# Overlay Stone Plastic Composite (SPC Hybrid Flooring) Flooring System Installation Guides

## 1.About Stone Plastic Composite Flooring

SPC flooring (Hybrid), which stands for Stone Plastic Composite flooring, is flooring is constructed using a combination of natural limestone powder, and polyvinyl chloride (PVC).

SPC flooring typically comprises four layers, depending on the backing material used. These layers often include a wear layer, a decor layer, the core, and the back layer.

Note: The product comes with underlay attached to its back. Please be advised that in wet areas, this underlay does not negate the need for a wet-area membrane.

## 2. Scope & Limitations on the use Overlay Stone Plastic Composite Flooring System

This overlay Stone Plastic Composite (SPC) Flooring system is for commercial and residential indoor use and is not to be used outdoors. Violation of this will result in the warranty being voided.

This product is suitable for all areas except commercial kitchen and garages.

The substrate must be level in accordance with NZS/AS 1884:2013 (3mm variation over a 3m long straight edge)

The product must be installed onto an approved substrate.

When used in wet areas, the provisions of this installation guide must be followed to ensure the flooring performs properly post-installation.

If the products are used with underfloor heating systems, the provisions of this installation guide must be followed to ensure the flooring performs properly post-installation.

During maintenance and cleaning, the maintenance and care guide provided by FLOORCO must be adhered to.

The maximum dimensions for the flooring are 12 meters by 8 meters. If the installation requires a length greaterthan 12 meters or a width greater than 8 meters, please use a divider transition trim.

Installation of the product must comply with NZBC C/AS1 and C/AS2, Part 7 maintaining a distance from combustion Appliances.



## 3. Environment & Conditions Recommendations

The product should be placed in the installation area for at least 48 hours to acclimate to the room's temperature, minimizing any expansion and contraction due to temperature variations. It is crucial to avoid exposure to bright light and heating equipment.

If Installing in areas with strong sunlight, it is wise to incorporate more expansion joints, adding 10mm per ten meters to the gaps on both sides as needed, or utilizing curtains can be a suitable alternative. This can significantly reduce the contraction and expansion of the product.

When the flooring is installed over plywood or particleboard in areas with intense sunlight exposure or high humidity, the flooring product may deform due to the expansion and contraction of the plywood or Particleboard.

The optimal temperature environment for the flooring is 18–24°C indoors, with relative humidity not exceeding 70%.

In order to ensure the long-term dimensional stability and locking integrity of SPC flooring, all substrates — including concrete and timber-based subfloors (such as plywood, OSB, or particleboard) — must have a moisture content not exceeding 14% prior to installation.

In addition to the maximum moisture content requirement, substrate moisture conditions should also remain reasonably uniform across the floor area. Localized moisture variation between different areas of the substrate should generally not exceed 4%, as uneven moisture conditions may contribute to inconsistent support conditions beneath the floating flooring system.

Where abnormal moisture readings or uneven moisture conditions are identified, a moisture barrier film should be installed prior to flooring installation to reduce potential moisture influence beneath the floating floor system.

If this requirement is not met, the substrate must be allowed to dry further, or be treated with an appropriate moisture barrier (e.g., PU-based sealer) before flooring installation begins. Installation over subfloors with elevated moisture content may lead to edge lifting, peaking, or locking system failure.

The flooring should never be placed outdoors.

## 4. Safety & Health

## In every scenario, safety and Health takes precedence

Be it tools, the site, or materials, should they pose a threat to your safety and health, it's imperative to exit the area immediately.

To further ensure your safety and well-being, please use the following protective gear:

- ✧ Safety Glasses: To shield your eyes from flying debris.
- ✧ Ear Protection: To safeguard your hearing amidst noisy environments.
- ✧ Masks: To prevent inhalation of harmful dust and particles.
- ✧ Safety Vest: To enhance your visibility on site.
- ✧ Steel Toe Shoes: To protect your feet from heavy falling objects.

Equipment and safety is paramount. For instance, while using a saw for cutting tasks, never remove the saw's protective covering. This precaution is crucial to prevent accidental injuries.

## 5. Concrete & Timber Substrate Preparations

### 5.1 Clean & Dry

Remove or clean all surface contaminants- any glue or sticky adhesive residue needs to be mechanically eradicated to avoid any clicking sounds that might be heard when walking across the finished floor.

Concrete and timber, while the surface of these substrates may appear dry, it is after the installation of the flooring product that any potential moisture can be drawn to the surface causing bubbling and swelling of the product. This can be caused by the concrete slab blocking off the crossflow ventilation. The result creates moisture build-up beneath the building.

Both substrates must be moisture tested at the early planning stages of an installation a moisture content reading that is more than 14% may indicate a moisture problem beneath the floor.

### 5.2 Sound & Smooth

Alongside any loose, rotten, or springy boards, inspect for flexing and stability at the joint where timber meets concrete. This joint represents the weakest point susceptible to movement under load, heat, moisture, or seismic activity.

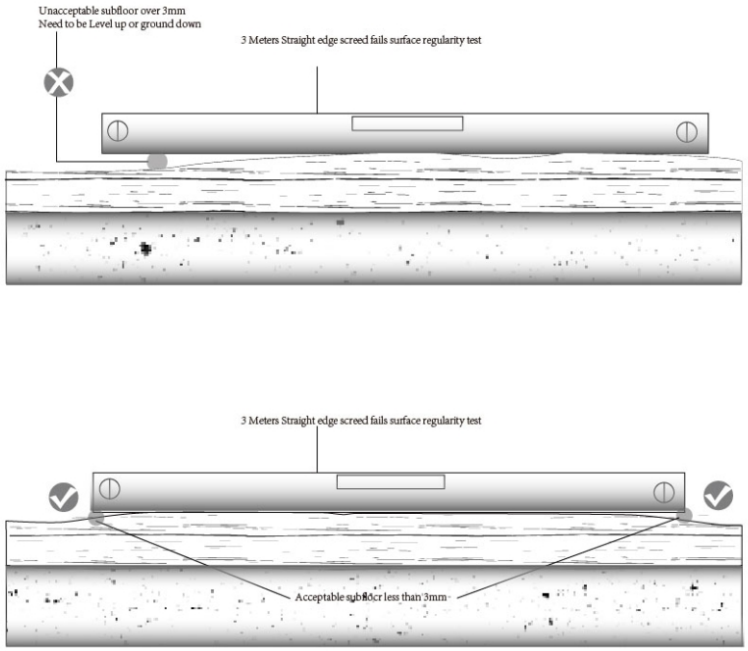
The surface should exhibit smoothness with no detectable ridges when a hand is glided over it.

### 5.3 Flat Planeness

When a 3000mm long straightedge is laid at rest on two points spaced 3000mm apart on the surface, no portion of the surface should be more than 3mm beneath the straightedge. NZS AS1884:2013

## 5.4 Leveling

In situations where there is a substantial discrepancy in the level of the floor, utilizing Plywood can effectively resolve the unevenness. When the discrepancy is minor, using a screed or leveling compound can smooth out the irregularities, providing a flat and stable surface for further flooring installations.






## 5.5 Underfloor Heating

Before the installation, please ensure that the SPC flooring chosen for installation is compatible. Install underfloor heating, preparation as per this guide is necessary. Additionally, we recommend the flooring installer to liaise with the underfloor heating contractor to ensure correct installation.

If there's a conflict between the guidelines of the underfloor heating manufacturer and this guide, please refer to Floorco Trading Ltd. for advice.

The temperature of the underfloor heating system should not exceed 27°C.

The underfloor heating system must be turned on prior to installation of the floor covering for a minimum of seven days to assist with the acclimatization of the substrate.

When the underfloor heating system is restarted after being turned off, the temperature should be gradually increased to reach 27°C over a period of 4-5 days.

Do not frequently adjust the temperature of the underfloor heating system. It is permissible. to decrease or increase the temperature by a maximum of 2°C per day. NZS AS1884:2013

The temperature should be maintained at 15°C during the flooring installation, and this temperature should be sustained for at least 48 hours post-installation.

The presence of underfloor heating and security systems shall be checked and all preliminary work, such as the fixing of floor sockets for service plugs, shall be completed.

Perform a concluding inspection to ascertain that the substrate is thoroughly dry, clean, level, devoid of any cracks, and structurally robust prior to advancing with the installation.

### 5.5.1 Hydronic and Electric

Underfloor heating is divided into Hydronic and Electric types. Installers need to confirm with the underfloor heating supplier and Floorco Trading Ltd that it is suitable for SPC flooring before installing the Flooring.

**Note:**
Should any of the aforementioned points be unachievable, please cease installation immediately. Forcing installation implies subsequent unknown risks; please contact us.

## 5.6 Acoustic Underlay

### 5.6.1 Before Installation

Prior to the installation of the acoustic underlay, please prepare according to the " Substrate Preparations " section of this guide.

The flooring installer can carry out the installation of this acoustic underlay and can inspect that the subfloor has been adequately prepared.

### 5.6.2 During Installation

Adhere to the moisture test requirements, no higher than 70% Relative Humidity. all substrates must have moisture content not exceeding 14% prior to installation.

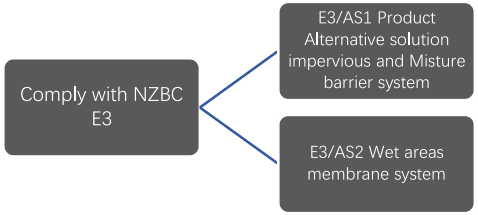
Also, follow the requirements for leveling evenness.

Fully glue use a notched trowel to spread the glue evenly over the subfloor.

**Note:**
If the above instructions cannot be adhered to due to special circumstances, please refrain from installing the acoustic underlay or flooring. Should any of the aforementioned points be unachievable, please cease installation immediately. Forcing installation implies subsequent unknown risks; please contact us.

## Wet areas comply with NZBC E3

Our flooring product can comply with E3 through two methods: Product Alternative Solution (Impervious & Moisture Barrier system with D3 PVA or higher Joints/Caulk Perimeter) or E3/AS2 (Wet areas membrane system).




5.7 and 5.7,1 describes the installation method for meeting E3 requirements through the E3/AS2 wet areas membrane system. For the E3/AS1 Product Alternative Solution, please refer to:
Https://floorco.co.nz/e3-as1-flooring-alternative-solution-for-kitchen-toilet-laundry-bathroom/

The bathroom and toilet must be waterproofed in accordance with the requirements of NZBC. Our installation guide does not replace the NZBC requirements.

## 5.7 Wet Areas Membrane System NZBC E3/AS2

A BRANZ appraised wet area membrane system must be used for wet areas such as kitchens, bathrooms, toilets, and laundries. D3 PVA or higher adhesive is also required in all joints. Installation must be in accordance with the relevant BRANZ Appraisal.

Refer to the Code of Practice for Internal Wet-area Membrane Systems for more information.

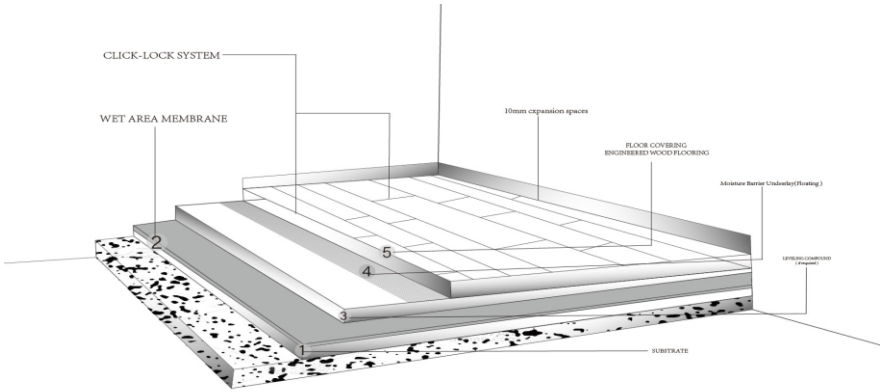
Building.govt.nz/assets/Uploads/building-code-compliance/e-moisture/e3-internal-moisture/code-of-practice-for-internal-wet-area-membrane-systems.pdf

The Code of Practice for Internal Wet-area Membrane Systems (IWAMS) provides a method to achieve an impervious substrate, ensuring the protection of the building structure. By following the IWAMS guidelines, the installation creates a barrier that effectively prevents water from penetrating the substrate, thereby maintaining the structural integrity of the building. This system has specific design and installation requirements and cannot be substituted, modified, or incomplete application. by 'waterproofing' or any similar approach. Following this code is the only correct way to meet the NZBC E3/AS2 requirements



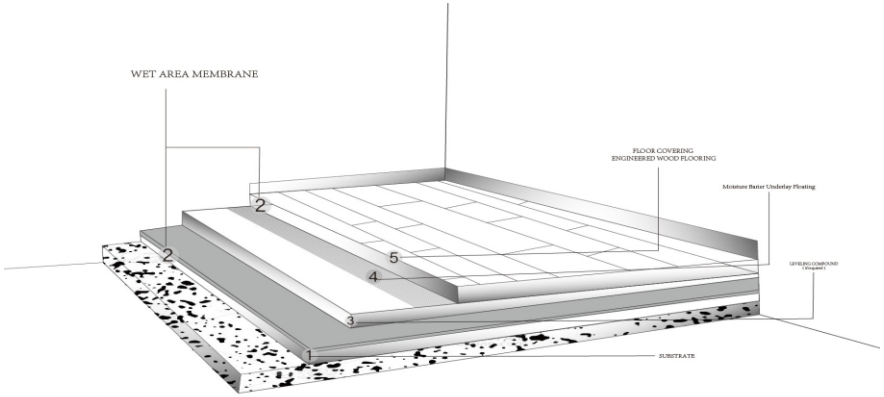
## 5.7.1 Diagram of Installing SPC Flooring in Wet Areas

- Areas that do not require floor leveling






- Areas that require floor leveling






Explain: Flooring Underlayment, The function of underlayment is to enhance the feel underfoot. When an SPC (Stone Plastic Composite) flooring product does not come with an attached underlayment, it requires a separate underlayment. However, when the SPC flooring product includes an underlay, there is no need for an additional underlay.

# 6. Installation

## 6.1 Responsibility

The flooring installer should conduct a thorough inspection for defects and damage on the flooring. If a particular board or several boards are found to be unsatisfactory, please do not install them. Upon completion of the installation, it implies that the installer has accepted the materials, and the flooring will not be subject to claim protection.

Some aesthetically displeasing boards are not unusable. They can still be placed in less conspicuous areas like storage rooms, closets, or corners of rooms. Since the flooring products originate from natural wood grain, appearance is not considered a defect.

The installer has the responsibility to follow this guide for installation, violating this guide will render the flooring ineligible for claim protection. If there are any questions, feel free to contact us.

The builder, owner, or end-user must provide temperature control devices. If it's colder than specified, don't install flooring until devices run for 48 hours to condition the material. These devices shall remain on during the installation and for a minimum of 48 hours thereafter. NZS AS1884:2013

## 6.2 Notice

The maximum dimensions for the flooring are 12m x 8m, and a minimum expansion gap of 6mm should be left every 9 meters.

Please ensure that the base material is level, solid,clean,and dry, as detailed in “Substrate Preparations” of this guide. Failure to adhere to this guide will result in warranty voidance.

Avoid direct sunlight 24 hours before, during, and 24 hours after installation to prevent heatcaused size changes.

## 6.3 Floating system

Floating installation refers to a method of installing SPC flooring without the need for glue, nails, or staples. The flooring panels are designed to lock together along the edges, creating a floating floor over the substrate.

### 6.3.1 Preparation

Remove existing molding and clean substrate. Level uneven sub-floors if necessary. Please ensure to follow the content of "Concrete & Timber Substrate Preparations." in this guide.

If installing SPC flooring without backing underlay, it is essential to roll out poly-film (1.5 mm-5 mm) to cover the substrate.

Identify the longest, straightest wall to begin the installation.

Measure and mark the flooring width plus 6mm for expansion from the starting wall, snapping a chalk line for guidance.

Take into account extra expansion gaps for strong sunlight exposure, and when installing. on plywood or particle board substrates. Please ensure to follow the content of " Substrate Preparations" in this guide.

### 6.3.2 Preparing the starter row

Select the longest and straightest boards for the first rows.

Align and install the boards, ensuring a 6mm expansion gap from the end wall, and stagger the joints with a minimum end stagger of 152mm.

Measure the total width of the flooring (including the tongue), plus 6mm for expansion. Measure out this distance in at least 2 places from the starting wall and 30cm from the corners. Then, snap a chalk line parallel to the starting wall.

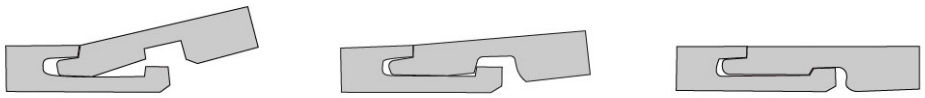
### 6.3.3 Subsequent Rows

Continue laying out the planks, working from at least four open cartons to blend the planks and stagger the end joints for a pleasing appearance.

### 6.3.4 Click Install

Then interlock the longitudinal side by pulling the elements together. As long as there is no visible gap between the elements, the connection has been sealed correctly and the element can be fully laid out flat on the floor. If a gap exists, repeat the previous process but with more pressure and check the row beforehand.

It may be necessary to rip the last row to allow for the 6mm expansion. If the last row is 3cm or less click the pieces to the last full uninstalled row and install them together. If needed use a light rubber mallet to make the remaining rows tight to the installed planks.



Click-lock system [1]



### 6.4 Impervious & Moisture Barrier System E3/AS1

Our flooring product can comply with E3 through two methods: Product Alternative Solution (Impervious & Moisture Barrier system with D3 PVA or Higher Joints/Caulk Perimeter) or E3/AS2 (Wet areas membrane system).

This section explains how to meet E3 requirements through the E3/AS1 Product Alternative Solution.

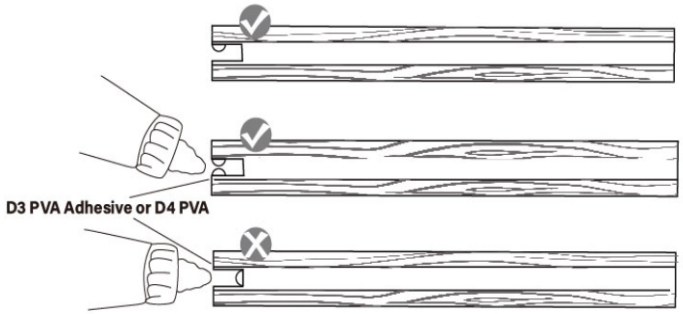
### 6.4.1 NZBC E3 Wet areas – D3 PVA or higher adhesive at the Joints

When installing in wet areas, it's essential to fully apply D3 PVA or Higher adhesive at the joints of the floor. This is a crucial step to meet the E3 Alternative Solution requirement.

In wet areas, creating an impermeable surface is essential to comply with NZBC E3. Make sure to use a D3 PVA or Higher joint sealer adhesive for sealing all plank joints, both along their length and at the ends.

1. Apply a thick, uniform bead of adhesive to the edge of the groove/click mechanism, then to the top of the groove/click.

2. Fit the planks tightly together and promptly remove any excess adhesive with a damp cloth or wipe.

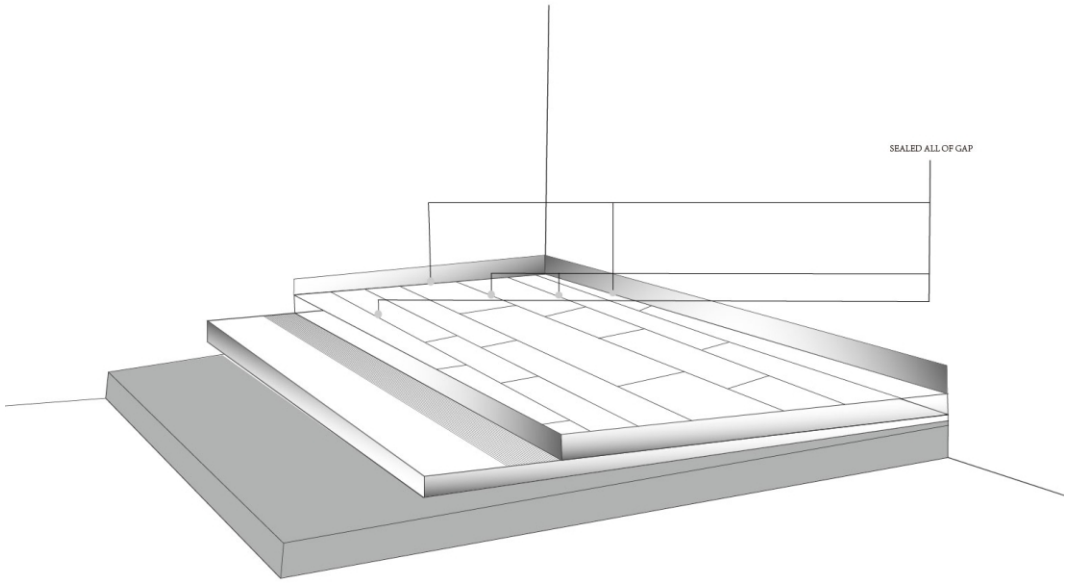


### 6.4.2 Sealed Kitchen,Laundries,toilet and bathroom

To further protect the perimeters and joints from water ingress, the Installer will seal gaps between planks in the Kitchen, toilet, laundry, and bathroom.

In open-plan spaces, the flooring surface shall extend at least 1.5 m from all sanitary fixtures and sanitary appliances.

The sealed and transparent D3 PVA or higher adhesive should be used at the ends of planks and the long edge of the plank, this must also include perimeter protection from water ingress. continuous and coved (minimum of 75mm) or joints sealed where they meet the wall.




## 7. Post-Installation Work

Clean the floor with any high-quality, p/h-neutral vinyl cleaner.

Install transition pieces -i.e. – thresholds, t-moldings, base shoe. Always secure moldings to the wall, not the floor.

Any unused material should be stored in a dry place in case future repairs are needed. We recommend saving at least 2 boxes.

To reduce the risk of fine dust particles, typically originating from plasterboard or drywall products, infiltrating the grain of the flooring, make certain that all cutting machinery is equipped with dust collection bags.

In cases where fine dust has been produced in the vicinity during installation, it's essential to vacuum the floor post-installation and promptly shield it with a breathable floor protection product after the vacuuming process.

## References


1. Code of Practice for Wet Area Membrane Systems page45 – page52, 4th Edition published August, 2020 – By the Waterproofing Membrane Association Incorporated (previously the Membrane Group of New Zealand)
2. Floor coverings resilient sheet and tiles installation practices. By NZS/AS1884:2013 – New Zealand Standard.
3. Resilient floor coverings planning and installation 1first Edition 2019 – By The Flooring Association for the flooring industry.
4. Vinyl & Hybrid Flooring industry standard, By Australasian Timber Flooring Association
5. FLOORCO SPC flooring installation Instructions 2rd Edition –By FLOORCO trading Ltd.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