



Floor Warming and Heating Systems



## GUIDE FOR THE INSTALLATION OF FLEXSNAP™ USING MAPEI MORTARS AND SELF-LEVELERS (Version 1.3)

**NOTE TO THE READER:** Although we believe that the information and suggestions included herein represent the means to achieve quality results, this document represents an information guide for the owner, designer, prescriber and tiling contractor. Therefore, the designer(s) and prescriber(s) remain solely responsible with regards to the state of the subfloor, the details and requirements of the specifications, the choice of materials and trade practices.

### 1. DESCRIPTION

FLEXSnap is a light plastic mesh used as an installation system for FLEXTHERM's Green Cable Surface, which can replace the second layer of plywood when a ceramic floor covering is used.

FLEXSnap can also be installed on concrete.

### 2. USE

For residential or light commercial interior horizontal installation.

#### **Official statement from the Tile Council of North America (TCNA) relating to deflection**

Floor covering systems, including the framework and panels of the underlayment on which tiles are to be installed, must satisfy the standards of the IRC (International Residential Code) for residential installations, the IBC (International Building Code) for commercial installations, or the building standards and regulations in operation at the time of the project. Note: the owner must inform the project designer and general contractor, in writing, of the 'anticipated use' of the tile installation, so that the necessary tolerances for the live, concentrated, dynamic and static loads anticipated, including tile and tile bed weight, can be included in their planning. The floor covering installer cannot be held responsible for any problem relating to the unsuitability of the building or the underlayment of the installation according to the building standards and regulations in operation at the time of the project unless he has also been responsible for its design.

### 3. TECHNICAL NOTES

- **Option #1:** When filling in FLEXSnap mesh and for installing large format ceramic tiles (over 30 cm x 30 cm) in one (1) step, FLEXSnap can be used with Ultracontact™ mortar or Ultracontact RS rapid set mortar.
- **Option #2:** When filling in with a mortar and installing tiles in two (2) steps, FLEXSnap must be glazed with Ultracontact RS and the tiles must be installed with Ultraflex™ LFT in the case of large format tiles (over 30 cm x 30 cm). Ultraflex LFT can also be used to install smaller tiles (20 cm x 20 cm and more). For details, see the user guide in this document or contact MAPEI's technical service.
- **Option #3:** When filling in with a self-leveler and installing ceramic tiles in two (2) steps, FLEXSnap must be glazed with one of the self-levelers of the Ultraplan® series and the tiles must be installed with a polymer-modified mortar from MAPEI®. For details, see the user guide in this document or contact MAPEI's technical service.

- Leave sufficient expansion space around walls, stairs, doors, baseboards, entrance ways and other areas where FLEXSnap is adjacent to a change in level (using a ribbon strip at the bottom of the wall can be useful). The interstice between the tiling and the surfaces mentioned above must be open and filled with a flexible sealing agent such as Keracaulk™S.
- When installing large format or porcelain tiles, or working in cold temperatures, allow for a longer drying and protection time before grouting and allowing circulation.
- Not designed for use as a fire barrier system.

Notice: The wood subfloors must dry as per industry standards for moisture content. Refer to the APA (American Plywood Association) directives for further details. A high level of humidity in the subfloors will reduce the resistance of the anchors and generate elevated tensions due to the movement of the plywood as it dries.

Contact the FLEXTHERM customer service department for written recommendations relating to installation on other supports or in conditions that are not described, such as installations where joist spacing is greater than 41 cm (16").

## 4. DIRECTIONS

### 4.1 Preparation

- Install the plywood as per industry standards for the installation of subfloor materials. The plywood subfloor must be 16 mm (19/32") exterior grade tongue-and-groove, with spacing between the panels up to 3 mm (1/8"). The support surfaces will be appropriate, should be structurally sound, solid, stable, flat, plumb and true with a maximum permissible variation of 1/4" in 10' (6 mm in 3,05 m) from the required plane. However a maximum variation of 3 mm over 3 m (1/8" over 10 ft) is required for large format tiles or for grout joints under 5 mm in length<sup>1</sup>.
- The surface of the plywood must be clean and free from dust, dirt, paint and grease or other contaminating agent that could reduce the performance or the adhesive capabilities of the mortar (or of the primer for the self-leveler).

### 4.2 Installing the FLEXSnap mesh

- Plywood support :  
Install FLEXSnap on plywood. The mesh should be screwed flat with one screw (round head #8 with large thread, 16 mm (5/8") or 19 mm (3/4") long) per foot or more as required, in the holes provided and at every 15 cm (6") at the perimeter. As needed, use 14 mm (9/16") staples to complete the anchoring at the perimeter. Proceed after with the installation of the heating cable according to the FLEXSnap *installation guide*.

#### Concrete support :

Install FLEXSnap on concrete. The mesh must be glued flat using hot melt glue (Flextherm's FLGH25) at every foot (30 cm) or more as required, in the pre-set holes, and at every 15 cm (6") at the perimeter. When adherence is insufficient, fasteners such as 15 mm (3/16") x 22 mm (7/8") wall anchors or 25 mm (1") masonry nails inserted in pre-drilled holes in the concrete using a 4 mm (5/32") bit are recommended. Proceed after with the installation of the heating cable according to the FLEXSnap *installation guide*.

<sup>1</sup> (According to the Terrazzo Tile and Marble Association of Canada, TTMAC). For tiles larger than 305 mm x 305 mm and/or grout joints of 5 mm or less, a more stringent tolerance in substrate variation of 3 mm in 3049 mm is required.

#### 4.3 Filling in options

Three (3) options are available:

##### **OPTION #1:**

###### Filling in and installing tiles in 1 step

Install FLEXSnap according to recommendations made in 4.2. Using the flat side of the trowel, spread a layer of Ultracontact™ or Ultracontact RS with light pressure on the mesh to fill it in and allow installation of tiles. Comb immediately in a single direction with an appropriate notched trowel to achieve the recommended mortar coverage. Use lateral movements to properly settle the tile in the mortar and ensure good adhesion.

##### **OPTION #2:**

###### Filling in and installing tiles in 2 steps

- Install FLEXSnap according to recommendations made in 4.2.
- Step 1: Using the flat side of the trowel, spread the required amount of Ultracontact RS to fill the mesh.
- Step 2: Allow the Ultracontact RS fill coat to dry at least 6 to 7 hours at 23°C (73°F) before installing the tiles with Ultraflex LFT (using the double-gluing method for large format tiles. *If the installer is not familiar with this method, he must obtain the method in writing from the MAPEI technical service*).
- To prevent any risk of cracking due to movement of the support, use Mapelastic™ 315 or Mapeguard™ 2 as an anti-fracture membrane over Ultracontact RS. But in that case, let Ultracontact RS dry for at least 24 hours.

##### **OPTION #3:**

###### Filling in with a self-leveler

- Apply MAPEI's Eco Prim Grip™ primer over the plywood or concrete support. After a minimum drying period of 60 minutes, install FLEXSnap on the primer according to the recommendations made in 4.2.
- Mix the Ultraplan® self-levelling underlayment with the quantity of water indicated on the package. Use an appropriate mixer. Fill the FLEXSnap mesh until completely filled and let dry for at least 3 hours before installing the tiles.
- Using the flat side of the trowel, spread a layer of MAPEI® polymer-modified mortar with light pressure. Comb immediately in a single direction with an appropriate notched trowel to achieve the recommended mortar coverage. Push the tiles back and forth in a direction perpendicular to trowel lines, to collapse the mortar ridges and to help achieve maximum coverage.
- To prevent any risk of cracking due to movement of the support, use Mapelastic™ 315 or Mapeguard™ 2 as a crack isolation membrane over the self-levelling underlayment. But in that case, let the self-lever dry for at least 24 hours.

#### 4.4 Protection

- Let dry for at least 24 hours when a normal setting product is used, and at least 4 hours in the case of a rapid-setting product before grouting and allowing circulation.
- Since temperature and humidity (before and after installation) affect the final drying time of all mortars, allow for a longer drying and protection time when temperature at the work site is below 16°C (60°F) or when humidity is greater than 60%.

#### 4.5 Grouting

- Use the recommended MAPEI grout. See the technical sheet at [www.mapei.com](http://www.mapei.com) for details.

## 5. TECHNICAL SPECIFICATIONS

### FLEXSnap dimensions

- 31.4 cm x 31.4 cm (12-3/8" x 12-3/8") overall
  - 30.5 cm x 30.5 cm (12" x 12") assembled
- 20 units per box; covers 1.86 m<sup>2</sup> (20 ft<sup>2</sup>) / box

### Approximate coverage to fully cover FLEXSnap mesh\*

Ultracontact <sup>MC</sup> , Ultracontact RS (per 22,7 kg (50 lb) bag)	1.8 m <sup>2</sup> (19 ft <sup>2</sup> )
Ultraplan self-leveler (per 22,7 kg (50 lb) bag)	1.5 m <sup>2</sup> (16 ft <sup>2</sup> ) for a thickness of 9 mm (3/8")
	1.1 m <sup>2</sup> (12 ft <sup>2</sup> ) for a thickness of 12 mm (1/2")

\* Approximate coverage

## 6. NOTICE

Before using said products, the user must inquire and ensure that they are suitable for the ends to which he intends to use them and is solely liable for all related risks and responsibilities.

**ANY CLAIM IS DEEMED ABANDONED UNLESS WRITTEN NOTICE IS RECEIVED WITHIN FIFTEEN (15) DAYS FOLLOWING THE DISCOVERY OF THE DEFECT OR THE DATE AT WHICH SAID DEFECT COULD HAVE REASONABLY BEEN DISCOVERED.**