



VITRIPIAZZA®

Vitrified Porcelain Paving

# A GUIDE TO PLANNING & INSTALLING VITRIPIAZZA



**TALASEY**  
LANDSCAPING SOLUTIONS



# Welcome

There are various methods for the installation of vitrified porcelain paving. This guide has been created with our suggested installation process which will give the very best aesthetic results and assure you of the short, medium and long-term performance of the paving in the UK climate. While it's true that you can lay directly onto grass or sand, we would strongly recommend you install on the construction shown within this guide.



## Planning Ahead

- Work out the dimensions of your area, use dimensions that minimise cuts. Peg it out to help you picture it. Calculate the paving you need in M<sup>2</sup> and add 10% to allow for cuts, wastage and any accidental damages.
- Consider the type of use and traffic your area will be exposed to, and design in adequate foundations to give you many years of service.
- For new or extended areas at the front of the property, consider planning permission requirements around water management and providing appropriate drainage to avoid run off onto the public highway. Alternatively, our Resiscape system range can be installed as a fully SuDS compliant option.
- For when digging out, consider where your services are, e.g., drains, underground and overhead cables.
- Consider how deep you need to dig depending on your specific site and how high the water table is.
- Consider if tree roots are an issue.
- Consider where you can store and stack the product during install, where will you have your mixer and aggregates. Don't forget your skip.
- Remember, groundwork and installation are heavy work. Ensure you have the appropriate PPE and tools for the job.
- Fully read our Understanding Vitripiazza guide for more tips and advice, particularly, if you are inexperienced in installing our porcelain ranges.
- Before embarking on a DIY project, research other sources and techniques, if in any doubt, ask an expert for advice.
- This guide is our suggested methods, there are many others out there. Where there is a specific product guidance, this is borne from our experience with our products.
- Product specifications, with design guidance, are available on request through your merchant.





## Vacuum Lifters

With the larger plan sizes in some of our ranges, its simply not possible for installation to be carried out by one person and we would recommend you look into hiring or purchasing appropriate vacuum lifting equipment.

For ease of installation even on the smaller plan sizes, consider if using vacuum suction lifters are of benefit to you, you can purchase reasonably priced single operator tools too. Though not essential with weights manageable for one person, they can make life easier, particularly if you are installing with minimal joint sizes.



## Plan Your Levels

- Think ahead, regarding the finished levels of your paving. The paving surface must always be a minimum of 150mm below the damp course (DPC), if installing up to your house.
- Always incorporate a fall to allow water to run off the paving surface to adequate drainage. For most domestic settings, 1 : 60 is usually adequate.

## Groundwork & Foundations

- Dig out to allow for sub-base depth + laying bed depth + paving depth.
- Commonly for a garden patio, a compacted 100mm - 150mm sub-base is adequate. For example, if you were installing a 20mm thick paver, on a domestic patio with a 100mm sub-base and 30mm mortar bed, you'd need to dig down approximately 150mm.
- Remember to account for the required gradient too when digging out.
- Saturated ground may need to be allowed to dry out. For certain ground conditions a geotextile membrane maybe required to stop migration of the hardcore sub-base into the sub-grade.
- Infill your sub-base. MOT Type 1 (DTp 1) is generally appropriate for most domestic installations. On rare occasions, some ground conditions may require consideration of a Hydraulically Bound Material (HBM) instead to create a fully bound/rigid construction. HBM's are specially sourced aggregates mixed with a binder that then hardens.
- Rake out your MOT Type 1 evenly, damp it down before compacting, easiest and most effective with a Vibrating Plate Compactor. Fully compact in layers of approx. 75mm until desired depth is reached, including your required gradients.






# Vitripiazza Patio Paving Laying Guide

## Before You Start

- Check your product, ensure it is to your expectations. Never lay products that are not to expectations, report them to your merchant straight away.
- Check each pallet is from the same production batch and shade reference. Do not start the project without confirming all are the same. Batching information is on either the side of the tile or the packaging.
- It's not a bad idea to keep a note or take a photograph of the batch code, in case, you ever need it again.
- Even with matching batches, it is still best practice to mix from several pallets at a time to achieve a natural blend. Protect edges when stacking them pre-laying.
- Do not lay in temperatures of 5°C and falling.

## Laying


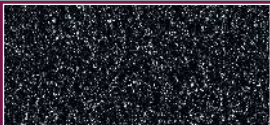







- Set out stringlines as a guide when laying, check lines and levels regularly.
- Make up a slightly wet mortar mix. Five or six-parts sharp sand to one-part cement is usually adequate for patios. A good guide is that there should be sufficient water to allow the mix to be moulded into a ball without falling apart, but not so much that water would run out of it were it to be squeezed in the hand. Remember, it shouldn't be so wet that it cannot support the weight of the tile or so dry, it won't bond to the back of the tile and/or can't be tapped down to the desired level.
- You may wish to consider adding a plasticiser to the mortar mix to increase workability and reduce water demand.
- Always prepare a full bed of mortar for each slab so it tamps down to approximately 30mm. It must support the entire slab. 
- Never spot bed or ring bed!
- Always apply Pavetuf Slurry Primer to the back of the tile, immediately prior to laying, to aid adhesion to the bed.
- Consider potential print repeats. All of our ranges have a significant number of pattern print connotations within a pack but try not to lay matching prints side by side or in the same orientation.
- Place the slab and tap down using a rubber mallet or alternatively, use a vibration hammer. Check the level to your stringlines or using a spirit level.
- Repeat with each individual slab to your chosen laying pattern and maintaining your joint widths.
- Never butt joint! Joints should be a minimum 3mm or 6mm, depending on whether your slabs are rectified or unrectified.

## After Laying

- Do not walk on the paving for at least 24 hours.
- Point as soon as possible, once you can walk on the paving.

## Jointing/Pointing

- For Rectified ranges, you can lay with joints upwards of 3mm.
- For Unrectified ranges, we recommend you lay with joints upwards of 6mm.
- For a jointing product specifically designed for porcelain paving, use our Pavetuf Jointing Grout, appropriate for traffic up to domestic cars and small van weights. Suitable for joint widths of 3mm – 15mm.
- For use on patios and driveways, a stronger, rapid setting mortar that is suitable for all paving types, use our Pavetuf Jointing Mortar. More suited to professional installers, for joint widths of 3mm – 50mm; and maximum depth of 200mm.
- Whilst our other two solutions above are more ideal for use with porcelain paving, on patios and paths, for easy, all-weather joint filling on all our paving ranges, you can use Pavetuf Jointing Compound. For joint widths of 5mm – 20mm, minimum depth of 20mm. This is not suitable for fully rigid sub-bases, e.g., concrete bases; and you must ensure you follow the specific product guidelines regarding the degree of permeability required in your mortar bed.

Jointing options Comparison Chart		Jointing Compound	Jointing Grout	Flowable Jointing Mortar
Use	Use on Porcelain & Ceramic	✓	✓	✓
	Use on Stone & Concrete	✓		✓
	Driveway applications		✓	✓
	Pedestrian applications	✓	✓	✓
	Internal use		✓	
	External use	✓	✓	✓
Finish	Smooth finish		✓	
	Granular finish	✓		✓
Colour Options				
Jointing Compound				
Jointing Grout				
Flowable Jointing Mortar				

For full details on all of the jointing options please refer to [www.talasey.com](http://www.talasey.com)



## Domestic Driveways

- Our 20mm thick ranges can be used for driveway products for trafficking with domestic cars or light vans but they will require installing on an adequate concrete base and supporting construction. The paving should then be bonded to the concrete base using a high-performance cementitious tile adhesive appropriate for this type of traffic. Talasey are unable to give specific adhesive recommendations so seek guidance from the adhesive manufacturer for specific advice.
- Paving surfaces may exhibit tyre marks, particularly lighter colours, and particularly when under braking and power assisted steering. Our Pavetuf Deep Cleaner is designed for this type of cleaning.
- Both Pavetuf Jointing Grout and Pavetuf Flowable Jointing Mortar are suitable for use on driveways, when laid on a mortar bed, as above.
- Specific consideration is required on the entire foundation and construction for the potential traffic and it is the responsibility of the user to check its adequacy.



## Indoor Use

Check our Landscaping Portfolio for which ranges are available to order in thinner specifications, designed specifically as indoor tiles.



## Around Swimming Pools

All our Vitripiazza ranges are suitable for use around a swimming pool.



## Cladding

Whether using our specific Wall Cladding ranges, such as Rok or wanting to clad using a paving tile, for external use, we recommend using a good quality C2 Tile Adhesive. Always take advice from the manufacturer to help select the best product for your specific needs.





# Cutting & Cracking Information

Porcelain tiles, including those with a 20mm thickness, can crack during cutting due to several factors related to their composition, the cutting process, and production variability. Below is a summary:

## 1) Why 20mm Porcelain Might Crack During Cutting

- **Brittle Material:** Porcelain is a dense, brittle material that can be prone to cracking under pressure. The thicker the tile, the more stress is required during cutting, which can lead to cracks if the right conditions aren't met.
- **Internal Tensions:** During the firing process, porcelain tiles can develop internal stresses or tensions due to uneven heating and cooling. If these stresses are not properly balanced, they can manifest as cracks when the tile is subjected to the forces of cutting.
- **Improper Cutting Technique:** If the cutting tool is not properly aligned, or the tile is not supported evenly, the pressure exerted on the porcelain can cause cracks. For example, using an inappropriate cutter or applying uneven pressure can lead to fractures along the tile's surface.
- **Hardness Variation:** Porcelain tiles are made from a mixture of clays and other minerals that can vary slightly between production batches. This can lead to subtle differences in hardness, making some tiles more susceptible to cracking than others. Thicker tiles, like a 20mm one, are especially vulnerable to variations in hardness.
- **Uneven Glaze or Surface Treatment:** The surface glaze or treatment applied to porcelain tiles may be uneven in some areas, creating weak points that are more likely to crack under pressure during cutting.

## 2) Variability in Production

Porcelain production involves several complex steps, and small variations can occur from batch to batch, even if the same materials are used. These variations can affect the overall quality and consistency of the tiles, leading to cracks during cutting.

## 3) Raw Materials

Variations in the quality and consistency of raw materials like clays, feldspar, and quartz can result in differences in the final product's density and hardness.

- **Firing Process:** Differences in kiln temperature, cooling rates, and firing times can create internal stresses that vary between tiles and batches, leading to inconsistent tile behaviour when cut.
- **Manufacturing Equipment:** Variations in the machinery used in cutting, shaping, and glazing the tiles can also contribute to inconsistent tile properties, making some tiles more likely to crack during cutting than others.

## 4) Suggestions to Prevent Cracking During Cutting on Site

1. **Use the Correct Cutting Tools:** Ensure that the right type of saw or cutter is used. For thick porcelain tiles (like 20mm), a diamond blade saw, preferably with water cooling, should be used to reduce heat and minimise stress on the tile. Ensure the cutting blade is clean and sharp. The cutting tool should have adequate power.

**a) Wet Tile Saw Cutting Method:** A wet tile saw is the perfect tool for cutting 20mm thick porcelain tiles. This saw utilizes water as a lubricant, which helps reduce dust and heat buildup, which can otherwise cause thermal shock and lead to cracks

**b) Angle Grinder Cutting Method:** Angle grinders are compact and easy to use. When using an angle grinder, ensure that the diamond blade is securely installed, and hold the tile firmly in place to avoid any movement during cutting. If this is a battery-operated machine, ensure the battery has a good charge as low power will lead to excessive vibration.

**c) Bench/Bridge Saw:** Using a bench/bridge saw with a guide rail offers controlled, precise cutting. The guide rail maintains a consistent blade direction, preventing side-to-side movement that could exert lateral force on the tile. The side-to-side movement increases the risk of tile breakage.

2. **Pre-cut Preparation:** Mark the tiles carefully before cutting, ensuring that all cuts are accurately measured to avoid unnecessary stress during cutting. Cuts should start from the edge of the tile and work inwards. "Plunging" cuts into the middle of the tile may cause cracking in the tile.
3. **Support the Tile Properly:** Always support the tile evenly on both sides when cutting to prevent pressure from concentrating on one area. A stable surface ensures the tile remains under uniform pressure.

## 4. Cutting Types

**a) Score and Snap Cut:** For smaller cuts, the score-and-snap method can help minimize the risk of cracks. However, for thicker tiles, it's generally better to use a wet saw or an angle grinder to ensure a smooth cut

**b) Score and Tension Cut:** Score the top surface of the tile across the full width of the cut, then at the beginning and end of the cut, cut the full depth of the tile. Once this is complete continue the cutting along the score line until the full tile has been fully cut. Suggest cutting depths of 5mm increments

**c) Full Depth of Body Cut:** For hard porcelains cutting the full depth of the tile in one controlled pass should be used.

5. **Keep your blade sharp:** Continuous rim blades can become dull. Sharpening your blade brings the diamond particles back to the surface ensuring a smooth cut. Regularly run your blade through a sharpening stone, breeze block or similar concrete block. It is recommended that you should sharpen the blade after every few cuts. A dull blade will force its way through a tile rather than cutting it. This sharpening can extend the lifespan of the blade.
6. **Slow and Steady Cutting:** Avoid rushing the cutting process. Slow and controlled cuts reduce the risk of stress buildup, allowing the blade to move through the tile at a steady pace.
7. **Water Cooling:** Use water to cool the cutting blade and the tile during the cutting process. This helps reduce the heat buildup, which can otherwise cause thermal shock and lead to cracks.
8. **Test Tiles First:** If cutting many tiles, it's worth testing a few from different batches or boxes to determine if any of them are more likely to crack due to production variations.
9. **Proper Storage:** Store tiles flat and in a stable environment before cutting. Tiles that are stored improperly (e.g., standing up or stacked unevenly) can develop internal stresses or deform, making them more likely to crack during cutting.
10. **Stop the Crack Energy:** Depending on the shape of cut, a small hole can be drilled in the tile to help prevent the spread of the crack energy spreading. This also can help prevent post installation cracking due to thermal expansion, differential settlement.
11. **Consider the Position of Cuts:** Wherever possible try to avoid a layout that will create long slender sections of the porcelain tile. These can be problematic during installation and after installation.



# Health & Safety

**HEALTH AND SAFETY MUST BE ADHERED TO.** A number of items within our Vitripiazza product range are heavy or awkward in shape to lift. We recommend that when moving pieces over 25kg, more than one person helps in completing the lift. With the larger plan sizes in some of our ranges, its simply not possible for installation to be carried out by one person and in addition, we'd recommend you look into hiring or purchasing appropriate vacuum lifting equipment.

Furthermore, we would also recommend that gloves, safety boots with steel toe caps and oil resistant soles, ear defenders and protective clothing should be worn. When cutting our products, it is essential that suitable eye and ear protection is also worn. Always ensure that suitable respiratory protection is worn to avoid the inhalation of dust particles produced by high-speed cutting devices. Training may be needed to operate certain equipment; it is your responsibility to ensure this takes place where necessary.

For further information on Health & Safety, please visit the knowledge hub on [www.vitripiazza.co.uk](http://www.vitripiazza.co.uk).

It is your responsibility to ensure that you comply with all applicable health and safety legislation and guidelines.



Face Protection



Protective Gloves



Eye Protection



Hearing Protection



All the above advice is purely for guidance purposes, and only with domestic installations in mind. Local building regulations should be followed at all times. Designing an appropriate construction for specific project requirements lies solely with the user. If in doubt, ask a local expert.

For further information or technical advice call  
**0330 333 8030**  
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[www.talasey.co.uk](http://www.talasey.co.uk)





## OUR SERVICE OFFER

The Talasey Team are a large network of individuals, dedicated to delivering outstanding support to our customers. From our Customer Engagement Team, Area Sales Managers and Landscaping Consultants, to our Designer & Installer Network and beyond, we are fortunate to have a loyal support network behind us. This is further supported by our empathetic corporate social principles driven through our activities with our supply chain and community. Since 2004, these assets have been central to building Talasey and they will continue to shape us for years to come.

# 20 YEARS OF TALASEY



See our website for terms & conditions.

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