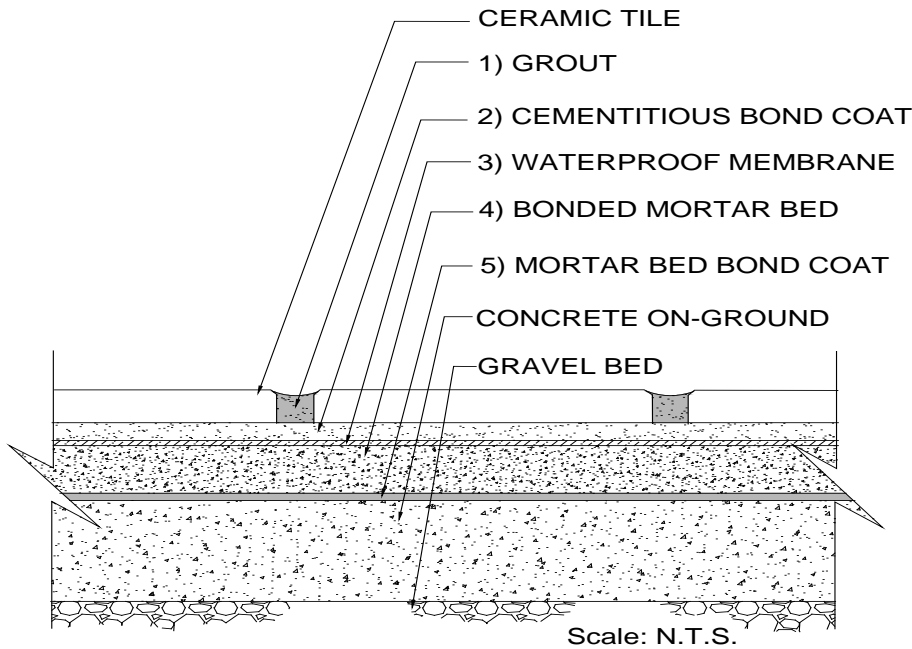


Freeze / Thaw

On-Grade Concrete Bonded Mortar Bed



MAPEI Products Assembly

1. **Grout Option:**
 - A. *Ultracolor® Plus FA*

2. **Cementitious Bond Coat:**
 - A. *Granirapid System (Best)*

3. **Optional Waterproofing Membrane:**
 - A. *Mapelastic 315 (Best)*

4. **Mortar Bed:**
 - A. *Modified Mortar Bed*

5. **Mortar Slurry Coat:**
 - A. *Modified Mortar Bed*

Drawings are developed from the Tile Council of North America's (TCNA) 2016 TCNA Handbook for Ceramic Tile Installation and the Terrazzo, Tile and Marble Association of Canada's (TTMAC) Tile Installation Manual. MAPEI products are listed as options and are substituted for TCNA's and TTMAC's listed ANSI and ISO (ISO 13007) standards. Please refer to the referenced handbooks and current data sheets for complete instructions and application limitations. Some installation methods and component materials are not referenced. MAPEI encourages the user to consult all approved resources to ensure a complete assembly.



EXTERIOR FLOORS

On-Ground Concrete Bonded Mortar Bed Freeze / Thaw

1. Create a substrate of compacted ground followed by a layer of gravel
2. Add a leveling layer of concrete thickness depending on conditions of expected use.
3. Install a bonded mortar bed using MAPEI Modified Mortar Bed. Apply a slurry coat of the Modified Mortar Bed and while still wet place the Modified Mortar Bed at a thickness $\frac{3}{4}$ " min to 2" max. The mortar bed should be sloped to $\frac{1}{4}$ " in 10' for drainage.
4. At the designer's discretion install crack isolation membrane. In freeze / thaw environments use MAPEI Mapelastick 315.
5. For freeze / thaw install pavers using the mortar listed. Comb the mortar in one direction using $\frac{1}{2}$ " notched trowel. On the back of the paver key in the mortar and trowel with $\frac{1}{2}$ " notched trowel, applying the mortar in the same direction as the mortar on the substrate. Place the paver while the mortar is still plastic. Slide the paver in a back and forth motion to achieve full coverage of the mortar. Occasionally lift a paver to make sure full coverage is being achieved. Refer to Daltille for the recommended size of the grout joint. For freeze / thaw regions install with MAPEI Granirapid System.
6. After drying install grout using MAPEI Ultracolor Plus FA. Place movement joints in the finished work as per TCNA EJ171 Guideline.