About us

Instarmac started manufacturing in the Midlands over 40 years ago and has since grown into a multi award-winning market leading company, with a reputation for premium quality products, outstanding customer service and continual improvement.

Instarmac brand, UltraTile, offers a comprehensive range of specially formulated paste and powder tile adhesives, coloured grouts and ancillaries.
Manufacturing excellence
Manufacturing has been at the heart of Instarmac since 1977, and today products are produced in a modern, automated facility to exacting standards.

Our research and development laboratory means we are always at the forefront of today’s technology, whilst rigorous testing in-house and through certified external bodies offers the reassurance of a quality guarantee and secures worldwide recognised product performance. All UltraTile products are produced under the exacting requirements of ISO 9001, ISO 14001 and OHSAS 18001.

Our customer service
We are passionate about our award-winning customer care. We aim to help you do what you do best, by supporting you with outstanding customer service every step of the way.

Your dedicated sales and office contacts are available to provide you with all the technical and practical support you need to complete any installation with ease.

Our delivery service
All processed orders are automatically confirmed by email to you. Our privately owned fleet is managed and fully tracked in-house. This live technology means that we can tell you where your delivery is in real time. Our system can also automatically text you when your delivery is only 30 minutes away offering you a second-to-none delivery service that is speedy, convenient and reliable.

Our training and support
Our dedicated training team, with extensive practical knowledge, is always at your disposal. We have modern, purpose built indoor and outdoor training areas, ideally suited for practical applications and building product knowledge and confidence - the perfect avenue for you to try our product range.

Our training courses are offered free of charge, on or off-site, and can be tailored to suit your needs;
Commitment

Our environmental performance
We are committed to continuously re-evaluating and reducing our environmental impact to encourage a positive, long-term future and have been recognised and awarded several times for our procedures. Tapping into the initiative of our staff, continually working with suppliers to take advantage of the most energy and waste efficient products and procedures, and employing the latest available technologies, means we are always achieving a year-on-year improvement and a truly sustainable future for all.

Our latest efforts have meant the successful implementation of zero waste to landfill since January 2014. We strive to be pioneering in our corporate activities. It is our social responsibility to maintain our environment, our culture and the rewards we provide.

Innovation

Our research and development
Innovation is at the heart of our manufacturing success and reputation. Frequently changing market demands, ever emerging technologies, innovative materials and environmental impacts are all considerations for us to ensure that we are always at the forefront of today’s technology. Products are all researched, developed and formulated in our state-of-the-art facilities, providing us with continuous means to evolve our product range according to industry needs.

The Tiler’s Brand

Products
We offer a comprehensive product range, avoid excessive stock lines and keep product selection straightforward.

Performance
Our resources ensure high spec products manufactured under ISO 9001, achieving worldwide classifications for your peace of mind.

Marketing
An award-winning in-house team offering bespoke support and innovative communications to help you stay ahead of the game.

Service
You will love our fast service. A personal, fast, award-winning service that includes free text updates, email confirmations and our own transport fleet.

Consistency
We are consistent in all we do so you will be too. Reliability speaks volumes in today’s competitive marketplace.

Training
We offer bespoke courses tailored to your needs. Our industry experts are available for advice and on-site guidance.

Values
An excellent working culture from a business whose engagement techniques have earned them Times Top 100 and A Great Place to Work recognition.

Stability
Established in 1977 we are one of the largest British manufacturers. We are a privately run business offering financial stability and trading security.
Trusted Reputation

Manufactured in Britain and distributed nationwide, UltraTile adhesives and grouts have been used in an extensive number of domestic and commercial projects. A loyal customer base, a back catalogue of successes and corporate support including training and marketing all highlight UltraTile as a brand of choice.

The UltraTile portfolio of projects includes commercial retail installations for JD Sports, Kia and Fendi; prestigious hospitality locations like The Belfry, Nando’s and Meadowhall’s Food Court; and a vast array of others from Benjamin Ryan hair salons to the Ducati headquarters in Silverstone and the Kia Oval and Warwick Boat Club sporting venues.
Wall adhesives for all installations boasting ease of spread, high grab, flexibility and water resistant properties.
Wall Adhesives
Ready Mixed Pastes

ProGrip HG
High Grab Acrylic Wall Tile Adhesive

- Exceptional grip
- Super smooth formula
- Self-priming
- Shower proof
- Covers up to 6m²
- Grout after 24 hours

Size: 15kg
Colour: Off-white

SuperWhite WR Flex
Highly Flexible Acrylic Wall Tile Adhesive

- Non-slip
- Self-priming
- Mould resistant
- Ceramic tiles
- Porcelain mosaics
- Power showers
- Constantly wet areas
- Highly flexible
- Water resistant

Sizes: 15kg & 7.5kg
Colour: Brilliant white
ProSet SS
Standard Set Tile Adhesive

- Extended set
- Frost-resistant
- Suitable for:
  - Porcelain tiles
  - Ceramic tiles
  - Floors & walls
  - Internal & external use

Size: 20kg
Colours: White & Grey

ProFlex SP
Rapid Set Flexible Tile Adhesive

- Frost-resistant
- Suitable for:
  - Porcelain, glass, mosaic & natural stone tiles
  - Timber floors
  - Swimming pools
  - Floors & walls
  - Underfloor heating
  - Internal & external use

Size: 20kg
Colours: White & Grey
Wall & Floor Adhesives
Cementitious Powders

ProRapid PB
Rapid Set Tile Adhesive
- Rapid setting
- Frost-resistant
- Suitable for:
  - Ceramic tiles
  - Floors & walls
  - Internal & external use

Size: 20kg
Colour: Grey

ProRapid RS
Rapid Set Flexible Tile Adhesive
- High strength
- Flexible
- Frost-resistant
- Suitable for:
  - Porcelain & natural stone tiles
  - Floors & walls
  - Underfloor heating
  - Internal & external use

Size: 20kg
Colours: White & Grey

FibreGrip FX
Fibre Reinforced Tile Adhesive
- Superior bond
- Exceptional grab
- Fibre enhanced body
- Flexible
- Superior coverage
- Suitable for:
  - Ceramic, porcelain & natural stone tiles
  - Large format tiles
  - Floors & walls
  - Underfloor heating
  - Internal & external use

Size: 20kg
Colours: White & Grey

ProFlex SP+ES
Standard Set Flexible Tile Adhesive
- Extended open time
- Frost-resistant
- Suitable for:
  - Porcelain, glass, mosaic, & natural stone tiles
  - Timber floors
  - Swimming pools
  - Floors & walls
  - Underfloor heating
  - Internal & external use

Size: 20kg
Colours: White & Grey

ProFlex S2
Flexible Fibre Reinforced Tile Adhesive
- Ultimate S2 flexibility
- Rapid setting
- Frost-resistant
- Suitable for:
  - Porcelain, natural stone, resin backed stone, quartz, marble, slate and ceramic tiles
  - Timber floors (chipboard overlay)
  - Floors & walls
  - Underfloor heating
  - Swimming pools
  - Internal & external use

Size: 20kg
Colours: White & Grey

A combination of S1, S2 and fibre enhanced products, there’s a cementitious adhesive for all types of installations including timber floors and swimming pools.

ultratileadhesives.co.uk
### Ready Mixed Wall Tile Adhesives

<table>
<thead>
<tr>
<th></th>
<th>ProGrip HG</th>
<th>SuperWhite WR Flex</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product Features</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wall and Floor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bed Thickness</td>
<td>1-3mm</td>
<td>1-3mm</td>
</tr>
<tr>
<td>Open Time</td>
<td>30 Mins*</td>
<td>30 Mins*</td>
</tr>
<tr>
<td>Pot Life</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Set Time</td>
<td>24 Hours*</td>
<td>24 Hours*</td>
</tr>
<tr>
<td>Conforms to</td>
<td>EN12004 D1TE</td>
<td>EN12004 D2TE</td>
</tr>
<tr>
<td>Colour</td>
<td>Off-white</td>
<td>Brilliant white</td>
</tr>
<tr>
<td>Pack Size</td>
<td>15kg</td>
<td>15kg &amp; 7.5kg</td>
</tr>
</tbody>
</table>

#### Specification

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gypsum Plaster</td>
<td>Yes</td>
</tr>
<tr>
<td>Gypsum Plaster Board</td>
<td>Yes</td>
</tr>
<tr>
<td>Concrete Render</td>
<td>Yes</td>
</tr>
<tr>
<td>Brick / Block Work</td>
<td>Yes</td>
</tr>
<tr>
<td>Fixed Plywood</td>
<td>No</td>
</tr>
<tr>
<td>Painted Wall Wall</td>
<td>No</td>
</tr>
<tr>
<td>Existing Tile Surface</td>
<td>Yes / **</td>
</tr>
</tbody>
</table>

#### Wall

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cement Screed / Levelling Compound</td>
<td>N/A</td>
</tr>
<tr>
<td>Concrete Sub-base</td>
<td>N/A</td>
</tr>
<tr>
<td>Anhydrite / Calcium Sulphate Screed</td>
<td>N/A</td>
</tr>
<tr>
<td>Floor Graded Asphalt</td>
<td>N/A</td>
</tr>
<tr>
<td>Underfloor Heating (See pages 31 &amp; 32)</td>
<td>N/A</td>
</tr>
<tr>
<td>Ceramic / Stone / Terrazzo</td>
<td>N/A</td>
</tr>
<tr>
<td>Painted Floor</td>
<td>N/A</td>
</tr>
<tr>
<td>Exterior Grade min 15mm Plywood</td>
<td>N/A</td>
</tr>
<tr>
<td>Tongue and Groove</td>
<td>N/A</td>
</tr>
</tbody>
</table>

#### Floor

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceramic</td>
<td>Yes</td>
</tr>
<tr>
<td>Vitreous</td>
<td>No</td>
</tr>
<tr>
<td>Porcelain</td>
<td>No</td>
</tr>
<tr>
<td>Terrazzo</td>
<td>No</td>
</tr>
<tr>
<td>Agglomerate / Quartz</td>
<td>No</td>
</tr>
<tr>
<td>Glass</td>
<td>No</td>
</tr>
<tr>
<td>Natural Stone (includes travertine, marble, limestone, granite and slate)</td>
<td>J</td>
</tr>
</tbody>
</table>

### Note:

- The information provided above is intended as a general guide only and cannot fully reflect all conditions that can influence the success of a particular application. Unsuitable substrates for all products include: metal, fiberglass, MDF, shutter / OSB and bitumen damp proof membranes. For comprehensive application specific advice or additional queries, please contact our technical support team on +44 (0)1827 871871 or email ultratile@instarmac.co.uk

---

**ProTip:**

- Depending on temperature and substrate
- **Drying times will be extended**
- ***Ensure sealed to prevent staining due to longer wet phase, check tile suitability***
- N Prime first with UltraFloor Prime IT Multi-surface Primer neat as per installation guides
- D Prime first with UltraFloor Prime IT Multi-surface Primer or UltraTile Prime IT FP diluted as per UltraTile installation guides

---

**Prime first:**

- UltraFloor Prime IT Multi-surface Primer neat as per installation guides
- UltraTile Prime IT FP diluted as per UltraTile installation guides

**Telephone for technical support:**

- N/A
- N/A

**Prime with:**

- UltraPrime IT Multi-surface Primer
- UltraPrime IT Multi-surface Primer FP

---

**Product Selector**

- High Grab Acrylic Wall Tile Adhesive
- Highly Flexible Acrylic Wall Tile Adhesive

---

**Types of tile**

- Ceramic
- Vitreous
- Porcelain
- Terrazzo
- Agglomerate / Quartz
- Glass
- Natural Stone (includes travertine, marble, limestone, granite and slate)
## Cementitious Wall & Floor Tile Adhesives

<table>
<thead>
<tr>
<th>ProSet SS</th>
<th>ProRapid PB</th>
<th>ProRapid RS</th>
<th>FibreGrip FX</th>
<th>ProFlex SP</th>
<th>ProFlex SP+ES</th>
<th>ProFlex S2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Set Tile Adhesive</td>
<td>Rapid Set Tile Adhesive</td>
<td>Rapid Set Flexible Tile Adhesive</td>
<td>Fibre Reinforced Tile Adhesive</td>
<td>S1 Rapid Set Flexible Tile Adhesive</td>
<td>Standard Set Flexible Tile Adhesive</td>
<td>Flexible Fibre Reinforced Tile Adhesive</td>
</tr>
<tr>
<td>Wall and Floor</td>
<td>Wall and Floor</td>
<td>Wall and Floor</td>
<td>Wall and Floor</td>
<td>Wall and Floor</td>
<td>Wall and Floor</td>
<td>Wall and Floor</td>
</tr>
<tr>
<td>3-12mm</td>
<td>3-12mm</td>
<td>3-12mm</td>
<td>3-12mm</td>
<td>3-20mm</td>
<td>3-20mm</td>
<td>3-20mm</td>
</tr>
<tr>
<td>30 Mins+*</td>
<td>20-30 Mins*</td>
<td>20-30 Mins*</td>
<td>20-30 Mins*</td>
<td>20-30 Mins*</td>
<td>30 Mins+*</td>
<td>20-30 Mins*</td>
</tr>
<tr>
<td>2 Hours*</td>
<td>1 Hour*</td>
<td>1 Hour*</td>
<td>40 Mins*</td>
<td>1 Hour*</td>
<td>2 Hours*</td>
<td>40 Mins*</td>
</tr>
<tr>
<td>16 Hours*</td>
<td>2 Hours*</td>
<td>2.5 Hours*</td>
<td>2.5 Hours</td>
<td>2.5 Hours*</td>
<td>16 Hours*</td>
<td>3.5 Hours*</td>
</tr>
<tr>
<td>EN12004 Class C2TE</td>
<td>EN12004 Class C1FT</td>
<td>EN12004 Class C2FT</td>
<td>EN12004 Class C2FT</td>
<td>EN12004 Class C2FT EN12002 S1</td>
<td>EN12004 Class C2TE EN12002 S1</td>
<td>EN12004 Class C2FT EN12002 S2</td>
</tr>
<tr>
<td>White &amp; Grey</td>
<td>Grey</td>
<td>White &amp; Grey</td>
<td>White &amp; Grey</td>
<td>White &amp; Grey</td>
<td>White &amp; Grey</td>
<td>White &amp; Grey</td>
</tr>
<tr>
<td>20kg</td>
<td>20kg</td>
<td>20kg</td>
<td>20kg</td>
<td>20kg</td>
<td>20kg</td>
<td>20kg</td>
</tr>
</tbody>
</table>

### Adhesive Suitability

- **Suitable = ✓**
- **Good = ✓✓**
- **Better = ✓✓✓**
- **Best = ✓✓✓✓**

To help you select the most appropriate cementitious adhesive per tile type, the above chart indicates our recommendations.

---

*ultratileadhesives.co.uk*
Grout & Silicone

**FlexJoint**
Premium Wall and Floor Grout

- Super fine texture
- Mould resistant & water repellant
- Polymer modified
- Matching silicones available
- Suitable for:
  - Underfloor heating, kitchens, bathrooms, swimming pools and power showers

Sizes: 3kg & 10kg
Colours: White, Cream, Jasmine, Limestone, Chocolate, Titanium, Grey, Charcoal & Anthracite

**FineJoint**
Premium Wall and Floor Grout

- Super fine texture
- Mould resistant
- Water repellant
- Hygienic
- Suitable for:
  - Kitchens
  - Bathrooms
  - Swimming pools
  - Power showers

Sizes: 3kg & 10kg
Colours: White & Grey

**ProSeal IT**
Pure Silicone Sealant

- High bond
- High elasticity
- All kitchen and bathroom applications
- Designed to compliment UltraTile FlexJoint grout

Size: 310ml
Colours: Clear, White, Cream, Jasmine, Limestone, Titanium, Grey, Charcoal & Anthracite

---

**Premium Wall & Floor Grouts**

<table>
<thead>
<tr>
<th>Product</th>
<th>Features</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>FlexJoint</td>
<td>Wall and floor</td>
<td>Yes</td>
</tr>
<tr>
<td>FineJoint</td>
<td>Wall and floor</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Joint Thickness 1 - 20mm</td>
<td>1 - 12mm</td>
</tr>
<tr>
<td></td>
<td>Pot Life 60 Mins</td>
<td>60 Mins</td>
</tr>
<tr>
<td></td>
<td>Set Time 24 Hours</td>
<td>24 Hours</td>
</tr>
<tr>
<td></td>
<td>Conforms to EN13888 CG2</td>
<td>EN13888 CG2</td>
</tr>
<tr>
<td></td>
<td>Underfloor Heating</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Colour</td>
<td>White &amp; Grey</td>
</tr>
<tr>
<td></td>
<td>Pack Size</td>
<td>3kg &amp; 10kg</td>
</tr>
</tbody>
</table>
UltraTile grouts are suitable for a vast array of tile types and applications, including natural stone, porcelain, conglomerate and ceramic tiles.

Colours on the above charts should be used as a guide only, as print process shades may vary from samples. We would always recommend that a small trial area be completed to check for the desired shade as applications can vary depending upon substrate and site conditions.
Prime IT FP
Flexible Additive and Primer
- Porous substrates
- Seals and primes
- Increases bond strength
- Improves water resistance
- Improves flexibility
- Versatile and durable
- 20m² coverage per coat, diluted 3:1
Size: 2.5ltr

Prime IT Multi-surface Primer
Primer for Porous and Non-Porous Substrates
- Moisture tolerant
- Enhances adhesion
- Reduces pinholing
- Improves water resistance
- Coverage: 200m² at 3:1 dilution
Size: 5ltr

Wetroom System
Flexible Waterproof Coating for Protection of Water Sensitive Backgrounds
- Flexible
- Waterproof
- Easy to use
- Complete tanking kit
- Ideal for pre-strengthened floors
- Suitable for underfloor heating
- For domestic internal use
- Can be tiled after 24 hours
- No need to prime
Sizes: 8kg (includes flexible waterproof coating and membrane tape).
- Tape available separately

Mixing Bucket
25ltr mixing bucket
- Transparent
- Complete with litre scale
- Metal handle

Please refer to page 22 for guidance on substrate preparation
Tile Adhesives &
Grout Classifications

Tile adhesives and grout classifications

All UltraTile adhesives and grouts are fully CE classified, their ‘Declaration of Performance’ certificates can be downloaded at the click of a button from ultratileadhesives.co.uk

The European Standards explained:

EN 12004:2007
Adhesives for tiles - requirements, evaluation of conformity, classification and designation regarding ceramic tile adhesives for internal and external tile installations for floors and walls.

C Cementitious adhesive
D Dispersion adhesive (ready mixed paste)

Tile Adhesive Classes
1 Normal adhesive
2 Improved adhesive (meets the requirements for additional characteristics)
F Fast setting adhesive (cementitious only) that achieves 0.5 N/mm² in 6 hours
T Non-slip adhesive (for walls)
E Extended open time adhesive, i.e. >30 minutes (for cementitious and dispersion adhesives only)

EN 12002:2008
Determination of the transverse deformation for cementitious adhesives and grout.

S1 Deformable adhesive with a transverse deformation of between 2.5mm and 5mm
S2 Highly deformable adhesive with a transverse deformation of over 5mm

EN 13888:2009
Grouts for tiles - definitions and specifications for ceramic tile grouts for internal and external tile installations for walls and floors.

CG1 Normal cementitious grouts with fundamental characteristics such as abrasion resistance, flexural and compressive strengths when subjected to dry storage / freeze-thaw cycles as well as water absorption measured over time.

CG2 Improved cementitious grout, typically highly polymer modified cementitious grouts with additional characteristics such as reduced water absorption and higher abrasion resistance.
How much material will I need?

Working out how much material you will need for a tiling installation has never been so easy!

Visit ultratileadhesives.co.uk and use our online product calculator.

Ready Mixed Tile Adhesive (Paste)
1 x 15kg plastic bucket, when using a recommended 3mm notched trowel, should cover approximately 6m².

Cementitious Powder Tile Adhesive
1 x 20kg bag, when using a recommended 6mm notched trowel (3mm bed thickness), should cover approximately 4 - 5m². (UltraTile FibreGrip FX - 5.5 - 6m²).

Grouts
Grout usage will also vary to a far greater extent depending on the style and size of tiles used, as well as the final appearance required. A 3kg bag will cover approximately 10 - 12m² when using 150 x 150mm tile and 3mm joints.

For a guide calculation for all other installations, please use the formula below or visit ultratileadhesives.co.uk.

Formula and Calculation

<table>
<thead>
<tr>
<th>Product</th>
<th>Coverage Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>UltraTile FineJoint Grout</td>
<td>1.2</td>
</tr>
<tr>
<td>UltraTile FlexJoint Grout</td>
<td>1.2</td>
</tr>
</tbody>
</table>

Step by step guide:

1. Add together the length and breadth of the tile in mm.
2. Multiply the result by the joint width multiplied by the joint depth in mm.
3. Multiply this result by the coverage ratio.
4. Divide the result by the length multiplied by the breadth of the tile in mm. The final result is the material requirement in kg/m².

Example

\[
\text{Length + Breadth of Tile} \times \text{Width x Depth of Joint} \times \text{Coverage Ratio} = \text{Kg/m}^2
\]

\[
\text{Length x Breadth of Tile}
\]

Therefore:

Tile Size: 150mm x 150mm
Joint Size: 6mm x 3mm
Product: UltraTile FlexJoint Grout
Coverage ratio 1.2

\[
\frac{(150 + 150) \times 3 \times 6 \times 1.2}{150 \times 150} = 0.288 \text{kg}
\]

Note: The above coverage is provided as a guide only and reflects typical tiling applications; therefore, it should not be used as an exact material requirement calculation. Please note that the actual coverage may vary depending on substrate, tile size (width, length, and thickness), desired effect and size of joints. For further help and technical support, please call the UltraTile team on +44 (0)1827 871871 or email ultratile@instarmac.co.uk
Introduction
This guide has been developed to aid the modern tiler in selecting the right products from the UltraTile range, for the variety of scenarios they may encounter. To ensure a successful installation is achieved it is necessary to understand the three areas that may influence product selection:

1. Tile type
2. Nature of the substrate
3. End use expectations

This guide is not designed to teach tilers how to install tiles. This cannot be achieved purely by instruction but requires years of training. It is a guide to aid in the correct selection of product and subsequent usage.

Common terms
There is a great deal of terminology used within the tiling industry. The following is a collection of the most common terms and their meanings.

Additive: Generally refers to a liquid polymer that can be added to a grout or adhesive to improve its adhesion and flexibility.

Adjusting time: The length of time after fixing a tile that it can still be adjusted without detriment to the adhesive bond strength.

Buttering: The process of spreading a thin layer of adhesive on the underside of textured tiles directly before bedding. This is to ensure a full bed adhesive is achieved.

Calibrated / Un-calibrated: A reference to the thickness of tiles. Calibrated tiles are manufactured to give a uniform depth so can be bedded onto adhesive using the same bed depth. Un-calibrated tiles are typically natural stone of varying thickness and require thicker bed depths.

Efflorescence: The appearance of light deposits of salts on cementitious materials, occasionally visible in grout lines. It is as a result of moisture bringing salts to the surface that when dry leave a white powdery deposit showing light and dark variations within the grout. It can occur due to moisture migration from the background substrate, by watering or premature cleaning off of the grout. It is not detrimental to grout performance.

Finished walls and floors: Prior to any tiling it is important that walls and floors are finished providing the level of smoothness and regularity required. This may be by means of rendering or plastering on walls or by use of a suitable smoothing compound on floors. A wall classed as finished and ready for tiling will have no greater than a 2mm deviation under a 2m straight edge. A finished floor, a 3mm deviation under a 3mm straight edge.

Fixing time: The length of time, after applying an adhesive, that the tiles can be fixed.

Frost-resistant: The ability of a tile, adhesive or grout to perform even when the external conditions can result in frost formation. The tiles usually have to have very low water absorption to ensure cracking does not occur.

Internal / external: Products that are suitable for both internal and external use without affecting their performance parameters.

Laitance: A term used to describe a fine particle material deposit (often referred to as ‘fines’ or ‘fat’) found on the surface of cementitious or calcium sulphate subfloors. The deposit is a weak interface and should be removed to ensure the tile adhesive has a sound, strong surface to bond to. Laitance should be mechanically removed (often followed by vacuuming), and is caused by too much water when installing a screed. It can also be found when a levelling compound has been incorrectly used.

Movement joints: Gaps left in tiled floor designs and filled with a flexible material to enable the substrates and/or building to move independently of the tiling. Typically between different substrates, where tiles abut uprights, at corners and where expansion joints are present.
in the existing floor. Movement joints are essential design features.

**Mould resistant**: The ability of a product, usually a grout, to resist the growth of mould.

**Open time**: The time, usually in minutes, after application of an adhesive within which it will still bond and secure the tile. This can be influenced by the nature of the substrate (with absorbent substrates reducing open time) and also the ambient conditions where warm, dry conditions reduce the open time.

**Polymer modified**: This term refers to adhesive and grout formulations that include added polymer for increased adhesion and flexibility. Polymer modified products are common due to the increased use of vitrified and porcelain tiles, which have a low absorbency and require a ‘better’ adhesive to adhere them.

**Pot life**: The length of time after mixing a grout or adhesive that you have to use it. After the pot life has been reached, the mixing product should be discarded. Water should not be added to try and regain its characteristics.

**Primer**: A liquid applied to a substrate prior to tiling. Used either to enhance adhesion or to reduce porosity providing a longer open time for the adhesive.

**Rapid setting**: An adhesive modified so it sets rapidly, by utilising different cements and technologies. Enables tiling and grouting to be carried out in a shorter time frame.

**Ready mixed**: Adhesives that are supplied ready for use, without the requirement to add any water or liquid polymer. Usually acrylic based and generally only used for wall tile installations where set time is not so critical.

**Set time or ‘Walkability’**: The time, usually in hours, after which a bonded tile can be grouted and/or walked upon without affecting the bond. The set time for ready mixed adhesives is greatly dependent on the type of tiles and substrate.

**Slump or slip**: The vertical movement of a wall tile after it has been bedded into an adhesive. Traditionally battens have been used to prevent slump but modern adhesives are modified with anti-slump or anti-slip characteristics.

**Solid bed fixing**: A term used to describe a bed of adhesive of greater than 95% contact between tile back and adhesive, and between adhesive and substrate. This is recommended on all floor and large format wall installations.

**Tanking**: Applying a liquid waterproof membrane, usually incorporating a mesh, in areas such as showers to protect moisture sensitive background substrates from water impregnation.

**Tensile adhesion strength**: A standard test used to determine adhesion strength of tiles and adhesive. Usually quoted in N/mm² and the higher the number the greater the bond between the materials.

**Tile backer boards**: These boards can be constructed from a variety of materials including cement, insulation or resin based compounds reinforced to give added strength. These boards usually offer waterproofing and/or insulation properties.

**Uncoupling membranes**: These are membranes used below new tiling installations and generally fixed direct to the floor screed for the purpose of preventing known problems in the subfloor effecting the new tiling installation. By creating a separation layer between the tiles and the screed it can effectively overcome substrate movement tensions, and stress crack issues. They can also be used to provide waterproof protection neutralising vapour pressure build up in problematic, as well as damp screeds. They can be used above underfloor heating systems.

**Underfloor heating**: There are two basic types of underfloor heating systems. The first uses warm water pipes either encased within the floor screed or fixed into pre-formed insulation panels. Once positioned, installed and commissioned the floor covering can be installed. Hot water piped through the system provides the heating. The second system uses electrical heating mats placed on to the prepared floor and connected to wall mounted thermostatic controls. Once commissioned the floor covering is installed.

**Waterproof**: The ability of an adhesive or grout to prevent the passage of water. Normally epoxy or resin materials, which are often also chemically resistant.

**Water repellant**: Used usually when referring to grout, it’s the ability of the product to repel water from its surface. Does not imply a waterproof grout.

**Water resistant**: The ability of an adhesive or grout to still retain its performance even when subject to full immersion in water.

**Water staining**: A situation where moisture from adhesives or grouts gets into natural stone and dissolves existing materials resulting in discoloration, usually of the edges, but sometimes the faces of the tile. The use of rapid set products minimises this risk, as does sealing of tiles prior to grouting.

**Working time or ‘Workability’**: The time, usually in minutes, after mixing an adhesive or grout that will still retain its characteristics to enable it to be applied, bedded onto and finished. With rapid set products the working time will be reduced the longer the material is left in the mixed container. Also, warmer temperatures will reduce the working time.
Ceramic: A tile consisting of mixtures of clay, which are pressed and kiln-fired at high temperatures, to give a hard ‘bisque or biscuit’. The ‘biscuit’ has a relatively high degree of absorbency enabling the adhesive to bond fairly easily. Ceramics may be left unglazed but are more often glazed to give more decorative options as well as physical benefits. This includes terracotta and quarry tiles. Ceramic tiles are generally not considered suitable for external use.

Vitrious (fully vitrified and semi-vitrified): Similar in manufacture to ceramic tiles, but incorporating different clays to provide tiles that are harder, denser and less absorbent. They may be fired for longer and at higher temperatures than ceramics. The term vitreous simply means ‘glass like’. The classification for ‘fully vitrified’ is a tile with less than 3% water absorption. Fully vitrified tiles require the use of a polymer modified adhesive and may be used externally in areas for spas and swimming pools. Semi-vitreous tiles have a water absorption between 3-7%.

Porcelain: Porcelain tiles are made from a different blend of clay, and a manufacturing process similar to ceramics. This controls shrinkage and water use and results in a very dense, hard-wearing tile with an absorbency of less than 0.5%, suitable externally for commercial projects as well as for swimming pools and areas subject to frost. ‘Full bodied’ porcelain doesn’t show wear as there is no upper glaze. They are much more affordable and are nowadays also used in domestic installations.

Terrazzo: Either pre-manufactured or laid in-situ, terrazzo consists of granite and marble chips in a Portland cement, or sometimes epoxy resin binder. They can be polished to give a low absorbent and high strength tile suitable for commercial use.

Agglomerate: This type of tile is manufactured by mixing graded pieces of granite and marble with cement and resins to give a pre-formed tile. They generally have low absorption. These tiles are sometimes referred to as quartz. For use of these type of tiles with underfloor heating always consult the manufacturer for guidance.

Glass: Manufactured from glass, and available in many striking opaque colours. Traditionally manufactured in small sizes and often on mosaic backings, they are now available in much larger formats. They are very hard and offer extremely low porosity.

There are presently no British or European standards covering glass tiles so it is always worthwhile contacting the manufacturer for adhesive recommendations. Typically a minimum of a C2 classification is required but some decorative tiles may require resin based adhesives.
Natural stones

There is a wide variety of natural stones available today; all are cut from larger stones to make varied sizes and shapes with a host of characteristics. Always check with the supplier regarding a sealing product for use before and after grouting. Special care should be taken when dealing with resin backed stone.

**Travertine:** A form of limestone, travertine is very popular. It is a porous material and can be supplied with a good surface texture but can also be filled or honed to provide a smooth surface. Travertine should always be sealed before grouting. It is recommended to use a rapid set adhesive to minimise water absorption and potential staining.

**Limestone:** Available in a coarse or fine texture, and of varying strength, it is a porous material and should be sealed prior to grouting. It is recommended that a rapid set adhesive is used to minimise water absorption and potential staining.

**Marble:** Very durable and strong, available in a vast array of colours, due to impurities when being formed. Stronger than limestone and travertine, it is often supplied polished and sometimes cut down for mosaics. Although not as porous as limestone and travertine it is still recommended to seal prior to grouting.

**Granite:** Very strong stone suitable for heavy wear situations, that is resistant to most domestic use acids. It is porous and requires sealing before grouting. We recommend that a rapid set adhesive is used.

**Slate:** Very durable natural stone found in slabs that are split and then cut to size. Very hardwearing and offers a textured surface with a degree of anti-slip, making it ideal for external use. Slate, often supplied un-calibrated, should be sealed before grouting.

See Product Selector on pages 10 & 11 for correct choice of adhesive.

Tile dimensions

The dimensions of any tile can play an important part in selecting the correct adhesive for use. Smaller tiles are generally easier to fix. The following common descriptions are used for different tile dimensions.

**Mosaic:** Typically glass or marble of small dimensions (less than 50mm x 50mm) mounted onto backing paper. Supplied in 300mm x 300mm sheets, they can be cut down to smaller bands, enabling feature strips to be created. Generally mosaics do not require special adhesives but extended set products may be beneficial to allow a longer working time for intricate designs.

**Large format:** There is no official definition for the dimensions of a tile classed as large format. For the purpose of this guide, any tile that has a perimeter measurement in excess of 1.6m is classed as large format i.e. 400mm x 400mm or 600mm x 200mm.

Large format tiles require the use of higher strength polymer modified adhesives with improved slip and slump characteristics.

**Uncalibrated:** This is a term used for natural stone tiles that are not cut to give tiles of the same thickness. Unlike manufactured tiles, un-calibrated tiles will require an adhesive capable of being used at thicker bed depths to ensure a consistent finished surface level is achieved.
Substrate preparation

The suitability of a substrate should always be fully assessed before carrying out any tiling. The main criteria to be assessed are:

- Is the substrate strong and stable?
- Has the substrate dried/cured completely?
- Is the substrate smooth and reasonably level?
- Is the substrate porous or non-porous? A test area should be used.

If the answer to any of these is 'no', then the substrate is not suitable to be tiled onto and further preparation is required before priming and fixing.

**Why should you prime?**

Priming of substrates is key to ensuring the selected adhesive can perform to its optimum. There are three basic reasons why priming is important. UltraTile provides the perfect solutions.

1. The sealing of substrates to reduce moisture absorption from cementitious adhesives enabling them to hydrate and cure properly. We recommend the use of UltraTile Prime IT FP or UltraFloor Prime IT Multi-surface Primer.

2. On dense and impervious substrates it is beneficial to utilise a bonding primer to enhance the adhesion of the tile to the substrate. Such substrates would include epoxy damp proof membranes, tile on tile, asphalt and painted surfaces. For this we recommend the use of UltraFloor Prime IT Multi-surface Primer neat.

3. On some substrates it may be necessary to create a barrier between the substrate and adhesive to ensure compatibility. This may be when applying cement adhesive to calcium sulphates or when bonding onto substrates affected by high alkali adhesives. We recommend that UltraFloor Prime IT Multi-surface Primer is used when a barrier primer is required.

**Is the substrate porous or non-porous?**

General priming guidance is to use UltraTile Prime IT FP or UltraFloor Prime IT Multi-surface Primer when tiling onto a porous substrate such as sand/cement. Whereas UltraFloor Prime IT Multi-surface Primer neat should be used on non-porous substrates such as ceramic, terrazzo, asphalt and epoxy based damp proof membranes. We do not recommend the use of PVA for priming and have produced an article to explain this.

For underfloor heating systems in terms of priming please see specific advice on pages 31 - 33.

1. **Article**

   PVA for Priming - Good Practice or Bad Habit?
   article available online visit ultratileadhesives.co.uk
Grouting Tips

Grouting tips

The finished look of a tiling installation is down to the design itself and the tiles selected. There are, however, a significant number of grout lines also visible which can affect the final appearance. It is therefore important to grout carefully, getting the best result possible. Here are some tips to follow:

• Mix the grout in accordance with the manufacturer’s instructions. It is particularly important not to make the grout too fluid as this will cause separation, resulting in a weaker surface of varying colour.

• When mechanically mixing grouts a drill speed of less than 300RPM with the paddle held beneath the grout surface is ideal. Aggressive mixing can pull air into the product which can show as air holes upon curing.

• Be patient and leave the grout to stand for a couple of minutes after mixing, allowing the reaction of all components to begin. A quick stir after a couple of minutes standing is also advised.

• Do not re-mix the grout after this initial period, and do not add extra water to try and retain mobility. If the grout has thickened up too much to apply then discard it.

• Once in the joint, the grout should be left to firm before cleaning down. This is to ensure it remains in the joint and does not absorb significant levels of moisture when the area is cleaned.

NB: The time to firm is dependent on many parameters. The more porous a tile and/or substrate then the quicker the firming up will happen i.e. ceramic tiles will be able to be cleaned much earlier than porcelain tiles. Joint width will also play a part, with wider joints taking longer to firm. Finally, ambient conditions will have an effect. Cold and damp environments with poor ventilation will result in the grout taking longer to firm.

• When cleaning do not over apply water. We advise using a sponge or squeegee. If using a ‘washboy’, it is important to drain the sponge thoroughly otherwise this can reintroduce a significant amount of water into the grout, causing separation and surface patchiness when curing.
Wall tiling

For wall tiling applications it is essential that the wall itself has sufficient inherent strength to hold the proposed tile and the adhesive being used.

The following chart lists the accepted maximum loadings for a variety of wall substrates.

In all cases, it is advised that where wall boards, of any type, are used that the manufacturer be consulted for further guidance.

<table>
<thead>
<tr>
<th>Wall Substrate</th>
<th>Maximum tile weight (plus adhesive and grout*)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gypsum plaster</td>
<td>20kg/m²</td>
</tr>
<tr>
<td>Plasterboard (gypsum) unskimmed</td>
<td>32kg/m²</td>
</tr>
<tr>
<td>Plywood (exterior grade)</td>
<td>30kg/m²</td>
</tr>
<tr>
<td>Gypsum fibre boards</td>
<td>40kg/m²</td>
</tr>
<tr>
<td>Tile backer boards</td>
<td>40kg/m²</td>
</tr>
<tr>
<td>Glass reinforced cement sheets</td>
<td>50kg/m²</td>
</tr>
</tbody>
</table>

*Typically the weight of the adhesive and grout is from 2-4kg per m²

Wall types vary considerably but all have the same basic need to be structurally sound, strong, smooth and level.

It is important to understand that tile adhesives are not designed to be a method of overcoming surface undulations and unevenness.

The specifications for various substrates and their suitability are listed opposite. Should any other substrates be encountered, please contact the UltraTile Technical Department.
Plaster/solid walls/skinned plasterboard

Instructions:
A plastered wall must be at least four weeks old prior to tiling to ensure adequate strength build up and suitable dryness. Prior to tiling ensure the plaster is dust free and is not showing any signs of efflorescence (see Glossary). Weak or friable plaster should not be tiled onto. Densely finished, polished or shiny plaster should be ‘roughened’ up to provide a good mechanical key. A stiff bristle brush should be used.

Priming:
Apply 2 coats of UltraTile Prime IT FP or UltraFloor Prime IT Multi-surface Primer (diluted 3 parts water to 1 part primer), allowing each coat to dry before continuing.

Plasterboard on studwork or solid walls

Instructions:
Plasterboards must be securely fixed to the original substrate to ensure they are firm, rigid and dry. Any supporting timber framework must be fully seasoned to ensure no warping or twisting occurs after installation.

Priming:
Apply 1 coat of UltraTile Prime IT FP or UltraFloor Prime IT Multi-surface Primer (diluted 3 parts water to 1 part primer), allow the primer coat to dry before continuing.

Plywood

Instructions:
Plywood boards must be a minimum thickness of 15mm. The grade of plywood used should be suitable for exterior use and may include marine or Class 3 plywood. The boards should be fixed to the framework at a minimum 300mm centres on both horizontal and vertical battens. The plywood must be screwed, not nailed to the framework to ensure a rigid, secure substrate. Any supporting timber framework must be fully seasoned to ensure no warping or twisting occurs after installation.

Priming:
Is not normally required with highly flexible adhesives. If in doubt please consult the UltraTile Technical Department.
Backer board

Instructions:
There are many brands of backer board. In all cases, confirm with the specific manufacturer as to fixing and priming requirements.

Most are made of fibre reinforced cement or similar. In the absence of any further advice from the manufacturers they should be treated as per a plywood installation.

Tiled

Instructions:
Ideally, existing tiles should be removed and then the substrate can be prepared as required.

However, it is accepted that on occasions removal of existing tiles may not be an appropriate method so a ‘tile on tile’ installation is necessary.

The existing tiles must be securely bonded to a sound stable background that is capable of accepting the weight of the original tiling plus the new tiles.

Tiles that sound hollow or loose should be removed and the exposed area primed prior to applying a cementitious repair mortar.

Existing tiles should be degreased and then lightly abraded to provide a clean mechanical key.

Priming:
Apply 1 neat coat of UltraFloor Prime IT Multi-surface Primer; allow the primer coat to dry before continuing.

Render

Instructions:
Allow a minimum of 4 weeks for the render to dry. Prior to tiling ensure the render is dust free and is not showing any signs of efflorescence. Weak or friable render should not be tiled onto.

Priming:
Is not normally required with highly flexible adhesives. If in doubt please consult the UltraTile Technical Department.
Floor tiling

The main consideration for laying floor tiles is the fact that once in use, they are not just decorative and hygienic but also functional. They will have to perform under daily trafficking, whether this is foot traffic in a domestic installation or heavy wear and tear in a commercial application.

It is therefore critical that full attention to correct preparation and application is paid.

As with wall tiling there is not always a need for a full bed bond, but with floor tiles it is **essential**. The strength build-up of the adhesive is far more important too as the tiles need to be walked upon to grout, and in most cases, the floor needs to get back into service. To enable this we advise the use of powder products rather than ready mixed adhesives.

To ensure full bonding, the substrate should be as even and level as possible. In most cases, rough floors or floors with height variations can be prepared using **UltraTile Level IT one, Level IT Two and Level IT FX**.

All offer extremely good flow, and a floor level classified as SR2 can easily be achieved (no greater than a 5mm deflection under a 3m straight edge).

With skill an SR1 floor can be achieved (3mm deflection under a 3m straight edge). Please turn to page 40 for information on these products or contact the UltraTile Technical Department.

Specifications for various substrates and their suitability are listed overleaf. Should any others be encountered, please contact the UltraTile Technical Department.
**Sand/cement screed**

- A: Sand/cement screed or concrete floor
- B: Prime: if the screed is rough or uneven prepare it using an application of an UltraFloor levelling compound followed by another primer coat.
- C: Apply adhesive (selected upon tile type)
- D: Install tiles
- E: Grout all joints

**Concrete**

**Instructions:**
Concrete varies significantly in its finish, from tamped to power-floated. In all cases, the concrete must be fully cured and have been left to dry for a minimum of 6 weeks.

For power-floated concrete it may be necessary to remove surface additives and hardeners by mechanical abrasion.

Power-floated concrete should be considered a non-porous surface. Fully dry concrete surfaces can be improved with the application of an UltraFloor levelling compound.

**Instructions:**
The screed must have cured and dried for a minimum of 21 days under good ambient conditions. Any cracks should be repaired with a rapid repair mortar.

Any weak or friable screed should be removed and repaired. Movement joints should not be covered with tiles as they are designed to allow for subfloor movement.

Follow joints through to the tile surface and use an appropriate expansion material or cover strip. Fully dry rough or uneven screeds can be improved with an application of an UltraFloor levelling compound.

**Priming:**
Tamped concrete – apply 1 coat of UltraTile Prime IT FP or UltraFloor Prime IT Multi-surface Primer (diluted 3 parts water to 1 part primer).
Power-floated concrete – apply 1 neat coat of UltraFloor Prime IT Multi-surface Primer neat.
Allow the primer coat to dry before continuing.

**Hard vinyl tiles**

**Instructions:**
Not all vinyl tile flooring is suitable to be tiled over. Cushioned or flexible vinyl tiles should not be overlaid and must be removed along with the adhesive residue. Hard vinyl tiles should be lightly abraded (see NB opposite) and then primed with UltraFloor Prime IT Multi-surface Primer neat (bonding primer).

**NB:**
Old ‘crunchy’ tiles should not be abraded as they may have been manufactured using asbestos fibres. Such tiles are typically 225mm (9 inches) square tiles and are often bonded onto a black adhesive. The use of an uncoupling membrane is advisable in such circumstances.
**Timber/wood**

**Plywood Overlay**

1. **Prime** (remembering to use UltraFloor Prime IT Multi-surface Primer neat if marine grade is used)
2. Apply adhesive (flexible only should be used)
3. Install tiles
4. Grout all joints

**Instructions:**

Unlike sand / cement screed and concrete, which are inherently strong and stable without any vibration or movement, there are different considerations to be made with timber / wooden subfloors.

Existing timber / wooden floors must be strong, rigid, stable and capable of withstanding the load of adhesive and tiles. **They should be sufficiently supported to prevent flexing.** Additional noggins may be required to stabilise the floor. Timber / wood is prone to movement under varying levels of humidity so adequate ventilation beneath is necessary. **Identify if plywood is porous or non-porous prior to priming.**

There are 2 options to enable tiling to be carried out on timber / wooden subfloors:

1. The existing timber / wooden subfloor should be overlaid using exterior or Class 3 plywood of a minimum thickness of 15mm. All cut edges and the underside of the plywood should be sealed prior to fixing. The plywood must be screwed, not nailed, at 300mm centres.
2. Option 2 is to overlay timber / wooden subfloors using a proprietary tile backer board. The backer board must be a floor grade product.

Follow the manufacturer’s guidelines regarding fixing it to the floor. This may include both mechanical fixing with screws and bonding with adhesive.

Regardless of which option above is selected we always advise to use a flexible adhesive and grout when installing on timber / wooden subfloors. They need not be problematic if the correct approach is carried out. If in doubt contact the UltraTile Technical Department.

**Backer board**

1. **Floorboards**
2. **Adhesive**
3. **Backer board**
4. Apply adhesive (flexible only should be used)
5. Install tiles
6. Grout all joints

---

**Asphalt**

1. **Flooring grade asphalt substrate**
2. Prime using: UltraFloor Prime IT Multi-surface Primer neat
3. Apply adhesive (selected upon tile type)
4. Install tiles
5. Grout all joints

**Instructions:**

Used on floors and roofs due to its ability to prevent moisture passing through. It varies in strength and flexibility depending on the desired end use. Flooring grade asphalt is the only material suitable for tiling onto. Do not lay onto roofing grade asphalt. It should be a minimum of 15mm thick throughout the entire area. The surface should be crack free. Newly laid asphalt must be fully degreased to ensure surface bloom does not hinder adhesion.

The asphalt must be primed to enhance adhesion. The use of a flexible tile adhesive and grout is recommended.
Flowable calcium sulphate screeds, also known as anhydrite, hemi-hydrite and gypsum, have many advantages over traditional sand/cement screeds such as:

- Can be laid thinner, reducing loadings
- May be made using industrial by-products so can be environmentally friendly
- Increased speed of installation as they can be pumped

It is important that calcium sulphate screeds are identified before any tiling installations are carried out because they have different requirements. They may not be visually different from traditional screeds so always enquire, particularly if the screed contains underfloor heating. We recommend the use of a barrier primer on calcium sulphate screeds to avoid migration of moisture between adhesive and subfloor.

Unlike sand / cement and cementitious products, which can still have extremely high tensile and compressive strength whilst retaining a high level of moisture, calcium sulphate screeds need to reach a level of dryness to enable them to perform correctly underneath the tiling. The approved standard moisture test method is to use a surface hygrometer. This is an insulated box, fixed to the unheated floor for typically 4 days, after which the moisture in the air trapped in the box reaches equilibrium. This air is then tested using either an analogue or digital hygrometer. If the reading is less than 75%RH (residual humidity) then the screed is dry enough.

Other indicative test methods may be used to help identify if moisture is a concern or if the screed is close to dry. A simple test is to tape a piece of plastic to the floor for 48 hours. Moisture condensing on the underside of the plastic or a darkening of the screed indicates moisture levels are still significant.

Calcium sulphate can be force dried, but check with the manufacturer/installer of the screed on how to do this.

We recommend applying 2 coats of primer, ensuring consolidation and isolation of the calcium sulphate. This allows the standard classified cementitious tile adhesives to be utilised in the normal manner.

Coat 1
4. Prime the floor with a coat of UltraFloor Prime IT Multi-surface Primer. The primer should be diluted with 3 parts water and thoroughly scrubbed into the floor. Apply thinly and do not leave pools or puddles of primer. Leave to dry thoroughly, typically overnight.

Coat 2
4A. UltraFloor Prime IT Multi-surface Primer should be diluted with 1 part water to 1 part primer. Brush or roller onto the floor applying thinly, avoiding pooling. Allow to dry to a tacky clear film, typically 4 - 6 hours.

If underfloor heating is present there should be expansion strips between the different heating zone areas to enable the screed to move independently, around any perimeters, and at upstands and door thresholds. In all cases these strips should not be tiled over but should be carried through to the upper tiled floor, using a silicone sealant or similar to enable a continuous floor to be achieved. When underfloor heating is present we advise that a polymer modified adhesive is used. It is always beneficial to use a rapid set product on these screeds to minimise the migration of moisture between screed and adhesive during curing.
Tiling onto floors with underfloor heating

There are two basic types of underfloor heating:

1. Warm water pipe systems either (a) encased within the floor screed or (b) fixed within pre-formed panels (lightweight)
2. Electrical cable mats applied above the screed surface (often on backer boards and insulating systems)

Various underfloor heating manufacturers exist including Warmup who offer a range of systems across the different types, including Sticky Mat and Total-16. We recommend that you always refer to the manufacturers instructions when installing underfloor heating.

1a, Warm water systems - encased in screed

These consist of a run of pipes embedded within a pre-laid screed, often calcium sulphate based due to its flowing characteristics. The surface preparation and priming required before laying tiles is the same as for screeds without underfloor heating. Before any tiling is carried out, the following criteria must be met:

I. The screed must have been left for the minimum cure time before the heating is switched on (this is generally 21 days for sand / cement screeds, and 7 days for calcium sulphate screeds).

II. The underfloor heating must have been fully commissioned and tested. This is not a simple pressure test but must be a full heat up and cool down of the system. This is normally a 7 day cycle. Only by doing this can any screed weaknesses be identified.

III. All movement joints must be identified and followed through in the tiling. Screed movement under temperature change is a major cause of tiled floor failure so the need for movement joints is extremely important. Movement joints should be present between all different heating zones, door thresholds, upstands and perimeters.

IV. Traditional cement based subfloors and calcium sulphate screeds must be tested for moisture levels and confirmed to be 75% RH or less using a hair hygrometer. Proprietary cement based screeds may cure and dry at different rates so always check with the manufacturer.

V. The adhesives and grouts selected must be flexible.

VI. Do not run the heating at high temperatures as this will force dry the adhesive and grout, causing cracking and lifting. Have the heating on at a ‘cutback’ temperature whilst tiling - this means a floor temperature of max 15°C.

VII. Once the tiling and grouting has been carried out the temperature must remain the same for a minimum of 7 days. After this time, the underfloor heating can be brought up to full working temperature slowly. A maximum water temperature increase of 5°C per day is advised.

Visit warmup.co.uk to download Warmup technical guides.

Visit ultratileadhesives.co.uk to download UltraTile Technical guides.
1b. Warm water systems - fixed within pre-formed insulation panels

This popular alternative system removes the need for a screed by using pre-cut channels in the insulation panel to house the warm water pipes. This system provides a lightweight base option, which can be tiled onto directly. Often the surface of the insulation panel can be faced with an aluminium foil to help spread the heat. Prior to commencing tiling the following must be met:

I. All underfloor pre-formed panels must be secured firmly to the substrate and be sound and solid, free from movement. Always consult the manufacturer’s installation instructions.

II. The underfloor heating must be fully commissioned and pressure tested before tiles are installed to ensure there are no leaks.

III. Once water pipes have been positioned and within 24 hours prior to applying the tiles, it is advised that all panels are cleaned and ensured dust free. We recommend priming the entire surface of the panels with a neat coat of UltraFloor Prime IT Multi-surface Primer including the installed heating pipes and cavities that do not have pipe work in them.

IV. Once the primer has fully cured, tiling can commence using either an S1 or an S2 adhesive. Ensure all cavities within the panels are first filled with the adhesive using a smooth edged trowel. This will provide a level surface to the panel before finally applying the same chosen adhesive with a notched trowel to the bed thickness required.

V. Follow the same guidelines as in 1a. VI. and VII. to curing of adhesives and grouts and operating the underfloor heating.

2, Electrical cable mats

There are numerous manufacturers of ‘radiant mat’ electric underfloor heating so always contact them directly for specific advice. The systems consist of electric cables or mats which need to be fixed to the substrate in a prescribed pattern to ensure even heat throughout the floor.

Care should be taken to avoid snagging (therefore damaging the cables when applying adhesive) and thermal shocks when the heating is utilised. There are two options which can be used when installing tiles onto these systems:

1. Applying a smoothing compound to embed the cables

2. Applying a smoothing compound to bring to cable height and avoid snagging when applying the tile adhesive

In both cases, the following criteria apply:

1. The subfloor must be sound, strong, stable and suitable to receive a cementitious smoothing compound.

2. Any expansion joints in the floor design must be followed through into the finished tile installation and must not be covered over. This is most often between different heated areas and/or substrates.

3. We recommend that timber substrates should have a suitable backer board mechanically and/or physically bonded prior to installing the electric underfloor heating systems to minimise thermal substrate movement as heating is switched on and off.

4. Before any preparation or tiling work is carried out the system must be tested to confirm it is fitted correctly and functioning. This should also be done during and after installation to ensure no damage has occurred.

5. Substrates must be primed with the appropriate UltraFloor primer. This will be UltraFloor Prime IT Multi-surface Primer for absorbent substrates and UltraFloor Prime IT Multi-surface Primer neat for non-absorbent substrates. The priming will usually improve the adhesion of the tape utilised in fixing the cables but if they were already present it is important not to flood the floor with primer. Apply only a thin film.

6. Select the most appropriate smoothing compound for the substrate. Generally UltraTile Level IT one or Level IT FX is preferred for solid, strong substrates such as concrete or sand/cement. UltraFloor Level IT Two for difficult to bond to, dense surfaces such as ceramic tiles or where the substrate is mechanically fixed only e.g. backer boards.

Check with the UltraTile Technical Department for the most suitable product.
7. Apply the selected compound by pouring onto the floor and gently smooth with a straight edge metal trowel. Either cover the highest point of the cables by a minimum 3mm or fill in between the cables without applying compound over the surface (this will enable the tile adhesive to be applied without snagging the cables). Allow the smoothing compound to cure. Time for this will depend on thickness, substrate and conditions.

8. Apply either UltraFloor Prime IT Multi-surface Primer or UltraTile Prime IT FP (as per instructions for an absorbent cement based floor) and allow to dry. Fix the tiles using a flexible cementitious adhesive. Allow to cure as per datasheet instructions, before grouting with a flexible cementitious grout. Both products should be left to cure for a minimum of 14 days, before gradually bringing up the temperature of the floor in accordance with the manufacturer’s instructions.

Tiling onto floors using an uncoupling system

Uncoupling systems are an excellent method of fixing tiles in very testing environments. The science behind uncoupling can be summarised as: “A system used to isolate the finished tiled floor from the subfloor to prevent damage from lateral movement, subfloor cracking and water penetration.” Systems generally involve the use of a profiled polyethylene mat with a fleece underside which is bonded to the substrate using a flexible adhesive.

Tiles are then bonded to the mat using a flexible tile adhesive and grout. For full information on how these systems work and the installation methods required, please refer to the manufacturer’s instructions. However, the following general criteria should always be met:

1. The substrate must be even, rigid and load bearing.
2. Boarded floors (timber or backer boards) must be screwed down as per instruction, and replace any boards that are damaged. Uncoupling mats will accommodate lateral movement but are not designed to withstand vertical movement, so subfloors must be braced to make them sound and strong. All timber floors must have adequate under floor ventilation to prevent the timber from moving, post installation, due to humidity changes.
3. Tile selection should be made on the basis of the likely load that the flooring will be subjected to i.e. thickness and strength in accordance with end use expectations.
4. Prime the subfloor, if required, with the appropriate primer.
5. The anchoring fleece should be bonded using adhesive. The adhesive must bond to the substrate and mechanically anchor the fleece to the underside of the mat. We would recommend using a 4mm notched trowel with flexible adhesive.
6. Once the mat is secure the tiles can be fixed using an UltraTile flexible adhesive. It is advised that the cavities in the matting are first filled with adhesive using a smooth edge trowel before finally applying with a notched trowel to achieve the bed thickness required.
7. Grouting should be carried out using UltraTile FlexJoint grout.
Movement joints in a tiling installation

The inclusion of movement joints in a tiling installation is something that should be incorporated at the design stage by the specifier or architect. However, it is beneficial to have a basic understanding of where, when and why movements joints should be used.

**Background to movement joints**

Regardless of the type of tile being used, they must all be considered as ‘solid’ materials with very little dimensional change despite conditions.

Building movement may occur due to changes in conditions, physical movement due to size, settling or drying out of the building, weight loading, level of trafficking, thermal changes or simply due to the construction design itself. Floor construction in particular needs careful consideration as the functionality of a floor is such that its stability and integrity must be maintained to enable the building to be utilised.

**Walls**

All junctions between walls and floors should have a movement joint included. However, walls themselves are under continual stress and have the potential for movement, so consideration of movement joints should be made. Consider the use of a movement joint in all of the following areas:

- **They must** be incorporated where there are any existing movement joints within the wall structure. They should be aligned directly over the existing structure joint and be at least as wide.
- At internal corners between walls to relieve stress under thermal, vibration or any other movement. This includes where internal walls meet ceilings; a suitable silicone sealant may be used.
- Where the wall tiling meets a different substrate – the tiles should be left short and a movement joint utilised. A suitable silicone sealant should be used.
- Where tiling bridges are used across different substrates a movement joint should be created at the junction.
- On large walls movement joints should be included both horizontally and vertically. Subject to the building design, the joints may need to be incorporated anywhere between 3m and 10m.
- External wall joints (close to external angles) and all internal angles. The inclusion of a movement joint will prevent fracture and bulging of tiles with building, thermal and/or vibration movement.
- Movement joints must be incorporated at more frequent positions, should the walls be subject to significant thermal or vibration movement.

Movement joints can be incorporated into the design to minimise aesthetic concerns.

**Floors**

Including movement joints in floors enables the tile bed to move in unison with the individual substrates. Selection of movement joint type will depend on joint width requirement, finished floor use and movement capability. The range of materials available and their typical area of use include; aluminium for general commercial installation, brass and stainless steel for heavy commercial and factory use, and PVC for most other applications. Always consult with the manufacturer as to the most suitable joint for your application. Consideration to the use of a tiling movement joint must be given in all of the following areas:

- **They must** be incorporated and aligned with any movement joints within the floor’s construction. The joints should be continued through the entire depth of the tiles and adhesive.
- At specified distances across a floor to create individual tile beds (general consensus is that movement joints should be utilised at distances between 5m and 8m).
- Floors with underfloor heating systems should incorporate movement joints with a limited bay size of a maximum of 25m².
- At day joints or stress induced saw cuts in subfloors. The level of movement at these joints is often unknown and is usually dependant on the age of the building and whether the subfloor is fully dry. If in doubt, incorporate a movement joint.
- All perimeters and any fixed features which interrupt the floor, such as pillars or aisles, should have an allowance for movement. Sometimes this can be a suitable silicone sealant, or if underneath skirting it may simply be a gap. In areas of high thermal change, such as conservatories this is extremely important.
- Movement joints should be included between any under floor heating zones to enable each to perform independently.
- Wherever there is a change in substrate a movement joint should be included. This will enable each substrate to behave independently.
- Movement joints should be placed directly above any supporting walls or structural beams as they will add rigidity to the floor. The remaining floor area may be prone to a degree of flex or vibration.
- Junctions between floors and walls.

Movement joints can often be incorporated into the floor design to minimise aesthetic concerns whilst ensuring integrity of the tiled floor.
Using a damp proof membrane

A surface damp proof membrane (DPM) is a liquid system that when applied to a damp substrate:

a) bonds strongly to the surface.

b) cures to form a hard layer that controls moisture vapour permeability to the surface.

**UltraFloor DPM IT** rapid curing primer membrane is a two component, solvent free epoxy resin system for use as a surface DPM and as a screed bonding aid (primer) for industrial flooring applications.

It is supplied in a twin pack dual chamber to enable ease of transport and mixing. The product performs by a reaction between the resin and hardener components to give a durable continuous membrane. When mixed the product is a black colour enabling easy identification of the applied areas.

It is suitable for use as a single coat DPM to suppress residual moisture in concrete and sand/cement screed where the moisture levels are 98% RH or less (when tested with a properly calibrated surface hygrometer in accordance with BS 8203). It may be used as a two-coat application on subfloors where there is an absence of a constructional base DPM provided there is no hydrostatic pressure.

**UltraFloor DPM IT** should not be used in projects where hydrostatic pressure is a concern. In such cases the use of pressure relief drainage and/or external tanking systems must be the primary method of protection against moisture.

Application steps:

1. All substrates must be prepared to leave a sound, clean and surface dry subfloor. Oils, grease and other contaminants that may hinder adhesion must be removed. This includes release agents used in concrete curing processes as well as laitance, contamination and any weak surface materials. Substrates should be of a minimum 25N/mm².

2. Apply **UltraFloor DPM IT** to the substrate by pouring it onto the floor area to be treated. For use as a DPM the product should be spread using a suitable notched trowel to determine the correct coverage rate. Over roll the serrations using a short pile roller pre-wetted in **UltraFloor DPM IT** to ensure a uniform coating is achieved. This should be done immediately following trowelling.

3. **UltraFloor Prime IT Multi-surface Primer** should be applied neat as a single coat, using a brush or roller. Apply to give a thin uniform coverage with no pooling of the primer. Ensure a complete overall application is achieved. Once dry, the primer will exhibit a light tack and is ready to receive smoothing underlayment and tiling adhesives.

---

A | Sand/cement screed or concrete floor
B | Damp proof membrane
C | Prime using **UltraFloor Prime IT Multi-surface Primer** neat
D | Apply adhesive (select upon tile type)
E | Install tiles
F | Grout all joints
Waterproof / tanking systems

There is a need to waterproof or ‘tank’ a tiling installation when the substrate to which the tiles are to be fixed will either be affected by contact with water or will allow moisture to pass through it. The prerequisite of a tanking system is to waterproof, together with providing strength and flexibility, whilst still enabling tiles to adhere.

Tanking systems are designed for use on internal applications where intermittent and frequent wetting occurs, such as showers, wetrooms and saunas.

Different waterproofing requirements are needed for areas of permanent or prolonged immersion in water such as swimming pools and Jacuzzis.

Tanking systems are suitable for application to most wall and floor substrates, provided they are mechanically secure and stable. If significant flexing or deflection occurs this should be remedied before tanking application.

Select a flexible adhesive, such as UltraTile ProFlex SP or ProFlex S2, and grout that are suitable for the chosen tile type and size.

Tiling swimming pools / permanently wet areas

Swimming pool construction is governed by the BS 8007: Code of Practice for Design of Concrete Structures for Retaining Liquids. The standard clarifies how such constructions must be carried out and how to test for water tightness. As far as fixing tiles is concerned, it needs to be confirmed that the construction has been carried out correctly and tested before tiling commences. There are also some basic timeframe principles:

- The construction itself must have had a minimum 6 weeks to cure and harden.
- Any further renders or screeds used must have had a minimum of 3 weeks to cure.
- Tiles should be fixed and allowed to fully cure before grouting, usually a minimum of 3 days.
- The construction must then be left for a minimum of 3 weeks before water is introduced (no greater than a depth of 750mm per day).

The methods used to create watertight construction can differ. Ensure that the surface to be tiled is suitable to receive a cementitious tile adhesive and is prepared correctly. Preparation must include removal of any laitance from the renders or screeds and cleaning off any mould release agents that may have been used when constructing the shell. Power washing is often sufficient to prepare the surface. Although the adhesives and grouts normally used are classified as water-resistant this does not imply that they will prevent water passing through. This only confirms that they retain their strength and adhesion even when fully immersed. It is critical that the construction is inherently watertight. If a waterproof grout is required, or it is known that aggressive chemicals are to be used for cleaning, or if power wave machines are incorporated then consider using an epoxy grout.

Low absorbency tiles should be selected, ideally less than 0.5% absorption. Absorbent surfaces should be allowed to dry and then primed with UltraFloor Prime IT Multi-surface Primer. Dilute the primer 1 part to 3 parts water and then allow to dry. Tiles should be fixed using a highly modified cementitious adhesive, in accordance with EN 12004 – capable of withstanding continual immersion. UltraTile recommend ProFlex SP, ProFlex SP+ES or ProFlex S2. It is critical that a full bed adhesion without any voids is created and to ensure this, a minimum 3mm bed depth is recommended.

There will be a requirement for movement joints (please see BS 5385) which should be considered before tiling commences. A suitable sealant should be selected and used on all wall and floor junctions at least.
UltraTile work hard on establishing partnerships with market-leading industry experts to ensure all UltraTile products offer complete compatibility. By working with complementary brands such as those below UltraTile offer solutions you can trust.

Warmup
The world’s best-selling floor heating brand™

NoMorePly®

prowarm™

Lithofin®
The Professional Solution
Contract Flooring Solutions

Level IT one
Floor Leveller
- Polymer modified
- Protein free
- 3-50mm depth
- Rapid set
- Foot traffic in 2-3 hours
- Suitable for underfloor heating
- Shrinkage compensated
- Pumpable
Size: 25kg

Level IT FX
Fibre Fortified Floor Leveller
- Polymer modified
- Protein free
- 3-75mm depth
- No crack formulation
- Suitable for underfloor heating
- Shrinkage compensated
- Pumpable
Size: 25kg

Level IT Rapid
Flexible Floor Leveller for Same Day Tiling
- Polymer modified
- Protein free
- Fibre fortified
- Foot traffic after only 30 minutes
- Tile after just 45 minutes
- Ideal for timber floors
- Compatible with underfloor heating systems
Size: 20kg

Level IT Two
High Flow, Two Component Smoothing Underlayment
- Versatile
- Bonded floor coverings after 12 hours
- Superior flow
- Moisture tolerant
- Low odour
- Coverage: approx 5m² at 3mm
Size: 20kg bag and liquid

Level IT Super30
Rapid Setting, Rapid Drying Smoothing Underlayment
- Rapid curing
- Extremely smooth finish
- Bonded floor coverings after 3 hours
- Loose lay in 45 minutes (unbonded tiles)
- Most common substrates
- Protein free
- Underfloor heating
Size: 20kg bag and liquid

Level IT Bond
Rapid Drying, All Purpose Smoothing Underlayment
- For use over adhesive residues
- Bonded floor coverings after 4 hours
- Superior flow
- Moisture tolerant
- Low odour
- Versatile
- Coverage: approx. 5m² at 3mm
Size: 20kg bag and liquid
Patch IT
Rapid Drying Repair Mortar

- Ideal for repairing small cracks in walls and floor edges and for creating coves and ramps
- Slump free
- Rapid setting
- Maintains profile
- Coverage: approx. 3.2m² at 2mm

Size: 10kg

Feather IT
Rapid Drying Finishing Compound

- Ideal for use on flooring grade mechanically fixed plywood as well as for filling gouges and depressions
- Rapid setting
- Rapid drying
- Adhesion without a primer
- Underfloor heating

Size: 5kg

DPM IT
Rapid Curing Primer Membrane

- Designed to provide protection against subfloor moisture and as a primer for bonded screed installations
- Surface DPM
- Two-part epoxy resin system
- Primer for bonded screed applications
- Fast cure system
- Dual chamber packaging
- Compatible with underfloor heating

Size: 5kg

Level IT Super Flex 30
Rapid Setting & Rapid Drying, Fibre Reinforced, Flexible Smoothing Finishing Compound

- Foot traffic in as little as 30 minutes
- Ready to receive bonded floor coverings after 1 hour
- Use over most common subfloors including flooring grade plywood and rigid steel
- Ready to receive resin finishes and fork lift traffic after 24 hours
- Use as a finished wear surface
- UFH compatible
- Low odour & protein free

Size: 20kg bag and liquid

Level IT Smooth
High Performance, Fine Flow Smoothing Underlayment

- Extremely smooth finish
- Superior flow
- Pump or trowel applied
- Suitable for underfloor heating
- Ideal for large flooring projects
- Coverage: approx. 5.5m² at 3mm

Size: 20kg

Suppress IT
Single Component, Two-coat Moisture Vapour Suppressant

- Provides a protective primer membrane which suppresses subfloor moisture
- Water based, solvent free formulation
- Two-coat application
- No priming required
- Coverage: approx. 16.5m² based on two coats

Size: 5ltr
Contract Flooring Solutions
Product Selector

**Levelling and Smoothing Compounds**

<table>
<thead>
<tr>
<th></th>
<th>Level IT One</th>
<th>Level IT FX</th>
<th>Level IT Rapid</th>
<th>Level IT Two</th>
<th>Level IT Super30</th>
<th>Level IT Bond</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product Features</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Floor Leveller</td>
<td>20 - 30 mins</td>
<td>20 - 30 mins</td>
<td>10 - 15 mins</td>
<td>20 - 30 mins</td>
<td>5 - 10 mins</td>
<td>15 - 20 mins</td>
</tr>
<tr>
<td>Fibre Fortified Floor Leveller</td>
<td>20 - 30 mins</td>
<td>20 - 30 mins</td>
<td>10 - 15 mins</td>
<td>20 - 30 mins</td>
<td>5 - 10 mins</td>
<td>15 - 20 mins</td>
</tr>
<tr>
<td>Latex Levelling Compound</td>
<td>5 - 10 mins</td>
<td>5 - 10 mins</td>
<td>5 - 10 mins</td>
<td>5 - 10 mins</td>
<td>5 - 10 mins</td>
<td>5 - 10 mins</td>
</tr>
<tr>
<td>Rapid Set Levelling Compound</td>
<td>2 - 3 hrs</td>
<td>2 - 3 hrs</td>
<td>2 - 3 hrs</td>
<td>2 - 3 hrs</td>
<td>2 - 3 hrs</td>
<td>2 - 3 hrs</td>
</tr>
<tr>
<td>Latex Levelling Compound</td>
<td>3 hrs</td>
<td>3 hrs</td>
<td>3 hrs</td>
<td>3 hrs</td>
<td>3 hrs</td>
<td>3 hrs</td>
</tr>
<tr>
<td><strong>Specification</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concrete, sand/cement screeds and other solid absorbent surface</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-absorbent surface, e.g. terrazzo, ceramic tiles, power-floated concrete, painted floor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calcium sulphate e.g. anhydrite screeds</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adhesive residues - scrape clean, remove any loose particles and at least 75% residues***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Damp proof membranes - DPM IT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Floor grade mastic asphalt - scrape clean and remove any loose particles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plywood overlays</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sub-floor Preparation and / or Primer Requirement</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prime IT MSP Diluted</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prime IT MSP Neat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prime IT MSP Diluted &amp; Liquid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prime IT MSP Neat &amp; Liquid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prime IT MSP Neat &amp; Liquid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prime IT MSP Neat &amp; Liquid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prime IT MSP Neat &amp; Liquid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prime IT MSP Neat &amp; Liquid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prime IT MSP Neat &amp; Liquid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prime IT MSP Neat &amp; Liquid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prime IT MSP Neat &amp; Liquid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prime IT MSP Neat &amp; Liquid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Coverage and consumption details should be used as a guide but may vary depending on substrates and site conditions. DPM coverage and consumption based on application to clean smooth surfaces at 20°C. These may vary depending on temperature and surface evenness.

** Priming is an ideal requirement to ensure a strong bond is achieved. However, it may be omitted if thorough preparation is taken.

*** If residues are soft then they need to be removed completely.

**** Where deeper thicknesses are applied, drying periods will be extended. Please contact the UltraTile Technical Department.
<table>
<thead>
<tr>
<th>Levelling and Smoothing Compounds</th>
<th>Repair &amp; Finishing Compounds / Moisture Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level IT Super Flex 30</td>
<td>Level IT Smooth</td>
</tr>
<tr>
<td>Rapid Setting &amp; Rapid Drying, Fibre Reinforced, Flexible Smoothing Compounding</td>
<td>High Performance, Fine Flow Smoothing Underlayment</td>
</tr>
<tr>
<td>10 mins</td>
<td>20 - 30 mins</td>
</tr>
<tr>
<td>30 mins</td>
<td>2 - 3 hrs</td>
</tr>
<tr>
<td>1 hr</td>
<td>12 hrs</td>
</tr>
<tr>
<td>2 - 10mm</td>
<td>2 - 30mm</td>
</tr>
<tr>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>20kg bag &amp; liquid</td>
<td>20kg bag</td>
</tr>
<tr>
<td>Approx. 6.5m² at 2mm</td>
<td>Approx. 6.6m² at 2mm</td>
</tr>
<tr>
<td>1.33kg/m²/mm</td>
<td>1.51kg/m²/mm</td>
</tr>
<tr>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>32.45 N/mm²</td>
<td>30.00 N/mm²</td>
</tr>
<tr>
<td>7.68 N/mm²</td>
<td>6.00 N/mm²</td>
</tr>
<tr>
<td>Prime IT MSP Diluted ✗</td>
<td>Prime IT MSP Diluted ✗</td>
</tr>
<tr>
<td>Prime IT MSP Neat ✗</td>
<td>Prime IT MSP Neat ✗</td>
</tr>
<tr>
<td>J</td>
<td>J</td>
</tr>
<tr>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Prime IT MSP Neat ✗</td>
<td>Prime IT MSP Neat ✗</td>
</tr>
<tr>
<td>Prime IT MSP Neat ✗</td>
<td>Prime IT MSP Neat ✗</td>
</tr>
<tr>
<td>Prime IT MSP Neat ✗</td>
<td>Prime IT MSP Neat ✗</td>
</tr>
<tr>
<td>Prime IT MSP Neat ✗</td>
<td>Prime IT MSP Neat ✗</td>
</tr>
</tbody>
</table>

***** Priming not required, if Level IT Bond is applied within 12 hours of DPM application. If after 12 hours, it is recommended to prime using Prime IT MSP Neat.

Telephone for technical support
UltraFloor Prime IT Multi-surface Primer = Prime IT MSP

- Not suitable
- Most suited
- Suitable with conditions

ultratileadhesives.co.uk
41
UltraScape Flowpoint
Rapid Setting Flowable Grout
Regular, ECO and Smooth Varieties

- Mixes quickly and easily on-site with water
- Economical to use
- Can be used in the rain and is frost-resistant
- Exceptional bond strength
- Fast setting - walk on in an hour
- Suitable for large scale projects
- Perfect stain free finish
- Suitable for sandstone, limestone, concrete and granite paving types

Size: 25kg
Colours: Natural & Charcoal

How to Use UltraScape Flowpoint

1. Mix UltraScape Flowpoint in a tub with clean water. Add the powder gradually and mix with a drill and paddle for 2-3 minutes until a consistent mix is attained.

2. Lightly pre-soak the laid area ensuring that the water does not pond anywhere.

3. Pour all over the newly laid paving.

4. Apply to the area with a squeegee at a 45° angle to the joints.

5. Use the material efficiently to ensure minimal grout is left on the surface.

6. Wait for UltraScape Flowpoint to become hard enough for firm finger pressure (30 minutes at 20°C - warm temperatures will accelerate setting time).

7. You may find that the surface area where you have applied the grout may start to matt off. Lightly sprinkle water on top of the paving and using either a soft or hard bristle brush, brush the area to agitate the surface area.

8. Wash off with clean water, at a 45° angle to the joints.

9. Repeat this process 20-30 minutes later.
**Flowable Paving Grout**

**Product Selector**

<table>
<thead>
<tr>
<th>Product Overview</th>
<th>Flowpoint</th>
<th>Flowpoint ECO</th>
<th>Flowpoint Smooth</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Working time at 20°C</strong></td>
<td>10 mins</td>
<td>10 mins</td>
<td>10 mins</td>
</tr>
<tr>
<td><strong>Set time for foot traffic at 20°C</strong></td>
<td>1 hr</td>
<td>1 hr</td>
<td>1 hr</td>
</tr>
<tr>
<td><strong>Set time for vehicular traffic at 20°C</strong></td>
<td>4 hrs</td>
<td>4 hrs</td>
<td>4 hrs</td>
</tr>
<tr>
<td><strong>Unit size</strong></td>
<td>25kg bag</td>
<td>25kg bag</td>
<td>25kg bag</td>
</tr>
<tr>
<td><strong>Product yield</strong></td>
<td>13.9 litres</td>
<td>13.9 litres</td>
<td>13.9 litres</td>
</tr>
<tr>
<td><strong>Coverage</strong></td>
<td>1 sqm/bag using 100x100x100mm setts (8mm joint), 14 sqm/bag using 600x400x60mm flags (8mm joint)</td>
<td>1 sqm/bag using 100x100x100mm setts (8mm joint), 14 sqm/bag using 600x400x60mm flags (8mm joint)</td>
<td>1 sqm/bag using 100x100x100mm setts (8mm joint), 14 sqm/bag using 600x400x60mm flags (8mm joint)</td>
</tr>
<tr>
<td><strong>Minimum &amp; maximum width/depth of use</strong></td>
<td>5-50mm width, up to 200mm depth</td>
<td>5-50mm width, up to 200mm depth</td>
<td>3-50mm width, up to 200mm depth</td>
</tr>
<tr>
<td><strong>Compressive strength (28 days)</strong></td>
<td>49.6 N/mm²</td>
<td>49.6 N/mm²</td>
<td>41.9 N/mm²</td>
</tr>
<tr>
<td><strong>Adhesive strength (28 days)</strong></td>
<td>&gt;1.5 N/mm²</td>
<td>&gt;1.5 N/mm²</td>
<td>1.5 N/mm²</td>
</tr>
</tbody>
</table>
Instarmac Group plc
Head Office
Danny Morson Way
Birch Coppice Business Park
Dordon, Tamworth
Staffordshire
B78 1SE

t: +44 (0)1827 872244
f: +44 (0)1827 874466
email@instarmac.co.uk

Instarmac Group plc
Scotland Office
Suite 8, Red Tree Business Centre
24 Stonelaw Road
Rutherglen
G73 3TW

t: +44 (0)141 613 2144
f: +44 (0)141 613 2145
scotland@instarmac.co.uk

Vers 3.04.2017

instarmac.co.uk