



ORIGINALSTYLE
TILE SHOWROOM

TECHNICAL GUIDE

Overview for
Floor Tiles



FLOOR TILE TECHNICAL GUIDE

	Cement Screeds	Concrete	Anhydrite Screeds	Wooden Floors	Existing Ceramic	Underfloor Heating
Porcelain	Note 10/14	Note 10/14	Use UltraFloor Prime IT Multi-surface Primer Note 11/14	Note 12/14	Note 13/14	Note 14
Dorset Woolliscroft	Note 10/14	Note 10/14	Use UltraFloor Prime IT Multi-surface Primer Note 11/14	Note 12/14	Note 13/14	Note 14
VFT/ Odyssey Primo	Note 10/14	Note 10/14	Use UltraFloor Prime IT Multi-surface Primer Note 11/14	Note 12/14	Note 13/14	Note 14
Odyssey Grande	Note 10/14	Note 10/14	Use UltraFloor Prime IT Multi-surface Primer Note 11/14	Note 12/14	Note 13/14	Note 14
Natural Stone Tiles	Note 10/14	Note 10/14	Use UltraFloor Prime IT Multi-surface Primer Note 11/14	Note 12/14	Note 13/14	Note 14
Natural Stone Mosaics	Note 10/14	Note 10/14	Use UltraFloor Prime IT Multi-surface Primer Note 11/14	Note 12/14	Note 13/14	Note 14

IN WET AREAS: Make sure the installation is fully waterproofed before tiling commences. We recommend the use of **Instarmac WETROOM SYSTEM**.

Note 10: Porcelain/Dorset/VFT/Odyssey Grande and Primo/Natural Stone on Concrete/Screeds

Porcelain tiles are ideally suited as a flooring material. They are strong >1300 N/mm² and can be manufactured to have low slip potential and all are fully vitrified less than 0.5% water absorption. For all tiles we have a full database of all technical information which includes slip resistance and wear resistance (deep abrasion for unglazed tiles and PEI for glazed tiles).

There are different types of porcelain tiles according to the way they are manufactured:

- Through bodied or full bodied porcelain (same all the way through)
- Glazed porcelain (through bodied porcelain that are glazed)
- Double loaded (two layers pressed in one tile; the top layer with a colour or veining decoration)
- Polished porcelain (through bodied porcelain that goes through finer and finer polishing pads until it has a mirror finish)
- Semi polished or brushed porcelain (through bodied porcelain that goes part way through the polishing process to make it moderately shiny)

All porcelain, VFT, Odyssey Grande and Primo are frost resistant and suitable for internal and external use. Natural stone for external use must be greater than 20mm thick (most Original Style are 10mm).

- All porcelain tiles are installed in the same way **EXCEPT** polished and semi polished types. During polishing the pores of the tile face are opened up.
- These must be impregnated before grouting following cleaning and drying and after grouting, following cleaning and drying. **LTP MPG** is a suitable impregnator.
- Clean off the grout as you go with a clean cloth and water. If a grout haze remains use an acidic cleaner to remove. **LTP Grout Stain Remover** is suitable.
- VFT, Odyssey Primo and natural stone must be impregnated prior to grouting following cleaning and drying and following grouting cleaning and drying. **LTP Mattstone** is suitable.
- Full bodied porcelain, Odyssey Grande and Dorset Woolliscroft benefit by a coating of **LTP Mattstone** as this aids the cleaning operation.

Concrete or screed must be flat, free from broken pieces, dust, oil and grime. If not, fully clean and apply a levelling compound prior to tiling.

Suitable levelling compounds are: **UltraTile Level IT One, Level IT FX and Level IT Rapid.**

Concrete should be left for 4 weeks to fully cure and screed should be allowed to dry for 3 weeks prior to tiling. This avoids substrate shrinking issues which affect the tile installation.

Make sure that expansion joints are included in the installation at 8-10 metre intervals in both directions.

For fixing porcelain/VFT/Odyssey Grande and Primo/Dorset Woolliscroft to concrete and cement based screeds use a cement based C2 modified adhesive. The substrate **MUST** be fully dry. Use **UltraTile ProFlex SP** or there are many suitable alternatives.

For grouting, **UltraTile FlexJoint** is suitable (water repellent, for grout joints between 1 and 20mm).

For natural stone mosaics **C2F S UltraTile ProFlex SP** is a suitable fast setting adhesive. F= fast setting and S = deformable.

For natural stone tiles a fast setting white adhesive is required. Suitable adhesive are **UltraTile ProRapid RS and ProFlex SP.**

For natural stone tiles and mosaics the tile must be impregnated prior to grouting following cleaning and drying and after grouting cleaning and drying. Acceptable impregnators are **LTP Mattstone or LTP Colour Intensifier and Stainblock.**

Natural stones tiles may be wet on delivery (this is normal) and must be stood on edge in an aeriated room to dry prior to installation.

For natural stone tiles lay the thickest tile first and match its level by adjusting the adhesive thickness for the remaining tiles.

Slip Resistance and Technical Database:

The full technical database contains all relevant information on the tile range.

For slip resistance the following Pendulum specification tables apply. This is recommended by the Health and Safety Executive for the U.K.

Shod conditions 4S96 Dry and Wet (all tile types)

High Slip Potential	0-24
Moderate Slip Potential	25-35
Low Slip Potential	36+

Barefoot Wet conditions TRRL 55 Wet (all tile types)

High Slip Potential	19 and below
Moderate Slip Potential	20-39
Low Slip Potential	40-74

VFT, Odyssey Primo and Odyssey Grande are not suitable for shower or wet room floors

For wear ratings on GLAZED FLOOR TILES there is a PEI standard scale from 0 to 5

0 suitable for walls only
1 suitable for wall only
2 very light residential usage (bedrooms)
3 residential and light commercial (kitchens, churches, museums)
4 medium commercial (pubs and restaurants)
5 heavy commercial (shopping malls, airports)

- **WHEN SELLING FLOOR TILES THE WEAR RATINGS AND SLIP RESISTANCES SHOULD BE TAKEN INTO ACCOUNT FOR THE PARTICULAR APPLICATION. TO ENSURE FITNESS FOR PURPOSE. WE HAVE A DUTY OF CARE. INFORMATION IS AVAILABLE FROM TECHNICAL OR PURCHASING (WHO USE THE SAME DATABASE)**

For wear ratings on unglazed tiles there is a deep abrasion wear rating. < 175 mm³ is the best and porcelain tiles meet this specification.

VFT, Odyssey Grande, Odyssey Primo (plain and decorated) and Dorset Woolliscroft meet this standard.

For decorated VFT and Odyssey the print is PEI 4.

Note 11: Porcelain/Dorset/VFT/Odyssey Grande and Primo/Natural Stone Tiles and Natural Stone Mosaics on Anhydrite Floors

- Screed can be either anhydrite screeds made from gypsum based raw materials or more normal cement based raw material screeds.
- **IT IS IMPORTANT TO CHECK WHAT TYPE OF SCREED IS BEING USED BEFORE TILING.**
- Anhydrite screed is pumped into place and levelled by manually moving around and de-airing.
- It must be less than 0.5% moisture before tiling can commence and this must be checked by using a hygrometer.
- Under ideal drying conditions this is very approximately 1mm per day up to 40mm.

Upon drying there will be a dusty surface on the screed (called laitence) and this must be brushed or vacuumed off fully before tiling.

Anhydrite screeds are suitable for water piped underfloor heating systems.

THE FLOOR MUST then be PRIMED before tiling. **UltraFloor Prime IT Multi-surface Primer** is suitable for this.

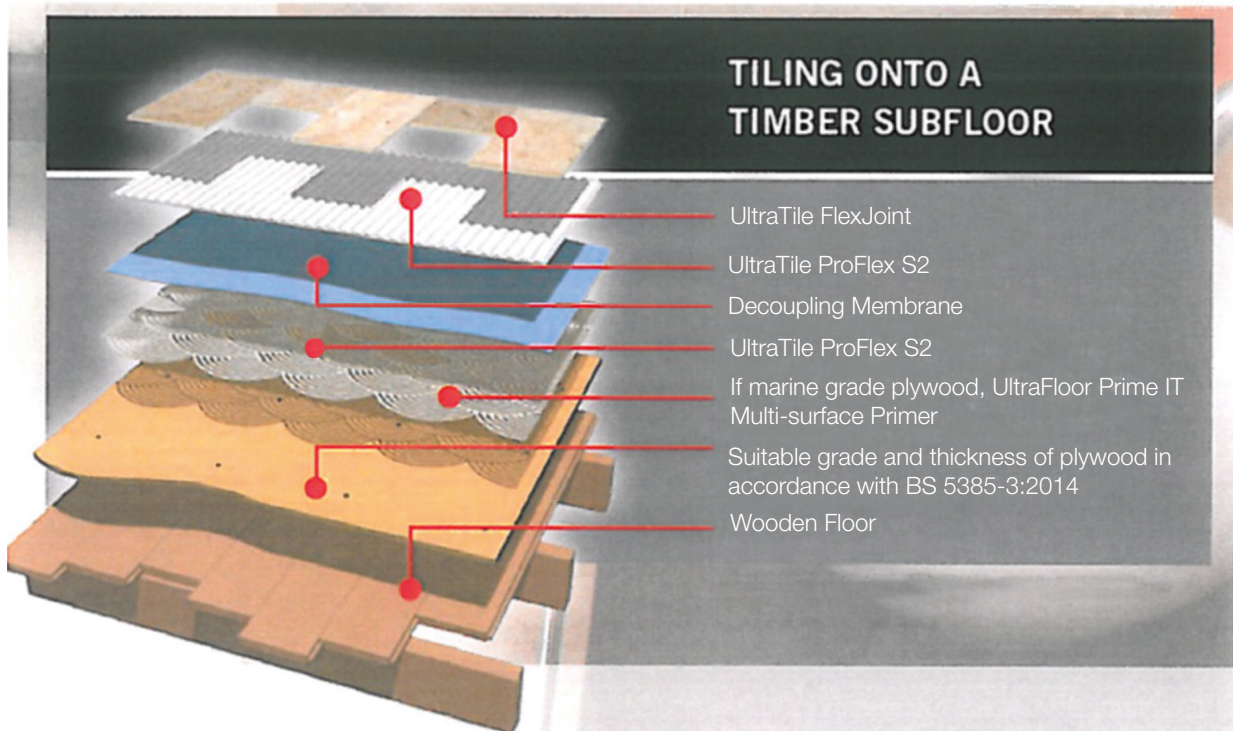
Make sure that expansion joints are included in the installation at 8-10 metre intervals in both directions.

- For natural stone mosaics **UltraTile ProFlex SP** is a suitable fast setting deformable adhesive.
- For natural stone tiles a fast setting white adhesive is required. Suitable adhesive are **UltraTile ProRapid RS and ProFlex SP**.
- For natural stone tiles and mosaics the tiles must be impregnated prior to grouting following cleaning and drying and after grouting cleaning and drying.
- Acceptable impregnators are **LTP Mattstone** or **LTP Colour Intensifier and Stainblock**.
- Natural stones tiles may be wet on delivery (this is normal) and must be stood on edge to dry prior to installation.
- For natural stone tiles lay the thickest tile first and match its level by adjusting the adhesive thickness for the remaining tiles.
- For polished, semi-polished and brushed porcelain impregnate with **LTP MPG** prior to grouting following cleaning and drying and after grouting cleaning and drying.
- For other tile types of tiles (Full Bodied Porcelain/VFT/Odyssey/Dorset) a cement based modified C2 adhesive is appropriate. There are many options available.

Note 12 Wooden Floors

The below diagram details the fixing sequence for tiling over wooden floors.

- If an electrical wire underfloor heating system is required it would be installed over/or integrated into the top of the decoupling mat, for example **Thermonet Vario PRO**.
- There are many designs for underfloor water piped systems beneath wooden floors.
- This diagram shows a natural stone installation with a white fast setting cement modified C2 deformable adhesive to avoid water staining and show through.
- For all other floor tile types, VFT, Porcelain, Odyssey Primo and Grande the same sequence is utilised. **UltraTile ProFlex S2** is a suitable adhesive.



- The floor structure must be rigid and may require extra noggins to achieve this.
- Floor boards need to be over boarded with WBP (water boiled proof) plywood such as marine ply with minimum thickness 15mm.
- It is advisable to SEAL the edges and back face of the board with **UltraFloor Prime IT Multi-surface Primer** in order that moisture is unable to penetrate and warp or deform the sheet.
- **DO NOT SEAL THE FACE OF THE BOARD TO RECEIVE ADHESIVE AS THE BONDING ADHESIVE WILL NOT SET PROPERLY.**
- The sheets must be screwed at 300mm centres in both directions.
- The de-coupling matt may be **Vario PRO** as in Note 14. Electrical underfloor heating systems can be fixed to the upper face of the **Vario PRO**.

Note 13: Existing Ceramic

- Existing ceramics can be tiled over provided the surface is clean and undamaged. Any loose tile or tile pieces must be removed prior to tiling.
- Damaged areas must be repaired prior to tiling.
- Over tiling with natural stone must be done with a cement based modified C2F fast setting adhesive in white such as **UltraTile ProFlex S2**.
- Prime with **UltraFloor Prime IT Multi-surface Primer**.

Note 14: Underfloor Heating

There are two types of underfloor heating, piped water and electric cable. The piped system is bedded 65mm minimum into the screed or fixed under wooden floors by various methods and the electrical system fixes into the top of the **Vario ProMat** decoupling system under the tiles. This protects the substrate movement from affecting the tiles during heating and cooling.

Before fixing tiles and other installation items, trial the underfloor heating system first to ensure everything works correctly.

If the floor is an anhydrite it must be primed with **UltraFloor Prime IT Multi-surface Primer** following the removal of the laitence (dust) by sweeping or vacuuming.

What is Vario PRO?

Vario PRO is a fast track electric underfloor heating system that creates a comfortable, warm room and a stable, bonded tiled floor that is not vulnerable to uncoupling or cracks.

The **Vario ProMat** membrane is laid over the entire floor surface and the **TwistedTwin** heating cable is installed in the areas where heat and extra comfort is required.

Vario PRO provides the perfect stable and heated substrate for tiled floor finishes.

Vario PRO, including **Vario ProMat** and **Vario PRO heating cables**, has a buildup of just 5.5mm making it perfect for a variety of retrofit applications where low buildup is critical. It is also perfectly suited to provide underfloor heating and lateral stability in new build applications.

Suitable for these substrates:

- Concrete floors
- Cementitious screeds
- Anhydrite screeds
- Green screeds
- Timber sub floors
- Plywood panels

Vario PRO

Underfloor Heating - Vario ProMat is specifically designed for use with Vario PRO heating cables to provide easy, professional underfloor heating solutions.

Uncoupling Technology - Vario ProMat neutralises movement between the substrate and floor finish preventing delamination and cracking commonly associated with tiled floors.

Vapour Management - The cavities below Vario ProMat create space for water evaporation making it possible to install on substrates that are not perfectly cured.

Waterproofing - Vario ProMat is totally waterproof, and by using Vario PRO sealing tape on edged and penetrations you can create a wetroom quickly and easily.

Load Distribution - The dimples in Vario ProMat evenly distribute concentrated floor loads from the tiles directly onto the floor substrate.

- Following **Vario PRO** installation use a flexible C2 S1 type of adhesive to fix the tiles.
- For natural stone tiles ensure the adhesive is a white C2F S1 fast setting type to prevent water staining and show through on light natural stone tiles.
- An ideal adhesive for all types of floor tile with underfloor heating with a de-coupling system is **UltraTile ProFlex SP** deformable type.
- If a de-coupling system is not to be used an S2 type of very deformable C2 adhesive must be used.
- For grout a cement based modified CG2 flexible such as **UltraTile FlexJoint** is suitable.
- Clean the grout with warm water and a clean cloth as grouting progresses. If a grout haze remains clean with an acidic cleaner such as **LTP Grout Stain Remover**.
- Make sure polished porcelain and natural stone tiles are impregnated before grouting following cleaning and drying and following grouting cleaning and drying.
- The underfloor heating system must be turned off and be cool during the tiling process.
- Once tiling is completed the underfloor heating system must not be turned on for 28 days. This allows the adhesive to fully cure.
- After 28 days turn the heating up by 5°C per day to the maximum temperature.

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