SAWLFA
SOUTHERN AFRICAN WOOD, LAMINATE & FLOORING ASSOCIATION

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Installation guide to:

Stone Plastic Composite (SPC)/ Rigid Core Board (RCB) :

This manual was compiled by SAWLFA together with importers of these products.

Endores by our Corporate members:

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PRE-INSTALLATION EVALUATION OF THE JOB SITE:

These guidelines should be considered in conjunction with any specific instructions from the flooring manufacturer. These instructions are usually found on the packaging label.

If any of these requirements are NOT met, you may be jeopardizing the performance of your SPC/RCB floor and/or warranties and guarantees. If these items are overlooked, the installation could fail in the short or long term. This page is formatted for easy printing and use. Once all information is secured, it should be kept with important records, a copy provided to the installer and general contractor, with you keeping the original in case future concerns arise.

- Remember to arrange for someone to be available at least 2 days before the installation for all materials to be delivered to the site so that all can acclimatize.
- Ensure that your customer is aware that the boxes of SPC/RCB have to be stored in the actual installation area and not for instance, in their garage, for 48 hours before installation to allow for acclimatization. He/she needs to be aware that this may inconvenience them for a while.
- Inspect products to ensure the same dye lots are of the same range; as shade variations can occur.
- In the event of a screed needing to be laid, ensure your client is aware that extra charges may need to be implemented and extra time will need to be given to allow for the screed to dry.

Wet screeds - Two reasons not to install:

A new slab/screed still drying.
An old screed with rising damp or moisture ingress from outside.

If moisture readings are testing high then one cannot lay the floor until dry or damp problems are resolved.

- NOTE - Sub-floor moisture causes a huge percentage of adhesive cementations and SPC/RCB installations to fail.

If you continue then you are taking full responsibility for the screeds.

Moisture:

- We are not moisture experts but at least we can foresee safety by our moisture readings.
- Moisture must be read all along the outside walls and doors and at **various points in the center of the room.**
- Readings must also be taken at all exterior doors to ensure no moisture leaching, e.g. sliding doors (sealed off)
- Moisture barriers are mandatory as any residual moisture previously not detected will rise to the top once the SPC/RCB is installed.
- Check moistures in the screeds and "note them on your quote". 3% Tramex/Caisson and 12% Proti-Meter are acceptable. Check the manufacturer's specifications.

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- Epoxy moisture barriers are applied using a roller brush and must be allowed to dry for 24 hours. Check the manufacturer's specifications.
- On average in ventilated areas new slabs and screeds dry at a rate of 1% per day, i.e.: a 100mm slab for about 100 days and a 30mm screed for about 30 days.
- Please note that the reading on the Tramex/Caisson will apply to a depth of 1.5cm, whereas the Proti-Meter only applies to the surface, unless the probes are used, then to a depth of 100mm can be taken.
- If one uses fans or humidifiers to speed up the drying process of the screeds then one should check the moisture at least 25mm beneath the surface, till correct levels are reached.
- Remember moisture readings are only a guideline of moisture at the time of quoting. This will need to be checked again before installation takes place.
- If any serious moisture is detected contact a specialist in this field.

Please note that all building activities such as refurbishing should be completed before installation commences to avoid any damage to the SPC/RCB flooring.

Sub-Floors:

- Check that screeds are level and flat to the correct specifications, this being no more than 5mm per 3meter (Class 2)

Maximum permissible deviation from a 3 m long straight line joining two points on the surface	
3	Class 1; suitable for floors requiring minimum irregularity, e.g. television studios; may necessitate the use of special methods and will require close supervision
5	Class 2; suitable for the major proportion of construction work
10	Class 3; suitable for floors where regularity is not important

Table 1: Classification of surface regularity of floor

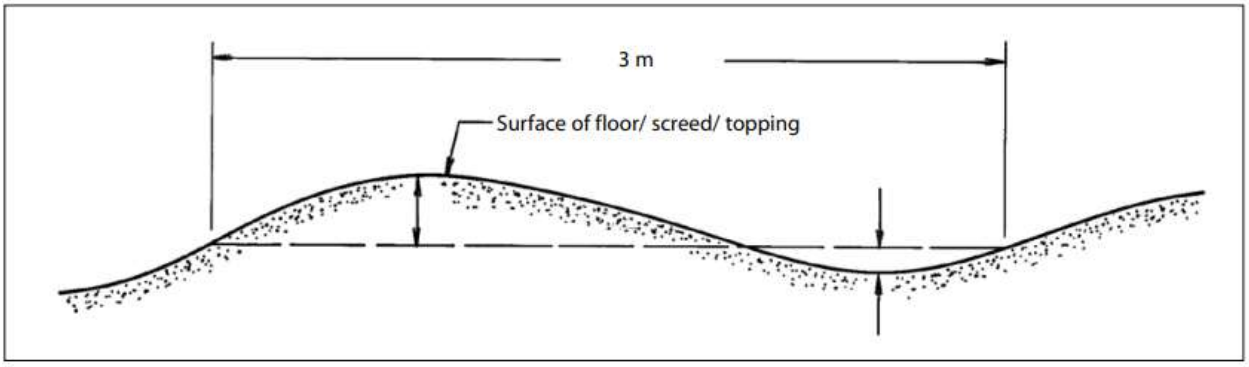

Figure 2: Deviation from a straight line 3 m long joining two points on the surface (Exaggerated vertical scale)

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- Inspect the sub-floor surface and **report in writing** to the project manager, contractor, or client any visible defects on the surface, such as cracks, bumps, rough areas, or variations in the levels. The general contractor should patch and repair all cracks, voids, and other imperfections of concrete with high-strength cement-based patching materials. This is to be approved by the manufacturer.
- If a screed is to be carried out, then a person who has specialized screed knowledge should complete this. Technical advice can be sort from the manufacturers of the screed.

A good concrete floor is the result of sensible planning, careful design and detailing, adequate specifications, good workmanship, and correct inspection. This will determine the finish of any SPC/RCB installation.

<u>During normal living conditions:</u>

- **The finished installation should be protected from direct sunlight as the floor could fade and will expand more.**
- **After installation is completed, the area where the floor has been installed is not to be closed/unoccupied with no curtains, as this will create a greenhouse effect. Please relay this to your client.**
- **Installations can only take place after all permanent fixtures have been fitted – DO NOT install permanent fixtures on top of SPC/RCB floors.**
- **After completion of the installation, felt pads must be fitted to all the furniture legs to avoid scratching.**
- **If you are forced to go against any of the above procedures then a letter to your client would be advised this waving responsibility over to them.**
- **Once all is in writing and signed by both parties the job can start.**
- **Once everything has been arranged with your customer complete a job sheet, and include the following information:**

If your customer refuses to sign – WALK AWAY!

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JOB SHEET:

Date: _____ ___Time:_____

Job Name: _____

Address: _____

City: _____

Site phone: _____ Site fax: _____

UNTIL THE FOLLOWING GUIDELINES HAVE BEEN MET THE JOBSITE IS NOT READY FOR A SPC/RCB FLOOR INSTALLATION!

EXTERIOR CONDITIONS:

Gutters and downpipes are properly placed to drain away from the structure:

YES_____ NO _____

Patios and balconies are sloping away and are lower than the inside area where SPV/RCB is to be installed:

YES_____ NO _____

Flowerbeds are lower than the inside DPC:

YES_____ NO _____

Pop-up sprinkler systems are facing and spraying away from the house walls:

YES_____ NO _____

Any other danger points where water may get in during a rainstorm:

YES_____ NO _____

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INTERIOR CONDITIONS:

All wet trades (drywall, tile, paint, plaster, etc.) have completed their work:

YES_____ **NO** _____

The building is enclosed and weather tight, including all doors and windows:

YES_____ **NO** _____

There is no bubbling of paint on the inside walls, this could be rising damp or damp coming in from the other side of the walls, E.g. garden or shower:

YES_____ **NO** _____

Window protection for example – blinds and curtains, etc.

YES_____ **NO** _____

CONCRETE SLAB CONDITIONS:

Concrete must be dry – Test with a moisture meter, the reading should be no more than 3% on a Tramex/Caisson or 12% on a Proti-Meter to continue: Check manufacturer's specifications.

Moisture readings: _____
Moisture readings: _____
Moisture readings: _____
Moisture readings: _____

Installing on certain sub-floor surfaces could be risky, refer to the manufacturer's specifications.

YES_____ **NO** _____

Sweep and or vacuum screed to remove all dust particles:

YES_____ **NO** _____

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Before Installation:

Correct screed moisture readings: Tramex/Caisson = 3% - Protimeter = 12%

- **NOTE - Moisture readings on the sub-floor - Place the job sheet on the sub-floor and take a picture of both the moisture reading and the client's information.**

Acclimatisation:

- **Acclimatisation is critical.**

  - Store in a secure area.
  - Store in a clean dry area.
  - Store at room temperature from 15 to 29 degrees.
  - Unopened packages pin stacked on **a flat surface** to a maximum of five boxes high of the concrete (on a pallet or such item).
  - Do not place any heavy material on top of the stored boxes- Excessive weight placed on top of the boxes will distort the flooring material.

SUB-FLOOR PREPARATIONS:

- **It is sometimes necessary for the installer to repair the subfloor surface before installing the flooring. The most common method is to use a smoothing compound; however, it should be noted that smoothing compounds are only to be used on minor surface imperfections like cracks and chips. If the sub-floor is in a poor condition then the correct self-leveling screed will need to be used.**

- **Please note that when smoothing compounds are applied in one thick layer they will eventually crack and break away from the sub-floor.**

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- Moisture barriers are mandatory. Either 2 coats of an epoxy moisture barrier applied in opposite directions (East to west then North to South) or an 80 micron HDPE plastic barrier (plastic is to overlap by 50mm and taped). ***Combilay is not appropriate for this product*.**
- Check the sub-floor to ensure that it is dry and level - Refer to the manufacturer's specifications.
- Clean the sub-floor surface to ensure the removal of any dirt or foreign material.
- All resilient flooring materials to be installed require a smooth, hard, clean, and level surface.
- The floor surface **should not** vary by more than 5mm per 3 meters (Class 2) - Refer to manufacturer specifications.

❖ **Poor and incorrect subfloor preparation and unacceptable moisture levels are major causes of floor failures.**
❖ **2 different types of sub-floor preparations are most commonly used in SPC/RCB installations.**

- Screeding compounds.
- Self-leveling compounds.
- Screed compounds are used to create a surface 2 – 3mm thick.
- These compounds are generally allowed 24 hours to cure and dry.
- Bonding liquids are used in the mix and can also be used as a primer for the subfloor.
- The screed manufacturer's guidelines should be followed precisely to avoid costly failures.
- Apply bonding liquid to the floor surface and allow 2 – 3 hours to dry.

The self-leveling compound is the preferred method of sub-floor preparation.

- It is extremely important that the sub-floor is cleaned and dust free before the commencing of any self-leveling compound.
- A primer then is applied to the sub-floor as per the manufacturer's instructions using a roller brush.
- The primer takes from 2 hours – 24 hours, depending on the supplier to cure and dry.
- Depending on the supplier, 5 – 6L of clean water is generally used per bag for mixing the compound.
- 3 – 4 bags of self-leveling can be mixed at one time.
- Most self-leveling compounds can be applied from 3mm – 30mm thick.
- Most self-leveling compounds can be built upon, but a primer must be used in between coats.
- Most self-leveling compounds can take full traffic after 3 – 4 hours.
- Most self-leveling compounds can take an SPC/RCB installation after 24 hours without any surface preparation.

Tools required for self-leveling:

- Extremely good mixer and paddler.
- A rake to pull to certain depths.
- Spike roller to air rate.
- Spike shoes to walk into the mix.

❖ **Please note it is extremely important that once you have started a self-leveling process, that you complete it. It is also extremely important that you do it quickly and that you are well organized and there is sufficient water to keep the process going, as self-leveling screed can cure in summer very quickly and the spike roller can cause damage to the surface.**

All sub-floor surfaces as per the manufacturer's instructions is a smooth, hard, dry, and clean surfaces with a tolerance of 5mm over a 3m period.

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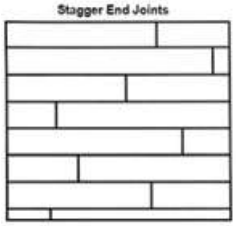
Installing Stone Plastic Composite Flooring/Rigid Core Boards:

- SPC/RCB simulates wood planks and can be installed in the same pattern as a wood plank floor, in a random pattern and staggered design.



- SPC/RCB products can be cut using a guillotine, Jigsaw, or circular saw.

Installation:

Although SPC/RCB is designed to be "Floating Floors" correct preparation of the sub-floor is mandatory. Roughness or unevenness of the subfloor will lead to the failure of the locking mechanism.

Moisture barrier:

- **Moisture barriers mandatory -** Either 2 coats of an epoxy moisture barrier applied in opposite directions or an 80 micron HDPE virgin plastic barrier (plastic is to overlap by 50mm and taped). ***Combilay is not appropriate for this type of flooring.***
- For MDF Skirtings the moisture barrier is to be taken up behind the skirtings or the skirtings should be painted with epoxy to prevent moisture ingress.
- ***Epoxy Vapour barriers must be non-permeable, i.e. full seal against vapor, especially when used on any glue-down vinyl.***

Installing the Floor:

- Check the sub-floor to ensure that it is dry and level - Refer to the manufacturer's specifications.
- Clean the sub-floor surface to ensure the removal of any dirt or foreign material.
- All resilient flooring materials to be installed require a smooth, hard, clean, and level surface.
- The floor surface should not vary by more than 3mm per 1 meter (class 2) - Refer to manufacturer specifications, to prevent joints from rupturing.
- The surface must be sound and free from dust, flaking, cracks, and holes.
- Typically the flooring will run the length of the room but is a matter of preference.
- To avoid narrow planks or short planks near the wall or doors, it is important to pre-plan. Use the width of the room and calculate how many full boards will fit into the area and how much space remains.
- Planks are to be cut as per the manufacturer's specifications.
- If the first row of planks does not need to be trimmed in width, it will be necessary to cut off the unsupported tongue so that a clean solid edge is at the wall.

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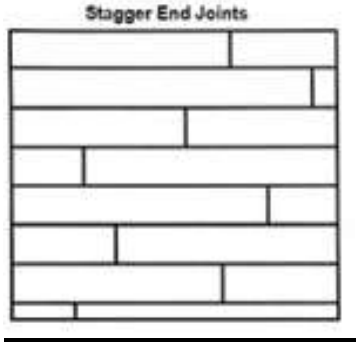
- An expansion gap of 8-10mm for low-temperature areas and 12-15mm for high-temperature areas will need to be left for natural expansion. Refer to the manufacturer's specifications.
- The expansion will be greater where the direct sun is focused.
- The planks should be installed from left to right.
- From the top left corner of the room, put the first plank in place, so that both the head and side seam grooves are exposed.
- Install the second plank in the first row by angling the short side tongue into the short side groove of the first plank and so on.
- To start the second row, cut a plank that is at least 20 cm shorter than the first plank in the first row. Then install this plank by inserting the long side tongue into the groove of the plank in the first row.
- Install the second plank in the second row by inserting the short side tongue into the previously installed first plank short side groove.
- Align the plank so the long side tongue tip is positioned just over the groove lip of the plank in the first row.
- Using gentle force and at a 20-30 degree angle, push the long side tongue into the groove by sliding along the short side seam and so on.
- The laying of panels should not be in a pattern form unless the client requests this.
- Click SPC/RCB can be installed over most existing hard surface floor coverings provided the existing floor surface is smooth, level, even, and structurally sound, or can be made smooth, level, even, and structurally sound. If grout lines are deeper or wider than 5mm screed would need to be applied.



Provision for expansion:

- To enable natural expansion or contraction in the South African climate it is. We recommended leaving a gap next to all vertical surfaces including door frames. Check the manufacturer's specifications.
- Extra expansion gaps are needed at any windows/doors exposed to extreme temperatures - Check the manufacturer's specifications.
- The length and width of which the SPC/RCB can be laid must be adhered to according to the manufacturer's specifications.
- Door Frames can be undercut to avoid unsightly gaps around the doorframes.
- Only use sealers approved by the Manufacturer as most sealers do not allow for expansions.

Skirting:

- Skirting is available to cover the expansion gaps left.

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- Skirting should not be installed tightly against the floor or filled to restrict the natural movement of the SPC/RCBl flooring.
- Profiles are not to be glued directly to the SPC/RCB flooring as this will restrict the natural movement of the SPC/RCB flooring.

Underfloor heating:

- Radiant heating (Water heating) is the only advisable underfloor heating suitable for these products.
- Electrical heating mats are not advisable – **Please check with your manufacturer before installing the heating system.**

Basic Tools required:

- Moisture meter
- Aluminium straight edge 3m
- Broom and or vacuum cleaner
- Ruler or tape measure
- Carpenters square
- Spacer blocks
- Jig saw
- Bosch multi-tool
- Guillotine

Repairs:

Can be conducted – Refer to manufacturers specifications.

For more in-depth information read the instructions on the manufacturer's packaging labels.

Cleaning and Maintenance

Initial Handover:

- Cleaning should only be conducted with a dry microfiber mop, Vacuum cleaner, or a soft broom.
- To remove stubborn marks, water on a damp cloth can be used.

Preventative Maintenance:

- Long-term wear and tear are caused by dirt trodden onto the floor from the outside. Walking in dirt such as gravel and sand acts like sandpaper and can cause unpleasant

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scratches. To prevent this we suggest that you should place large doormats at all entrances. (no rubber or latex-backed rugs can be used as this will cause the floor to stain)

- Always sweep or vacuum the floor before cleaning; this is to remove loose dirt or particles.
- It is also recommended that felt pads are fitted under the feet of tables, chairs, and cupboards. This makes them easier to move around and prevents scratching.
- Also equip castors or rollers, with soft treads (NOT RUBBER) on office chairs, filing trolleys, and mobile containers and replace any existing old, hard, or sharp-edged castors.
- To avoid wear and tear in high-traffic areas, walk-off mats are highly recommended.
- When heaters are in use, especially gas heaters, the flooring area in contact with focused direct heat must be covered and protected, as concentrated heat can result in the bubbling of the SPC/RCB.
- To keep the floor looking its best, dry dust, mop, or vacuum your floor regularly. It is recommended to do this more often in high-traffic areas.
- **DO NOT** use a household dust treatment/chemicals such as vinegar, solvents, polishers, soaps, handy-andy, or one-step cleaners of any kind as this may cause the floor to become slick or have a dull finish.
- Simply sweep the floor as required.
- **DO NOT** pour buckets of water on your floor to clean as excessive water can damage your sub-floor, and cause Alkalinity leaching that can cause damage to the board.
- **In case of a flood, the floor should be lifted and the subfloor left to dry before the floor is refitted**
- Keep pet's nails clipped to avoid surface scratching.
- Food spills should be cleaned up as soon as possible.

Cautions and Maintenance:

- Heavy furniture should be equipped with suitable non-staining, wide-bearing casters.
- Do not drag furniture over the SPC/RCB – It will scratch.
- Sharp objects such as stiletto heels will mark your floor, especially if they are in disrepair.
- Excessive heat and light exposure can create excessive expansion and fading of your SPC/RCB floor, ensure that all doors and windows have UV filters, blinds, or net curtains.
- Oil or petroleum-based products can result in surface staining.
- DO NOT use rubber mats or rubber furniture protectors as this could permanently stain your SPC/RCB.

For more in-depth details consult the Manufacture’s specifications.