

# Wavelength

## Substrates

The following recommendations refer to the Tile Council of North America's "2007 TCA Handbook for Ceramic Tile Installation" and are general in nature. When selecting a TCA handbook substrate preparation method, factors such as: sub-structure, sub-floor condition, location, specified setting material and intended use will determine the appropriate method.

NOTES: *All cement mortar beds must be cured 7 days. Concrete slabs must be cured a minimum of 28 days. Floor Systems shall be constructed in accordance with IRC (residential) or applicable building codes. The weight of the tile, setting material and substrate shall be included in the load consideration.*

## Floors – Acceptable Substrates

- Slab on grade concrete – Cured a minimum of 28 days, TCA F111-07, F112-07, F113-07
- Elevated slabs, post tensioned slabs, or concrete slabs subject to deflection---cement mortar bed (cured 7 days) TCA F111-07
- Wood sub-floors-- cement mortar bed (cured 7 days) TCA F145-07, TCA F141-07 or cementitious backer unit (CBU) TCA F144-07

## Walls – Acceptable Substrates

- Cement mortar bed (cured 7 days) TCA W221-07, W231-07, or W241-07
- Cementitious Backer Unit (CBU) TCA W244C-07, W244F-07, W244E-07
- Gypsum Board (Dry areas only) TCA W243-07

## Wet Areas – Acceptable Substrates

- Cement mortar beds (cured 7 days) – TCA B411-07 (tub enclosures), TCA B414-07 (shower walls and receptors) or TCA C511-07 (countertops)
- Cementitious Backer Unit – TCA B412-07 (tub enclosures), TCA B415-07 (shower walls and receptors) or TCA C513-07 (countertops)

## Unacceptable Substrates

- Single-Float mortar walls, which do not employ a cured scratch coat.
- Cement mortar beds lacking appropriate reinforcing per ANSI A108.1A - 2005.
- All wood products, including Luan, plywood, MDF, MDX press board and composites.

## Caution:

- Membrane meeting ANSI A108.2-3.8 must be installed BEHIND the mortar bed or CBU in wet areas.
- CBU joints must be taped with the manufacturer's recommended 2" alkali resistant mesh tape.
- Mortar beds must be cured 7 days prior to glass tile installation.

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## Adhesives

### Acceptable Adhesives

- Custom Building Products: MasterBlend Thin-Set Mortar mixed with CustomFlex Ultra- strength additive.
- Custom Building Products: MegaFlex Crack Prevention Thin-Set Mortar.
- Custom Building Products: MegaLite Crack Prevention Mortar.
- Custom Building Products: RapidSetting Thin-set Mortar (part 1) mixed with RapidSetting admixture (part 2).
- Custom Building Products: VersaBond FLEX Thin-Set Mortar (Home Depot).
- Hydroment: ReFlex Ultra-Premium Latex-Modified Thin-Set Mortar.
- Laticrete: 254 Platinum Multipurpose Thin-Set Mortar.
- MAPEI: Adesilex P10 mixed with Keraply liquid admixture.
- MAPEI: GraniRapid Thin-Set Mortar mixed with GraniRapid liquid admixture.
- MAPEI: Kerabond Thin-Set Mortar mixed with Keralastic add-mix.
- TEC (H.B. Fuller): Super Flex Premium Performance Universal Latex-Modified Thin-Set.

NOTE: *Site and climactic conditions can affect the performance of all setting systems. Special consideration shall be given when using rapid setting materials.*

### Unacceptable Adhesives

- Organic adhesives (mastic)---due to low bond strengths
- Epoxy adhesives---due to lack of flexibility and excess compression strength.

**Movement Joints**

Movement joints are essential for the success of most tile installations. Follow recommendations on movement joints EJ 171-07 in the “2007 TCA Handbook for Ceramic Tile Installation”. Movement joint requirements will vary depending on substrata, climate and size of installation. An architect or design professional should be consulted when specifying the exact number and location of each movement joint.

**Tools**

**Setting**

- Square notch trowel 1/4"x1/4"x1/4"
- Beating-Block, with rubber striking surface
- Small finish hammer

**Cutting**

A high quality wet tile saw with a 10", continuous, smooth-rim, diamond blade made for cutting glass tile. Such as the 10" MK 215 GL (MK Diamond) or the 10" Alpha Vetro (Alpha Professional Tools)

NOTE: *The use of a poorly maintained tile saw, or a blade that is not intended for cutting glass, may cause the tile's colored backing to chip during cutting. Always cut slowly.*

**Drilling**

Drilling shall be done with a high quality fractional core bit, made for drilling glass, in conjunction with a water swivel. A continuous flow of water will lubricate and cool the bit, reducing chipping and over-heating.

**Installation Procedure:** No adjustments will be made after Installation.

1. To ensure order accuracy and acceptability of the material, open all boxes and inspect the material.
2. Initiate the bond coat. Firmly apply the setting material to the substrate with the flat side of a trowel.
3. With additional setting material, use a 1/4"x1/4"x1/4" square notch trowel to comb full notches in a horizontal pattern to establish the proper depth of the setting bed.
4. Apply the tile sheet to the setting bed using even pressure to establish contact.
5. To achieve a smooth uniform surface, tap lightly with a beating block (with rubber striking surface) and a small finish hammer.

TIP: *Care should be taken to avoid scratching the glass during this process. A clean dry cloth can be placed between the glass and the beating block prior to tapping.*

6. Cure a minimum of 24 to 48 hours prior to cleaning and grouting.
7. Use only standard grade non-sanded grout, mixed to manufacturer's instructions. Apply grout with a rubber float, forcing grout into the grout joints until full.
8. Due to the impervious nature of glass, the grout will take longer to set than with more porous materials. When the grout has setup (turned dull), clean with a lightly damp sponge.

NOTE: *During cleaning, the sponge should be rinsed often and wrung out well. Excess hydration may result in "washed out" or low grout joints.*

9. Grout joints shall be full and uniformly finished. For final polishing of excess grout haze use clean, dry cheesecloth.
10. Consult grout manufacturer for grout sealing recommendations.

**POSSIBLE APPLICATIONS**

| WAVELENGTH         |              |  | Wavelength - Fused Glass |           |                  |           |
|--------------------|--------------|--|--------------------------|-----------|------------------|-----------|
|                    |              |  | Gloss                    | M/G Blend | Gloss            | M/G Blend |
| Walls              | Interior     |  | ◆                        | ◆         | ◆                | ◆         |
|                    | Exterior     |  | ◆                        | ◆         | ◆                | ◆         |
| Residential Floors | * Interior   |  |                          | ◆         |                  |           |
|                    | Exterior     |  |                          |           |                  |           |
| Countertops        | Kitchen      |  |                          |           |                  |           |
|                    | Powder Room  |  | ◆                        | ◆         | ◆                | ◆         |
| Submerged          | Pools & Spas |  | ◆                        | ◆         |                  |           |
| Usage Level        |              |  | Light Residential        |           | Light Commercial |           |

\* Floors limited to light traffic areas with no exterior entrance. Shower floors non ADA compliant.