

# PORCELAIN TILE INSTALLATION GUIDE

## PLANNING & TILE SELECTION

### CHOOSE THE RIGHT TILE

- Use porcelain tiles rated for submerged use.
- Water absorption should be less or equal 0.5% (impervious).
- Choose tiles with high chemical resistance and UV stability.
- All Aquabella's tiles meet these conditions.

### MOVEMENT JOINTS

- Include expansion/movement joints at perimeters, corners, and changes in plane.
- Soft joints must be integrated into the tile assembly to accommodate structural movement.

### POOL ENVIRONMENT CONSIDERATIONS

- Select bonding, grouting, and waterproofing materials specifically designed for constant immersion.
- Consider how water chemistry, temperature changes, and freeze-thaw cycles affect materials.

## SUBSTRATE PREPARATION & WATERPROOFING

### CONCRETE SHELL REQUIREMENTS

- Pool shell must be fully cured (commonly 28 days).
- Surface must be structurally sound, free of cracks, and properly sloped for drainage where required.

### SURFACE CLEANING

- Remove all laitance, dust, paint, curing compounds, oils, or contaminants.
- Shot blasting or grinding may be required for proper bonding.

### SURFACE SMOOTHING

- Fill depressions and correct irregularities using appropriate patching materials.
- Surface should be even but mechanically textured for adhesion.

## WATERPROOFING

- Apply a waterproofing membrane designed for submerged conditions.
- Apply in multiple coats to ensure a continuous barrier.

## SETTING THE PORCELAIN TILE

### MORTAR SELECTION

- Use a high-performance thin-set mortar formulated for porcelain tile and underwater installations.
- Mortar should provide strong bond strength and flexibility.

### APPLICATION

1. Snap layout lines for accurate placement.
2. Apply thin-set evenly using a notched trowel.
3. Back-butter each tile to ensure 95-100% mortar coverage.
4. Press tile firmly into place, eliminating voids under the tile.
5. Use spacers to maintain consistent grout joint width.

## VERTICAL AND OVERHEAD SURFACES

Anti-sag mortars may be required for waterline and wall installations.

### CURING

Allow the mortar to cure fully before grouting—avoid fast drying caused by wind or direct sun.

## GROUTING & FINISHING

### GROUT SELECTION

Use grout designed for submerged installations; epoxy grout is often ideal for chemical resistance and durability. Cementitious grout can be used if rated for pools, but often needs more maintenance.

### GROUTING PROCEDURE

1. Ensure joints are clean and free of thin-set residue.

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2. Apply grout diagonally across tiles.
3. Clean surface with sponges and fresh water to remove haze.
4. Allow grout to cure as specified before filling the pool.

## EXPANSION JOINTS

- Every tile installation need expansion joints. There are three main locations where expansion joints are traditionally needed, but others might be required based on our specific job layout. Here are the standard locations for expansion joints:
- Fill perimeter joints, corners, and transitions with flexible sealant instead of grout.
- The TCNA recommends installations of expansion joints as close together as every 8' to provide for a margin of safety. And a recommend width of the expansion joints from 3/8" to 1/2".
- These points must accommodate structural movement and thermal expansion.

## FILLING THE POOL & LONG-TERM MAINTENANCE

### BEFORE FILLING

- Allow full cure time for the entire tile assembly—thin-set, grout, and waterproofing.
- Waiting periods vary based on product and conditions but often require several days to weeks.

### FILLING THE POOL

- Fill the pool continuously once you begin to avoid visible water-level lines during curing.
- Ensure water is balanced gradually and not chemically shocked immediately.

### MAINTENANCE PRACTICES

- Brush tile surfaces regularly to prevent scale or algae buildup.
- Maintain balanced pool water chemistry to protect tile, grout, and waterproofing.
- Inspect tiles and grout periodically for damage, cracks, or missing joints.
- Clean mineral deposits as needed using appropriate non-abrasive cleaners.

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