the Adhesive

Spread adhesive over as much of the wall as you can work on, within about 15 minutes; approximately one square meter /one square yard is usually about right.

Spread an even layer about 4 to 6 mm thick using a notched trowel to form parallel lines. Work to the lines you have drawn on the walls for center points and level lines and then begin to apply the tiles. **Back butter the glass tiles with 1 to 2 mm of adhesive before placing into the ribbed adhesive on the wall.**

This will improve adhesion and reduce the possibility of the ribs in the adhesive on the wall showing through the glass tiles.

Place the first whole tile into the ribbed adhesive on the wall and press down firmly. Check the first tile is straight and level. Now lay the adjacent tiles in the same way, using spacers to create an even joint between them.

When you get to the edges of the room, cut the tiles to fit the gap if necessary and clean away any excess adhesive from the corners. The corners will receive silicone for expansion purposes following grouting. Be careful to keep adhesive off the face of the tiles. Wipe away any surplus with a clean damp sponge as you go.



You may find it necessary to cut individual tiles to fit in small areas. Extreme care should be taken especially when cutting small pieces.

Spacers that have been used during the fixing process must be removed from the joints before the adhesive setting time is reached.

Where the wall tiles meet the floor, a neater finish will be achieved if the wall tiles sit over the floor tiles. Fill the gap between the wall and the floor with silicone.

Where there is any chance of movement from the substrate it is important to use a flexible adhesive (C2 S2) type. This will accommodate for tiny movements and will reduce the possibility of the glass tiles and grout from cracking. All changes of plane will require expansion joints. In addition, where the glass tiles meet different materials such as shower bases the joint must be also filled with silicone. Always seek professional advice.

Adhesive is available as standard set or rapid set. Standard set can take up to 24 hours to go off, whereas rapid set can take up to two hours depending on the thickness and temperature and humidity conditions.

## **Grouts**

For grouting our glass tiles we recommend un-sanded or finely sanded grouts such as Mapei Keracolor SF or FF to reduce the possibility of scratching. Whichever grout is chosen always try it on an unfixed glass tile before grouting the installation to ensure it does not scratch the tile.

Kerapoxy and Kerapoxy Design are both an adhesive and grout (one step method).

For steam rooms and saunas use an epoxy adhesive and grout.

Mapei grouts such as Keracolor SF or FF are suitable as are most epoxy grouts. Try the grout on a loose tile first to ensure it does not scratch the surface.

### **For wet conditions**

In wet conditions the substrate must be fully water proofed (tanked) prior to tiling.

Both Mapei and Ardex supply products for tanking

### **How to grout tiles**

Always try a small amount before grouting your entire tiled area to check you are happy with the look of the grouted tiles before grouting the complete area. Clean the surface where you are going to tile and allow it to dry before proceeding.

Regardless of the grout colour chosen it is advised that you test a glass tile prior to grouting to ensure the grout pigment will not contaminate the surface of the tile.

### **Useful Tip**

Always aim to complete whole sections of grouting in one session to ensure an even finish with no colour variation. Wash down with clean water and a sponge every square meter to avoid any excess grout drying on the surface. Never grout corners of rooms; these must be grout-free and filled with a suitable silicone to allow for wall to floor, wall to wall and wall to ceiling expansion.

It is very important to mix the grout following the manufacturers' instructions. Once mixed, let the grout stand for two minutes and then apply to the wall using a squeegee working in a diagonal motion across the tiles. We recommend you cover about one meter at a time and then leave for five minutes before removing any excess grout with a squeegee. Wait another five minutes before wiping the tiled surface with a clean sponge. Always check that there are no lines left in the grout.

Repeat until the whole wall is complete.

Once the whole work is completed, leave for two hours, wash down all the tiles with clean water and clean sponges and correct any faults.

#### **Grouts - Important Note**

If using Mapei Ultra Colour Plus Grout, it must be mixed with an electric mixer using 1-1.1 litres of water per 5kg bag of Ultra Colour Plus. Pour all the water in to the bucket and then add all the grout and mix on a slow setting. Leave to stand for two minutes and remix. Do not add more water. If the material begins to harden after 15-20 minutes, remix with just the paddle but do not add any more water. The grout has a pot life of one hour.

#### **Finishing off**

Once your tiling is complete, inspect it carefully for any joints that the grout has missed, and refill if necessary. Wipe over the entire wall with a damp sponge or cloth and allow it to dry out completely. We also recommend sealing grout seven days after installation with a grout protective sealer, which can be purchased through any reputable tile outlet.

Always test a small inconspicuous area before proceeding. Always follow manufacturers' instructions. Use the utmost care when grouting to preserve the beauty of your tiles.

Always allow a 2-3mm grout gap to accommodate for the thermal expansion difference between the glass tile and the substrate.

At wall-to-wall and ceiling-to-wall and floor-to-wall interfaces, leave a 6mm gap and fill with a low modulus neutral cure silicone. Colour matching grouts are available.

#### **Cleaning**

Not all cleaners are equally suitable for all types of tiles. Wash down glass tile surfaces with either clean water or a neutral (i.e. not acidic or alkaline) detergent. Dry off and polish with a dry, clean cloth. A neutral (pH7) window cleaning spray is suitable. Do not use anything abrasive such as cleaners or pads as they will scratch the surface of the glass tiles.

Certain acid based cleaning products may cause some of the tiles to react and change in character.

## **Photography**

Images of the tiles are for illustrative purpose only. There may be slight variations between the tile colours shown on our and that of the actual tiles due to difference in computer display and variation in studio lighting . Samples of glass tiles may be obtained for viewing before purchase.

## **Limits of Liability**

Before making your choice it is always advisable to order a sample or at least see a tile at one of our representative showroom or in our workshop by appointment.

Reyco LLP. accepts no liability for the faulty installation of its tiles.

Tiles must be inspected prior to installation and claims cannot be considered after the tiles have been installed. Please be advised that installation constitutes acceptance of the quality, colour, texture, shade and size of tiles.

Please refer to our Terms and Conditions for full details.

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