Interceramic®

FLOOR
TILE
INSTALLATION

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GENERAL
REQUIREMENTS

Interceramic tile installation requires following up mandatory rules according to ANSI A 108, ANSI A118 Y ANSI A136: "American National Standard Specifications for the installation of Ceramic Tile and Glass Tile.

The applicable ANSI specifications for ceramic tile installed with:
- Portland Cement Mortar
- Dry-set or latex Portland cement mortar
- Organic Adhesive
- Epoxy adhesive
- Chemical resistant furan mortar and grout
- Modified epoxy emulsion mortar
- ANSI specifications for the installation of ceramic tile grouts

Should be a part of the project specification by reference or by copying the applicable parts of the ANSI specifications and including into the ceramic tile section of a project specification. In either case, augment the ANSI specification and modify the specific project conditions.

Installation on interior
Any kinds of Interceramic floor tiles are recommended as suitable for installation on wall and/or floor (traffic areas). Interceramic wall tile (water absorption 15-20%) shall be installed only on walls because it is low resistant to traffic wearing.

Installation on exterior
On exterior, use only tile recommended by Interceramic as suitable for the climatic conditions of the locality.
All Interceramic porcelain tiles & glass tiles can be installed on exteriors, for HD floor tile contact Interceramic rep to specify if some specific HD product can be installed on freeze/thaw exteriors conditions.
For wall tile, Interceramic does not recommend to install on freeze /thaw exteriors because it has high water absorption (15 – 20%), as a result there is risks of surface cracking or break away from substrate

Installation on Pools
(a) Pool´s walls
Porcelain,HDfloortile,walltile(fieldandtrim) &glasstilesaresuitabletoinstalloninterior pool where temperature is controlled on winter seasons ,.
For exterior pools Porcelain & glass tiles are only suitable to install on pool´s wall; for HD floor tile contact Interceramic rep to evaluate which product is suitable to install on severe winter weather.
(b) Pool´s inside floor
Interceramic recommends installing only porcelain and HD floor tile for interior pools. For exterior pools only porcelain tile is suitable to install.
(c) Floor tile around pools
It is mandatory to install only floor tile with DCOF value equal or greater than 0.42

3.0 Guide for referencing **American National Standard** specifications for installation of ceramic tile.

Description Method	Reference Method
I. Portland Cement Mortar Bed:	
A. Ceramic tile set on a mortar bed which is still workable (Wet-Set Method). See Note.	**ANSI A108.1A -** Installation of Ceramic Tile in the Wet-Set Method with Portland Cement Mortar.
B. Ceramic tile set on a cured mortar bed with dry-set or latex-portland cement mortar.	**ANSI A108.1B -** Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set or Latex-Portland Cement Mortar.
C. Ceramic tile set on a mortar bed by either of the above methods. Industry practice has resulted in a large majority of mortar bed installations being installed according to ANSI A108.1B. It is reasonable and economical to give the tile contractor the option to choose either method, each of which are recognized in the industry as equivalent methods for walls, ceilings, and floors.	**ANSI A108.1C -** Contractors Option: Installation of Ceramic Tile in the Wet-Set Method with Portland Cement Mortar or Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set or Latex Portland Cement Mortar.
II. Thin-Set Installations:	
D. Tile set with organic adhesive or epoxy adhesive on smooth, sound interior surfaces.	**ANSI A108.4 -** Ceramic tile installed with organic or epoxy adhesives.
E. Tile set with dry-set portland cement mortar or latex-portland cement mortar on prepared concrete, masonry, cementitious backer units, or other cementitious underlayment and backer units certified by the manufacturer as suitable for intended use.	**ANSI A108.5 -** Ceramic tile installed with dry-set or latex-portland cement mortar.
F. Tile set with modified epoxy emulsion mortar.	**ANSI A108.9 -** Ceramic tile installed with modified epoxy emulsion mortar/grout.
G. Tile set on prepared Exterior or Exposure 1 plywood with EGP (Exterior Glue Plywood) latex-portland cement mortar certified by the manufacturer as suitable for intended use.	**ANSI A108.12 -** Ceramic tile installed with EGP (exterior glue plywood) latex-portland cement mortar.

H. Tile set over a waterproof membrane.

ANSI A108.13 - Installation of load bearing, bonded, waterproof membranes for thin-set ceramic tile and dimension stone.

I. Tile set over a crack isolation membrane.

ANSI A108.17 - Installation of crack isolation membranes for thin-set ceramic tile and dimension stone.

III. Chemical Resistant Installations:

J. Tile set and grouted with water cleanable, chemical-resistant tile-setting epoxy mortar.

ANSI A108.6 - Ceramic tile installed with chemical epoxy mortar and grout.

K. Tile set and grouted with chemical-resistant furan.

ANSI A108.8 - Ceramic tile installed with chemical-resistant furan resin mortar and grout.

IV. Glass Tile Installations:

L. Paper-faced glass tile mosaic thinner than 3/16 set using the wet-set method.

ANSI A108.14 - Installation of Paper-Faced Glass in. Mosaic Tile.

M. Paper-faced glass tile mosaic thinner than 3/16 in. installed on cured mortar bed.

ANSI A108.15 - Alternate Method: Installation of Paper-Faced Glass Mosaic Tile.

N. Paper-faced, back-mounted, edge-mounted, or clear film-face mounted glass mosaic tile thicker than 3/16 in. using the direct bond Tile. method over cured portland cement mortar beds and cementitious backer units (CBU's).

ANSI A108.16 – Installation of paper-faced Back-Mounted, Edge-Mounted, or Clear Film Face-Mounted Glass Mosaic

NOTE – Wet-Set Method – the practice of setting ceramic tile in a thin bond coat on a portland cement mortar bed that is still workable.

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1. Need **Tools**

Professional tools should be used on floor tile installation: Notch trowel, Manual or electric Cut devices, metric gage, bubble or laser light level, Electrical mixers to prepare grout and thin set mortar and so on

Safety equipment shall be used as plastic lenses and gloves when cut process is carry on, knee protections when installing, and back support belt for handling and lifting ceramic tile cartons

2. Substrate

Cleaning

Substrate must be clean and free of any contaminant like: dust, oil, grease, soap scum and so on, in order to insure that tiles installed have enough bond strength,

Verifying leveling

Laser light or bubble level (80 inches length) should be used In order to verify substrate level.

Leveling and substrate repair

Any damage, loose or uneven areas must be repaired, patched and leveled.
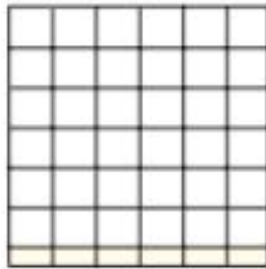
3. Installation **Layout**

Center of the room must be identified and marked, draw chalk lines from center point to all walls, then lay out a row of loose tiles vertically and horizontally as shown on picture attached, grout joint must be considered using tile spacers.

Center of the installation must be moved if original layout leaves cut tiles smaller than 1⁄2 tile
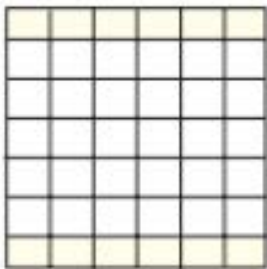
Cut tile accepted   **Cut tile not recommended.**

4. Adhesive **Preparation**

You must select the right adhesive/mortar based on type of substrate and tiles that you will use to install, following:
ANSI A108, ANSI A118 & NASI A136 standards recommendation and contractor's specifications, Some adhesives/mortars come ready to use, some others must be prepared according with package instructions.
Take care to follow up strictly all information described on Adhesive/Mortar package.

5. Tile **Installation**

5.1 Applying **Adhesive**
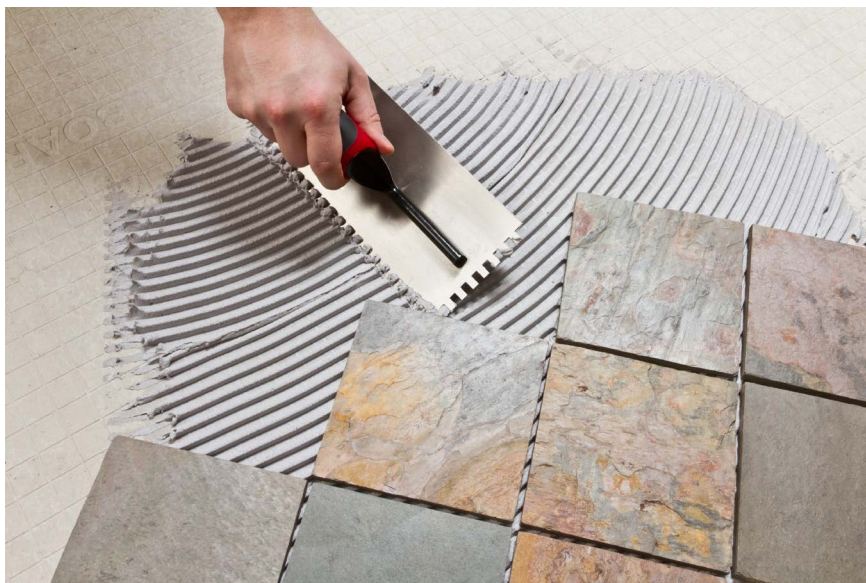
Use a notch trowel recommended on adhesive package to apply it on substrate :
Most flooring adhesives are applied with a notched trowel. The size of the notching is important because it controls the amount of adhesive applied.

Notches which are too large spread too much adhesive. This can cause excessive indentations to show through sheet goods and trowel-mark show-through or bleeding at tile joints. Using too much adhesive with Interflex material can cause swelling and buckling where the adhesive is applied. Always check the adhesive label for the proper notching. Substrates must be dry, clean, smooth and free from paint, varnish, wax, oils, solvents and other foreign matter. Dust and dirt on the subfloor will hamper the application and bonding of the new adhesive.

Check the amount of working time and open time for each adhesive.
Open time is the amount of time recommended for the adhesive to set before it is covered with the flooring. Working time for tile is the amount of time from when the adhesive is set until the tile will no longer bond. Working time for sheet flooring is the amount of time from when the flooring is laid in place until all cutting and fitting is complete.

Steps:

1. Apply the adhesive on the substrate over a small area. Scoop out some adhesive using the narrow edge of the trowel. Drop it on substrate l and use the flat surface of the notched trowel to smooth it over the surface.

2. Comb the area using the trowel's notched side to apply additional adhesive and comb the area until the notches are at their full depth in order to determine that the proper amount has been applied.

3. Smooth the Adhesive; lightly smooth the notched adhesive using the flat long side of the trowel. This will ensure a consistent bed of adhesive will have been created to take the tile when it is applied.

4. Scrape the Adhesive using the margin trowel to remove excess adhesive from the substrate. Also wipe clean immediately to ensure further repeated use.

5.2 Cutting **Tiles**

It is **recommended** to use manual cutter or electrical wet saw cutter following up next steps:

1. Mark the tile, to cut the tiles correctly the first time, use a grease pencil to mark the line once you measure. It is helpful to use a ruler to measure and mark instead of a measuring tape, so you have a straight edge.

2. Use a Diamond Blade Saw; it is the best option when it comes to cutting tiles. This will give you a precise cut without damaging the rest of the piece.
If you need to make a hole in a ceramic tile, special tools and abrasives can be purchased to make holes at the diameter you need. These tools may be purchased individually, but also come in packaged sets. Using a hammer drill, use one of the hole cutters to bore through the tile, keeping the cutter vertical and using light downward pressure.
Practice on a few tiles with whatever cutting method you choose to use. You may find that one method works more efficiently for you than another. You will also be able to develop your technique so that you make fewer mistakes and more accurate cuts.

5.3 Setting **Tiles**

Push the tile into the adhesive by twisting it into place. This twisting motion will seat the tile firmly to the adhesive. Apply pressure to the tile so that it makes contact across the whole of the adhesive that was applied with the notched trowel.
Insert tile spacers as each tile is set.

On every Interceramic carton, gout joint is described.
For Non rectified Floor tile the grout joint must be at least 1⁄4"; for Rectified Floor tile the grout joint must be at least 1/16 ", it is recommendable at least 1/8".
For wall tile products (water absorption >15%) recommendable grout joint is at least 1/16".

5.4 Grout Joint based on ANSI A108.02 standard " General Requirements: Materials, Environmental and Workmanship-2010"

Grout joint size: To accommodate the range in facial dimension of the tile supplied for a specific project, the actual grout joint size may, of necessity, vary from the grout joint size specified. The actual grout joint size should be at least three times the actual variation of facial dimension of the tile supplied. Example: for tile having a total variation of 1/16 in. in facial dimension, a minimum of 3/16" in. grout joint shall be used. In no circumstances shall the grout joint be less than 1/16".

Running bond/brick joint patterns: For running bond/brick patterns utilizing tiles (squares or rectangular) with any side greater than 15 in., the grout joint shall be, on average, a minimum of 1/8 in. wide for rectified tiles and, on average, a minimum of 3/16 in wide for calibrated (non rectified) tiles.

The grout joint width shall be increased over the minimum requirement by the amount of edge warpage on the longest edge of the actual tiles being installed. For example, for a rectified tile exhibiting 1/32 in. edge warpage on the longest edge, the minimum grout joint for a running bond/brick joint pattern will be 1/8 in. + 1/32 in. or 5/32 in., on average. Of necessity, in any installation, some grout joint must be less and some more than the average minimum dimension to accommodate the specific tiles being installed.

6. Grouting

Grouting Joints, using grouts manufactured with Portland cement.

Allow Tile Time to Dry. Be sure the tile adhesive has had ample time to dry before you begin grouting to avoid problems

Grout preparation.
Carefully read and follow all instructions and precautions on the grout package. When mixing your grout compound, it's important to take into consideration timing, since grout will harden in the mix bucket. Start making your mixture wet to dry, meaning dry grout mixture in your mixing bucket, and wet agent in another appropriate receptacle. For un- or non-sanded grout, gradually mix the two together until you get a mixture about strong enough to sustain a trowel upright. For sanded grout, look for a mixture about the consistency of cookie dough.

Note that when selecting grout, style is not the only factor. For joints over 1/8", sanded grout is typically recommended, and for all joints smaller than 1/8", un- or non-sanded grout is suggested.

Apply the Grout.
Once the tile is ready to have the grout installed, it's time to get to work. Before grouting, make sure the joints between tiles are clean and free of any debris. Apply the grout with a rubber float trowel, forcing it into the joints and filling them completely, and then remove

excess grout with the float. Begin cleaning the tile surface immediately to prevent film or excessive clean up later. Sprinkle dry grout directly from the package over your work area. Use terry-cloth rags to rub dry grout into the joints in a circular motion, until the joints are uniform and the tiles are clean. To finish the joint, add a second, very light sprinkling of grout over the same area, and polish it in the same way. Applying grout in this manner leads to harder joints, removes excess water, and fills the joints completely so they are flush with the surface of the tile.

Notes: Some Interceramic polished porcelain floor tile has water soluble wax on the surface. Do not clean the wax because it is intended to protect the surface against grout´s stains during grouting joint process.

Remove Grout Film.
A finished tile floor will sometimes contain a certain amount of dusting or film. If a grout film develops, wipe the tile with a dampened sponge, rinsing and wringing it often. Re-polish the floor with a terry-cloth rag. Avoid acid or bleach when cleaning the floor, as this can discolor the grout and damage the tile.

Damp Curing (For grouts manufactured with Portland cement)
Another process associated with grouting is a procedure known as damp curing, and is recommended to improve the strength of the grout. This is done by covering the finished floor with non-staining craft-type paper for three days. Another method is to wipe the joints with a damp sponge or mop daily, after the first 24 hours, for the next three days.

Note: For epoxy grout, preparation , application and clean procedure is describe on the manufacturer package, Carefully read and follow all instructions and precautions.