



## Installation Instructions

## GrandOak Noble, Monarch & Everest Installation Requirements

# Floated Floated Floor Method: Yes Raft Size: 20m (I) x 10m (w) Underlay Required: Yes Adhesive: Crosslinking PVA Expansion Gap Floated: 10-12mm

Expansion Gap Floated (High Humidity Regions):

## Direct Stick Method: Yes Raft Size: Unlimited (I) x 20m (w) Underlay Required: No

**Direct Stick** 

Moisture Barrier / Adhesive: 2-Part Moisture Barrier and Direct Stick Adhesive

Expansion Gap Direct Stick to Subfloor: 3-5mm

Expansion Gap Dual Bond on Underlay: 10-12mm

Wastage: 5-10%

15-20mm

Nailed / Screwed to subfloor: No

Hydronic Heated Slab: Yes

### Products Tested by the Manufacturer for use during installation

# Roberts Crosslinking PVA SelectUnderlay SelectGuard SelectGuard SelectGuard

## Mapeproof 1k Turbo Moisture Barrier Mapei Ultra Bond S955 1k Adhesive SelectGuard

Please always visit our website www.asttimbers.com.au or www.grandoakflooring.com.au for the most up-to date version of our installation instructions, warranty, technical data sheet and care & maintenance as it may have been revised and updated.

### GrandOak Flooring Installation Instructions

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### General information

It is understood that:

### IMPORTANT:

- It is the owner's/installer's responsibility to read and be aware of the entire installation instructions before proceeding with the installation.
- The installer assumes all responsibility for the final inspection of product quality. An inspection of each board should be carried out prior to installation. Carefully examine the flooring for colour, finish, and quality before installing. Use reasonable selectivity and hold out or cut off pieces with glaring defects, whatever the cause. All such inspections should be conducted in finished lighting conditions, particularly in areas that will be exposed to sources of natural light. Planks showing visible manufacturing defects should never be installed. If the flooring is not acceptable, contact your retailer before proceeding further with the installation. If deemed defective by the manufacturer, these boards will be replaced prior to the installation.
- Once installed, all boards are deemed to be accepted. Claims resulting from the installation of such planks will not be honoured.
- It's at the installer's discretion to remove or cut off pieces with deficiencies. The use of stain, filler, or putty stick for the correction of defects during installation should be accepted as normal procedure.
- Please note that GrandOak flooring must be installed in a regulated environment to prevent possible damage not covered by warranty. A 'regulated environment' is one with a relative humidity of 45 - 60% and a consistent temperature range. As such, GrandOak flooring should not be installed more than 2 weeks prior to occupation of the home. The floor is designed to perform in an environmentally controlled structure.
- In almost all flooring installations, a moisture barrier will be required. The form of Moisture Barrier Membrane you should use will be dependent on the subfloor and the installation method used.
- Warranty exclusions include, but are not limited to:
  - surface checking resulting from low humidity
  - cupping or convexing (doming) of boards
  - the presence of mildew/moisture
  - discolouration from extreme subfloor moisture and/or exposure to direct sunlight
  - poor cleaning/maintenance regimes
- Please contact your retailer and adhesive manufacturer immediately if you have any questions regarding these guidelines.

### Acclimatisation & site inspection

- Before beginning installation, the installer must determine that
  the environment of the job site and conditions, and the type of
  subfloor involved are acceptable. Thus, ensuring that it meets
  or exceeds all requirements stipulated in the installation
  instructions that follow. The manufacturer declines any
  responsibility or job failures resulting from, or associated with
  inappropriate, or improperly prepared subfloor, or job site
  environmental deficiencies.
- GrandOak flooring can be installed below, equal to, or above ground level.
- All sources of moisture must be rectified prior to the installation
  of the floor. In addition, all moisture levels in the rooms fitted with
  GrandOak flooring should also be maintained at a stable level,
  in line with normal living conditions.
- Always follow the manufacturer's instructions for any additional compound or material you use.
- In addition to this set of instructions, we suggest installers refer
  to the ATFA (Australian Timber Flooring Association) Engineered
  Flooring industry standards technical publication (Version 1 –
  Feb 2012), for moisture content & humidity guidelines prior to
  installing the timber floors.
- DO NOT INSTALL in bathrooms, laundries, toilets, saunas, or areas subject to regular moisture or water.
- Window coverings should be used to protect the floor from direct sunlight, which would otherwise cause discolouration and/or damage to the boards.
- In a new construction building, GrandOak flooring should be one of the last items installed. All work involving water or moisture (plumbing, acoustic ceilings, wall lining, etc.) should be completed prior to flooring being installed. Heating and cooling systems should be fully operating, maintaining a comfortable room temperature.
- Flooring should not be delivered until the building has been closed in and cement work, plastering, painting, and other materials are completely dried. Concrete and plaster should be cured and at least 60 days old. Check basements and underfloor crawl spaces to be sure they are dry and well ventilated to avoid potential damage caused by moisture.
- Always handle with care. **DO NOT STAND** packs on their ends.
- **DO NOT STORE** directly on concrete or near outside walls. Cartons should be placed in the installation area and remain unopened until commencement of installation.
- The boards should always be stored in the room in which they
  are to be fitted, to acclimatise for 48 hours on site in a protected
  area and should be carefully stacked in their packaging to
  allow air to circulate. DO NOT OPEN CARTON UNTIL
  COMMENCEMENT OF INSTALLATION.
- Extremes in humidity levels in the home must be prevented all year round. GrandOak flooring is a living product that reacts to humidity level variations. During summer, when the humidity level is usually at its highest point, the GrandOak flooring is expected to expand as it absorbs moisture from the air. These variations must be controlled with the use of a dehumidifier. As for winter, when the heating system is working, the humidity level is lower. It is then recommended to use a humidifier to minimise the extreme effects of shrinkage.

### Installation tools, accessories & materials

- Safety glasses
- Dust mask
- Measuring tape and square
- PVA crosslinking glue
- Sharp 'Stanley' type knife
- Pencil
- Pull bar
- Hammer
- Tapping block
- 'V' Notched trowels

### (For **DIRECT STICK INSTALLATIONS ONLY**)

- 'Table type' power saw with dust collector, or a circular saw with carbide-tipped blade, or a power jigsaw, multi-tool, drop saw, and undercut saw
- Small hand tools associated with woodworking
- Expansion wedges (Suitable sized spacer blocks of plastic or wood)
- Suitable adhesive, moisture barrier, and residue remover
- Suitable underlay
- Trims
- Scotia
- Stair Nosing
- Suitable floor protection

## GrandOak Flooring Installation Instructions for Floating Floor Method

IMPORTANT: Colour variation occurs with all-natural timbers; it is expected that some tone and grain variation of GrandOak flooring will be present.

Engage a professional floor layer to install these floors.

Proceed with a visual inspection of the boards before installation. Once installed, the boards are considered accepted by the installer and the homeowner.

The use of silicone or caulking compound is NOT ALLOWED around the perimeter for this installation method. This will void the manufacturer's warranty as it will leave the floorboards inadequate space to expand and contract.

Floating floors are designed to move unrestricted, and as such are not allowed to touch the perimeter, and cannot be glued, nailed or tacked to the subfloor in any way. Restricting movement of the flooring will void its warranty.

Step and brick stagger patterns are not permitted, the boards must be randomly staggered.

Always follow the manufacturer's instructions for any additional compound or material you use.

DO NOT USE duct tape and/or any other industry's tapes during installation. The use of low tack masking tape is acceptable on the surface of the floorboards for a maximum of 72 hours.

Avoid using solvents of any kind to clean the floor. Solvents include (but are not limited to) methylated spirits, turpentine, bleach, ammonia, eucalyptus, citrus, vinegar and any non-pH neutral cleaners. These solvents may damage the surface, which is not covered under warranty.

### Method

GrandOak flooring can be installed as a floating floor method. That is, the floorboards are joined together as a panel (raft) via a Tongue and Groove joining system to each other and floated over suitable underlay.

A successful installation will rely heavily on adherence to these instructions. The two most common causes of failure are uneven subfloors and inadequate expansion to the perimeter of the floor.

An uneven subfloor and inadequate expansion will lead to the movement of the flooring underfoot and within the joining system. This can result in excessive noise, which often sounds like 'cracking' or 'creaking'.

When installing GrandOak flooring as a 'floating' floor, you must leave an expansion gap around the perimeter of the room (Please refer to the Installation Requirements inside the front cover). The floorboards must not be glued, tacked, nailed, or fixed to the subfloor in any way.

Installations greater than the stipulated raft size (Please refer to the Installation Requirements inside the front cover) will require compartmentalisation with the use of a moulding to provide proper expansion space.

DO NOT INSTALL any cabinets or kitchen islands on top of floating floors. An expansion gap must be maintained when meeting cabinetry (please refer to the Installation Requirements inside the front cover). This also applies to any obstructions and fixed items (columns, pipes, etc.) in the installation. Door jambs must be undercut to allow for expansion; do not force the floorboards under tight door jambs.

### **Preparation - Subfloors:**

### **IMPORTANT:**

- Subfloors must be checked prior to installation.
- Should the moisture content of the concrete slab be above 4.8%, flooring should not be installed.

Before installing the flooring, you must clean, sweep, or vacuum the subfloor so that it is free of dirt and debris. Verify the moisture content of the subfloor using a moisture meter or another approved method.

It is essential that the moisture content of any subfloor complies with the relevant standard. For Australian conditions, the recommended standard is a maximum of 4.8% for concrete/screed subfloors and 14% for wood subfloors. All potential sources of moisture (e.g. walls, drains, damp proof courses, plumbing, fridges, washing machines, etc.) must be thoroughly checked and rectified if found to be an issue. The final responsibility for determining if the subfloor is dry enough for installation of the flooring lies with the installer.

Wooden and wood-based materials (plywood, OSB, particle board) must be dry, with a moisture reading no greater than 14% (this should be checked with a moisture meter). All wooden subfloors must be greater than 19mm thickness. Ensure that the boards of the subfloor are properly fastened to the supporting beams and that you do not have any squeaking or depressed areas. Fill depressed areas if needed with floor levelling compound. Raised areas must be sanded down.

Please ensure the subfloor or surface that the flooring is being installed over is flat. Deviations in any subfloor must not exceed 3mm under a 1 lineal metre straight edge. Raised points must be sanded/ground down and depressions filled using a good quality cementitious levelling compound.

GrandOak flooring CANNOT be installed over any existing flooring that has an attached cushion or is a floating floor such as carpet or carpet underlay but can be installed over well bonded vinyl or ceramic tiles if the surface is flat.

The subfloor must be smooth, flat, structurally sound, and free of deflection.

If the concrete subfloor moisture level is between 4.4-4.8% as measured by an approved moisture meter that complies with the current Australian ATFA codes, you must first install a 200um minimum plastic moisture-proof membrane or sheeting. Where the membrane edges meet, they must overlap by 300mm and the joins must be sealed using a waterproof tape. The membrane must be extended up along all walls and vertical fixtures and then trimmed to the suitable height based on the skirting and/or beading that will be put in place.

### Floor installation

Please refer to the Installation Requirements inside the front cover.

### Getting started:

Check the floorboards before you start to make sure that they are not in any way damaged or have quality defects. After cleaning the subfloor, roll out a suitable underlay. The underlay must be applied with a minimum 100mm overlap and sealed with waterproof tape.

All walls and vertical fixtures must have the underlay turned up and then trimmed back to the appropriate level depending on skirting and/or beading to be installed.

During installation, installers should open a few cartons at a time to ensure natural colour variations between boards are blended throughout the installation.

The boards should be fitted lengthways towards the main incoming light source and, where possible, down the length of the room. In narrow hallways, install the floor parallel where possible.

### Installing the first three rows:

Select a starting wall that is long and visible, the first three rows will be installed parallel to this wall. Run the first row of plastic if required. If not required, proceed to roll out the first row of underlay. Lay the first row of boards (groove/female side to the wall) to assess the straightness of the starting wall. If the starting wall is undulating or uneven, square this row off to the other side of the room using a tape measure and scribe the first row of boards to cater for the undulations while accommodating a uniform expansion gap.

GrandOak flooring may grow by over 2mm per lineal metre in the width, so ensure you leave enough expansion gap (minimum requirement is 10-12mm) to allow for such expansion. The wider the floor, the bigger the gap that may be required.

Now lay the first row directly against the wall. Apply the **PVA CROSSLINKING** glue as a continuous bead into the entire length of the floorboard groove. Then gently tap it into the next board (we will space off the first three rows later). Cut the end board and leave

the correct gap that is required: 10-12mm is a rule of thumb. Fit a suitable sized spacer at the start of the row to set the gap required.

Always apply PVA CROSSLINKING glue to the entire floorboard groove, including the end join.

The offcut from the last board in the first row now starts your second row. (Note: Always ensure that the end joints are randomly staggered at least 450mm). Step and brick stagger patterns are not permitted, the boards must be randomly staggered.

To install the first board of the second row, apply the **PVA CROSSLINKING** glue as a continuous bead into the entire length of the floorboard including the end join, and then gently tap it in. Continue installing the floor left to right using the offcut from row 2 to begin row 3. We can now slide these three rows off the starting wall and install the suitable sized spacers against the starting wall.

### Continuing installation:

Lay row 4 and the rest of floor by repeating the above instructions, make sure to stagger the end joints by greater than 450mm. Any small gaps present can be filled using a non-silicone-base filler.

If using floor protection, you must clean, sweep, or, vacuum the installed floor so it is free of dirt and debris. This limits the potential surface damages that may occur on-site.

### Finishing:

Where skirting boards have been left in place, it is now time to fit colour-matched scotia mouldings to the perimeter of the floor. This covers the expansion gap after removing the expansion wedges.

During the installation of scotia, skirting boards, trims, and door jambs, ensure no downward pressure is applied to the boards. It is recommended that a minimum 1mm gap allowance is given where the accessories meet the boards.

Scotia is to be pinned to the skirting only, so it does not inhibit the free movement of the floor. If skirting boards have been removed or are yet to be fitted, they will usually cover the expansion gap well. It is often the case where professional installers will also undercut the plasterboard to afford an additional 12-15mm or so expansion to the perimeter of a floor. This is often recommended in areas of higher humidity where the flooring will expand more.

Install any end, connector, or adaptor profiles that have not been fitted during the installation process. These trims must hold the floor in place to provide full and free expansion of the flooring under or inside the trim profile.

Proper installation of finishing pieces (i.e. skirting boards, scotia etc.) is crucial as they provide stability to the perimeter of the flooring. Failure to install them results in an unstable edge due to the absence of full-length boards.

At doorways or where boards meet tiles or carpet, transition moulding should be used to protect the edges of the floor and provide a decorative transition from one-floor type to another.

### GrandOak Flooring Installation Instructions for Direct Stick/Glue Down

IMPORTANT: Colour variation occurs with all-natural timbers; it is expected that some tone and grain variations of GrandOak flooring will be present.

Engage a professional floor layer to install these floors.

Proceed with a visual inspection of the boards before installation. Once installed, the boards are considered accepted by the installer and the homeowner.

During installation, remove any remaining adhesive residue on the floorboards surface IMMEDIATELY by using appropriate adhesive manufacturer's approved wipes.

Allow 12-24 hours for adhesive or compounds to cure. We recommend using suitable floor protection to cover the installed floor.

Always follow the manufacturer's instructions for any additional compound or material you use.

DO NOT USE duct tape and/or any other industry's tapes during installation. The use of low tack masking tape is acceptable on the surface of the floorboards for a maximum of 72 hours.

Avoid using solvents of any kind to clean the floor. Solvents include (but are not limited to) methylated spirits, turpentine, bleach, ammonia, eucalyptus, citrus, vinegar and any non-pH neutral cleaners. These solvents may damage the surface, which is not covered under warranty.

### Method

### **IMPORTANT:**

- Subfloors must be checked prior to installation.
- Please do not use the direct stick method on any unstable/unsuitable concrete slabs.
- The direct stick method CANNOT be used on Hebel slabs.
- Should the moisture content of the concrete slab be above 4.8%, flooring should not be installed.

GrandOak flooring can be installed as direct stick/glue down method. That is, the floorboards are directly adhered on to the concrete/wood-based subfloor via glue which is trowelled onto the subfloor surface.

The boards can also be installed via dual bond using a suitable underlay. Dual bond is where a suitable underlay is directly adhered to the subfloor and the boards are bonded to the underlay.

A successful installation will rely heavily on adherence to these instructions. Some of the most common causes of failure are uneven subfloors, inadequate expansion to the perimeter of the floor and improper adhesive application.

When installing GrandOak flooring via a direct stick or dual bond method, you must leave an expansion gap around the perimeter of the room. (Please refer to the Installation Requirements inside the front cover).

Installations greater than the stipulated raft size (Please refer to the Installation Requirements inside the front cover) will require compartmentalisation with the use of a moulding to provide proper expansion space.

### **Preparation - Subfloors:**

Before installing the flooring, you must clean, sweep, or vacuum the subfloor so that it is free of dirt and debris. Verify the moisture content of the subfloor using a moisture meter or another approved method

It is essential that the moisture content of any subfloor complies with the relevant standard. For Australian conditions, the recommended standard is a maximum of 4.8% for concrete/screed subfloors and 14% for wood subfloors. All potential sources of moisture (e.g. walls, drains, damp proof courses, plumbing, fridges, washing machines, etc.) must be thoroughly checked and rectified if found to be an issue. The final responsibility for determining if the subfloor is dry enough for installation of the flooring lies with the installer.

Please ensure the subfloor or surface that the flooring is being installed over is flat. Deviations in any subfloor must not exceed 3mm under a 3 lineal metre straight edge. Raised points must be sanded/ground down and depressions filled using a good quality cementitious levelling compound.

The below requirements apply to all subfloor options detailed throughout this document. All details must be carefully followed, to minimise the risk of problems occurring with the flooring post-installation.

- The flooring can be installed onto concrete/screed subfloors and existing wood provided they are dimensionally stable.
- Ensure the subfloor is clean and free from all contaminants and loose material by vacuuming prior to installation.

- Existing concrete/screed bases' moisture content can be checked using a moisture meter, or alternatively sheets of polyethylene approximately 1m x 1m squared, taped onto the screed with a heavy weight placed on top for 24 hours.
   Presence of moisture in the screed will be confirmed if the screed is discoloured, or moisture is apparent on the underside of the polyethylene sheet. Your floor must not be fitted until the problem has been rectified. If installing on wood, the moisture vapour content of a wood subfloor must not exceed 14%.
- Flooring can be fixed directly onto preinstalled wood (particleboard, yellow tongue, or conventional hardwood) provided this subfloor meets all of the requirements detailed at the beginning of the 'Subfloors' section. If the subfloor is not flat and even, then you will need to overlay it with structural grade plywood (min 19mm thick). All existing floorcoverings must be securely fixed to the subfloor, to minimise the risk of squeaking. Where poor adhesion between the subfloor and existing boards, planks, or tiles exist - secure if possible. Otherwise, remove the existing floorcovering completely.
- On a wood subfloor, your new boards should be laid in a
  direction that is 90 degrees (perpendicular) to the direction of
  the boards below. If this is not possible, then plywood sheets
  (minimum depth 6mm) should be nailed, stapled, or screwed
  to cover the existing floor, allowing a 3-5mm perimeter gap
  (against walls) for expansion. The new floor can then be laid
  directly onto the plywood sheet.

### Floor installation

Please refer to the Installation Requirements inside the front cover.

### Getting started:

If any self-levelling compound is used on the subfloor it must be allowed to dry out completely before applying a suitable liquid **Moisture Barrier Membrane**. Comply with all instructions provided by the adhesive manufacturer.

Inspect your **Moisture Barrier Membrane** to ensure it is dried and clean prior to beginning of installation and take moisture readings to ensure levels are correct.

Check the floorboards before you start to make sure that they are not in any way damaged or have quality defects.

During installation, installers should open a few cartons at a time to ensure natural colour variations between boards are blended throughout the installation.

The boards should be fitted lengthways towards the main incoming light source and, where possible, down the length of the room. In narrow hallways, install the floor parallel where possible.

### Installing the first three rows:

Begin your installation against a sound, straight wall (starting in the left corner and working right), it may be necessary to scribe the first row of boards to achieve correct alignment. Always begin the installation with the groove side of the plank facing the wall. Install the first 3 rows and allow time for the adhesive to cure before continuing with the installation in that section.

Glue the boards down with a professional direct stick adhesive to the slab over the **Moisture Barrier Membrane**, using a 6mm 'V' notched trowel (or an adhesive manufacturer's specified).

Spot weight across the floor and weigh down any hollow or drummy areas, to ensure floorboard and subfloor contact.

When installing GrandOak flooring in multi-residential developments, dual bonding with acoustic matting may be required to reduce noise transfer. Over a prepared slab—see above subfloor preparation, the acoustic matting will need to be applied to the slab with a professional direct stick adhesive using a 3mm 'V' notched trowel and allowed to dry according to the manufacturers' specifications. Glue the boards directly to the matting with a professional direct stick adhesive, also using a 6mm 'V' notched trowel (or an adhesive manufacturer's specified). Spot weight across the floor and weigh down any hollow or drummy areas, to make sure floorboards and subfloor bonded.

### Continuing installation:

Lay row 4 and the rest of floor by repeating the above instructions, make sure to stagger the end joints by greater than 450mm. Step and brick stagger patterns are not permitted, the boards must be randomly staggered. Any small gaps present can be filled using an appropriate colour filler.

Removal of Glue Residue/Compounds:

It is vital that all glue residues are removed immediately after laying each prefinished board.

Make sure to use the professional wipes (or a suitable solvent) recommended by the adhesive manufacturer to remove the glue residues.

Always test solvents first on an offcut to establish that the solvent does not affect the colour or finish.

Use a damp cloth to wipe away any solvent residue during installation.

Always follow the adhesive/compounds manufacturer's instructions.

### Finishing:

Any spacing wedges used can now be removed.

The expansion gap around the perimeter of the floor can be covered by re-fitting the skirting boards. Never fix them directly to the installed floor.

If the skirting boards were not removed for installation, you can cover the expansion gap using moulding trims that attach to the skirting with glue or panel pins.

At doorways or where boards meet tiles or carpet, a door threshold strip should be used to protect the edges of the floor and provide a decorative transition from one-floor type to another.

Any visible joints or gaps should be filled with a non-silicone-base filler to match the colour of the timber.

After completing installation, visually inspect the finished floor to ensure that there are no glue residues or compounds left. Allow 12-24 hours for adhesive or compound to cure. Use suitable floor protection to cover the installed floor. Before installing the floor protection, you must clean, sweep, or vacuum the finished floor so that it is free of dirt and debris. This limits the potential surface damages that may occur on-site.

### Installation Instructions - Over Heated Slab

GrandOak flooring, due to its great stability, can be installed over hydronic heated slabs (ONLY). It needs to be installed as per the guidelines specified below to avoid compromising your flooring warranty, other floor heating systems are not covered by our warranty.

The floor must be installed by a professional installer, and always follow all the manufacturers' guidelines to make sure your warranty won't be compromised. Please also note that the heating system being used must be installed and operated in compliance with the guidelines of the heating and/or other manufacturers guidelines. Refer to our GrandOak flooring installation instructions or contact us for more information.

1. The in-slab under floor hydronic heating needs to be started and run at desired temperature for at least 14 days prior to installation.

NOTE: The slab surface temperature must not exceed 26°C at any time.

- 2. After 14 days, turn off the slab heating and allow 4 days to pass in order to allow the subfloor to cool down and reach room temperature before installation.
- 3. Please note that the total timber floorboard thickness must be no greater than 20mm.
- 4. After floor installation is complete, your GrandOak flooring requires gradual acclimatisation in conjunction with the heating system. The heating system temperature is to be increased by 2 degree increments each day until desired temperature is reached (not exceeding 26°C) and when turning your heating off, also decrease by 2 degree increments each day until it is off.
- 5. Using an in-floor temperature sensor is important to avoid overheating.
- Shrinking between boards, cracking and minor cupping can be expected when installing over heated slabs and does not constitute a product defect.

### For floating method

- Install 200UM plastic sheet overlapping joins by 300mm and taping the joins securely using waterproof tape. Plastic sheeting must run up the walls 100mm, then be cut off at floor height (after installation).
- 2. Installation of a premium quality 3mm moisture barrier underlay. We highly recommend using our suitable underlay together with all our engineered timber products.
- 3. Boards must be glued at the joins. A bead of glue needs to be applied to the top and bottom edge of the groove.
- 4. Leave expansion gap (10-12mm) as per normal installation guidelines.
- 5. Please refer to our GrandOak flooring Installation Instruction Guide for finishing instructions.

### For direct stick/glue down method

- 1. Please refer to our GrandOak Flooring Installation Instruction Guide for Direct Stick/Glue Down Method.
- Direct stick adhesive must be applied via full-trowel in conjunction with the use of crosslinking PVA in the groove joins. Make sure to consult the glue adhesive manufacturer to ensure the appropriate adhesive is used in conjunction with a heated slab installation.