



Building Code E3/AS1: Internal Moisture 2nd Edition, Amendment 7 Alternative Solution Compliance Statement

Building Code Clause E3 requires floor surfaces of any space containing sanitary fixtures or sanitary appliances in wet areas to be impervious and, easily cleaned, and have ventilation to meet conditions for health and safety.

It requires buildings to be constructed to avoid fungal growth and excessive moisture. Its provisions relate to habitable spaces, bathrooms, laundries and other spaces where moisture may be generated or accumulate. Its requirements include provisions for:

- adequate thermal resistance;
- space temperature; ventilation;
- disposal of overflow water; and
- surfaces to be impervious and easily cleaned.

The accepted solutions for flooring finishes in water-splash areas, including kitchen, laundries, bathroom and toilet areas are (i) slab-on-grade concrete that is steel trowel or polished finished, (ii) ceramic or stone tiles having 6% maximum water absorption or (iii) an integrally waterproof sheet material (e.g. vinyl) with sealed joints and edges sealed or coved. The finish must be impervious and easily cleaned. The area extends to the doorway and all walls of the room, or at least 1.5 meters from all sanitary fixtures or appliances in open plan spaces. Laminates and vinyl planks may still be used, however, these flooring finish types will now need to be specified and approved as an Alternative solution. This document provides guidance in regards to the comment under section 3.1.1 Floors (under section 3.0 Watersplash) that states “other floor finishes may also be capable of satisfying the performance for impervious and easily cleaned, if installed in a manner that prevents gaps or cracks within the finish and at any parts of its perimeter that are exposed to watersplash, and/or if the surface is sealed with a suitable durable coating”. When our products are installed in accordance with our Installation Manuals and, where applicable, Installation/Use Manuals of accessories, adhesives, moisture barriers and underlays, the product and systems meet the requirements of the E3 Building Code based on expert opinion obtained in this regard:

- In-Service History;
- Expert opinion or Producer Statement.



i. Impervious Surface

All our products are water and moisture resistant, featuring a durable, hygienic and waterproof surface that is easy to clean. Our products also feature locking systems that provide resistance to water penetration where watersplash may occur.

Our products utilize a I4F click technology, which is engineered to provide an extremely tight joint that inhibits regress of moisture.

ii. Perimeters Exposed to Watersplash

For all our products (incl. Glue-down LVT, Rigid Hybrid Vinyl, Water-resistant Laminate and Engineered Stone products) the perimeters of the room should be installed with a compressible PE foam and covered with a flexible silicone sealant (not acrylic sealant) at the floor to wall junction to all perimeters extending to the doorway, or at least 1.5 meters from any sanitary fixtures of wet rooms or watersplash zone areas of open plan rooms to prevent gaps in the perimeter of the finish to prevent water ingress. In order to achieve the maximum allowed installation area, the main installation area should be separated from the wet room or splash zone area via joints at doorways and/or thresholds as required. Outside of water splash areas, standard installation guidelines must be applied as per our Installation Manuals.

iii. Service History

Our products have been distributed and installed by our partners in New Zealand for over 10 years. We have a proven track record of performance and service history in the New Zealand market for our products which were properly installed in accordance with our installation manuals and, where applicable, to the specifications as required under the Building Code.

iv. Additional Information

Apart from our long-standing history and experience in conducting business in the New Zealand market and the extensive testing performed internally by us, we are also currently working on having our flooring solutions independently appraised by BRANZ (www.branz.co.nz).

Please contact your Sales representative or our Technical Support team for further information, discussion or clarification of this statement or supporting documentation.

Konstantin Mishagin
Product Management and Compliance

NovoCore Flooring

Address: No.111 Changjiang Road, Jiashan County, Jiaxing City, Zhejiang Province, PRC
Email: contact@novocorefloor.com



INSTALLATION GUIDE

Thank you for choosing our flooring. When properly installed and cared for, your new flooring will be easy to maintain and will keep its great look for years.

Please read all the instructions before you begin the installation. Improper installation will void warranty.

NOTE: It is recommended that you engage a professional flooring expert that has experience when considering the installation of these products.

I. GENERAL PREPARATIONS

TOOLS REQUIRED: Spacers, rubber mallet, ruler, pencil, tape measure, utility knife.

- Prior to installation, inspect material in daylight for visible faults/damage, including defects or discrepancies in color or shine; check the edges of the flooring for straightness and any damage. No claims on surface defects will be accepted after installation.
- It is preferable to lay boards perpendicular to the window, following the direction of the main source of light. For the best result, make sure to always work from 3 to 4 cartons at a time, mixing the planks during the installation.
- Check if subfloor/site conditions comply with the specifications described in these instructions. If you are not satisfied, do not install, and contact your supplier.
- Flooring products can be damaged by rough handling before installation. Exercise care when handling and transporting these products. Store, transport and handle the flooring planks in a manner to prevent any damage. Store cartons flat, never on edge.
- Flooring products can be heavy and bulky. Always use proper lifting techniques when handling these products. Whenever possible, make use of material-handling equipment such as dollies or material carts. Never lift more than you can safely handle; get assistance.
- Calculate the room surface prior to installation and plan an extra 5-10% of flooring for cutting waste.
- The environment where the flooring is to be installed is critically important with regard to successful installation and continued performance of the flooring products. The flooring is intended to be installed in interior locations only. These interior locations must meet climatic and structural requirements as well.
- Flooring should only be installed in temperature-controlled environments. It is necessary to maintain a constant temperature of 15-30°C before and during the installation. Portable heaters are not recommended as they may not heat the room and subfloor sufficiently. Kerosene heaters should never be used.
- After installation, make sure that the flooring is not be exposed to temperatures less than 10°C or greater than 50°C.
- For floor surfaces exceeding 400 m² and/or lengths exceeding 20 m, use expansion moldings.



In most cases, this product does not need to be acclimatized. However, if the boxes of flooring were exposed over 2 hours to extreme temperatures under 15°C or over 35°C within the 12 hours before the installation, acclimation is required. In this case, keep the boards in room temperature for at least 12 hours in unopened package before you start the installation. The room temperature must be maintained consistent between 15-30°C before and during the installation.

II. SUBFLOOR INFORMATION

- The flooring can be installed over most existing hard surface floor coverings, provided that the existing floor surface is clean, flat, dry, securely fastened, structurally sound and level to 5 mm within 3 m.
- The substrate should not slope more than 25 mm per 2 m in any direction.
- Depressions, deep grooves, expansion joints and other subfloor imperfections must be filled with patching & leveling compound.
- Substrates must be free from excessive moisture or alkali. Remove dirt, paint, varnish, wax, oils, solvents, any foreign matter and contaminants.
- Do not use products containing petroleum, solvents or citrus oils to prepare substrates as they can cause staining and expansion of the new flooring.
- Although this floor is waterproof, it is not aimed to be used as a moisture barrier. The subfloor must be dry, concrete moisture vapor emissions should not exceed 8 lb / 3.63 kg (ASTM F1869) / 90 % RH (ASTM F2170) with a PH limit of 9 / max. 2.5 % moisture content (CM method).
- This product is also not to be installed in areas that have a risk of flooding such as saunas or outdoor areas.
- Existing sheet vinyl floors should not be heavily cushioned and not exceed more than one layer in thickness. Soft underlayment and soft substrates will diminish the products inherent strength in resisting indentations.

WOOD SUBFLOORS

- If this flooring is intended to be installed over an existing wooden floor, it is recommended to repair any loose boards or squeaks before you begin the installation.
- Nail or screw every 15 cm along joists to avoid squeaking.
- Basements and crawl spaces must be dry. Use of a 0.15 mm poly-film is required to cover 100% of the crawl space earth.
- We recommend laying the flooring crossways to the existing floorboards.
- All other subfloors - Plywood, OSB, particleboard, chipboard, wafer board, etc. must be structurally sound and must be installed following their manufacturer's recommendations.

CONCRETE SUBFLOORS

- Existing concrete subfloors must be fully cured, at least 60 days old, smooth, permanently dry, clean, and free of all foreign material such as dust, wax, solvents, paint, grease, oils, and old adhesive residue. Curing agents and hardeners could cause bonding failure and should not be used.



- We recommend using a minimum 0.15 mm poly-film as a moisture barrier between the concrete subfloor and the flooring.

DO NOT INSTALL OVER

- Any type of carpet.
- Existing cushion-backed vinyl flooring.
- Floating floor of any type, loose lay, and perimeter fastened sheet vinyl.
- Hardwood flooring / wood subfloors that lay directly on concrete or over dimensional lumber or plywood used over concrete.

IMPORTANT NOTICE

In-floor Radiant Heat: Flooring can be installed over 12 mm embedded radiant heat using the floating method. Maximum operating temperature should never exceed 30°C. Use of an in-floor temperature sensor is recommended to avoid overheating.

- Turn the heat off for 24 hours before, during and 24 hours after installation when installing over radiant heated subfloors.
- Before installing over newly constructed radiant heat systems, operate the system at maximum capacity to force any residual moisture from the cementitious topping of the radiant heat system.
- Make sure that the temperature in the room is maintained consistent between 15-30°C before and during the installation.
- Floor temperature must not exceed 30°C.
- Once the installation has been completed, the heating system should be turned on and increased gradually (5-degree increments) until returning to normal operating conditions.
- Refer to the radiant heat system's manufacturer recommendations for additional guidance.

Warning: Electric heating mats that are not embedded into the subfloor are not recommended for use underneath the floors. Using electric heating mats that are not embedded and applied directly underneath the floors could void the warranty for your floor in case of failure. It is best to install the flooring over embedded radiant floor heating systems and adhere to the guidelines listed above.

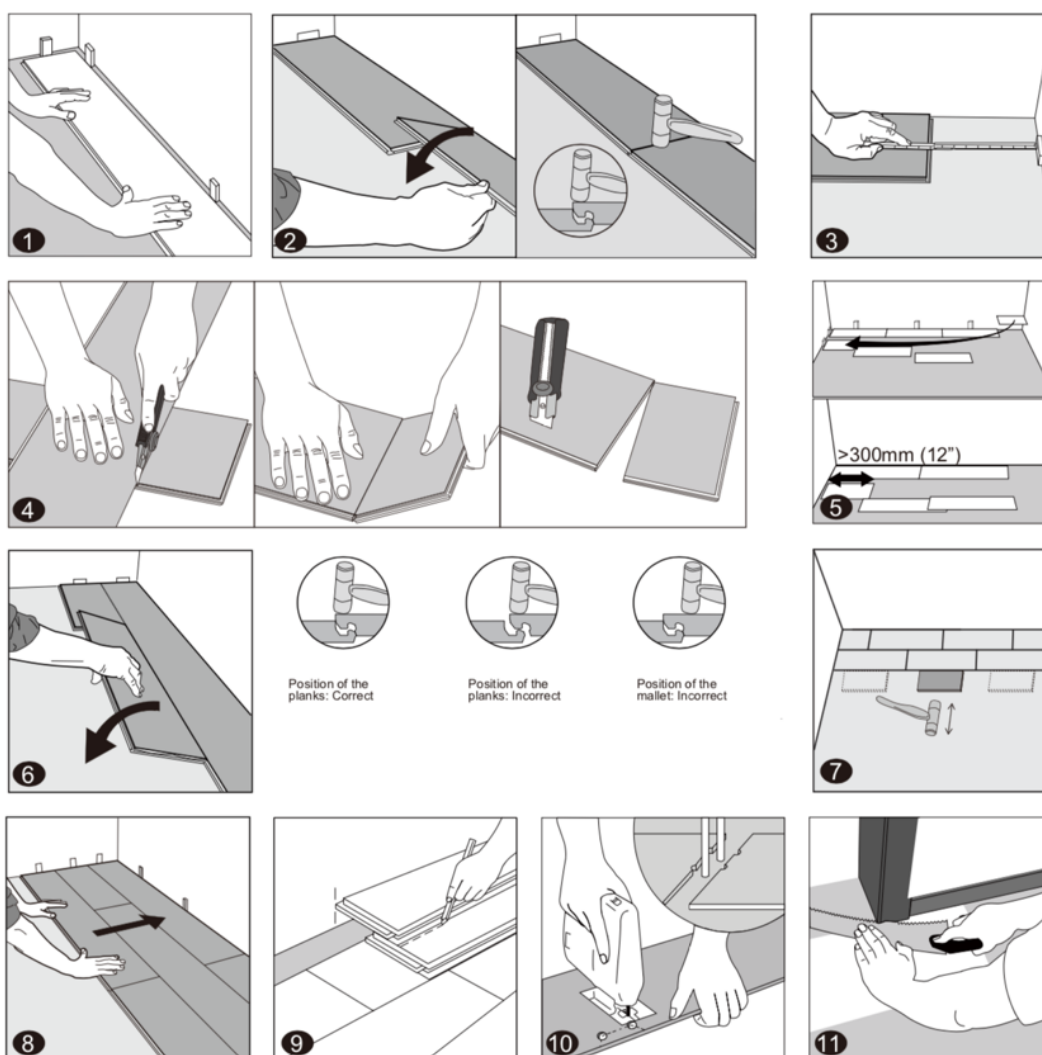
III. INSTALLATION

- Remove baseboard, quarter-round moldings, wall base, appliances and furniture from room. For best results, door trim should be under-cut to allow flooring to move freely without being pinched. After preparation work, sweep and vacuum the entire work area to remove all dust and debris.
- With a floating floor you must always ensure you leave minimum 10 mm expansion gap between walls and fixtures such as pillars, stairs, etc. These gaps will be covered with trim moldings after the floor is installed.
- Whenever possible, plan the layout so that the joints in the planks do not fall on top of joints or seams in the existing substrate. The end joints of the planks should be staggered a minimum of



20 cm apart. Do not install over expansion joints. Avoid installing pieces shorter than 30 cm at beginning or end of rows.

- Do not install your kitchen cabinets directly over your floor. The floor's quality can be guaranteed as long as the floor can move freely.
- Decide the installation direction. It is recommended to install the boards perpendicular to the window following the direction of the main source of light.
- Measure the area to be installed: The board width of the last row shall not be less than 50 mm. If so, adjust the width of the first row to be installed. In narrow hallways, it is recommended to install the floor parallel to the length of the hall.
- As the floor has a pre-attached underlayment, the use of an additional underlayment is not allowed as it could damage the locking mechanism and will void warranty.



1. **First row, first plank:** After thoroughly cleaning the subfloor, you should begin laying from left to right. Position the first plank so that grooved edge is facing you. Place the floorboard 10 mm from the left wall. Use spacers between the wall and the floorboard.
2. **First row, second plank:** Drop the plank and gently tap down the end with a rubber mallet so it firmly locks into the previous plank until both are at the same height. Make sure both planks are perfectly aligned. It is crucial that after the short edges of two connecting planks are



correctly aligned, and the rubber mallet contacts the plank in the area directly above the short edge, allowing for a correct locking.

Note: Tapping the area close to the short edge, but not directly above it, may result in permanent damage to the joint. Continue installing the first row until you reach the wall on the right.

IMPORTANT: If you notice both planks aren't at the same height or are not well locked together, please follow the disassembling instructions at the bottom of the page, disassemble and check if any debris stuck inside the lock is obstructing. Failure to properly line up the end joint and attempting to force it in while out of alignment could result in permanent damage to the end joint.

3. **First row, last plank:** At the end of the first row, leave an expansion gap of 10 mm to the wall and measure the length of the last plank to fit.
4. **To cut the plank:** Use a simple utility knife and ruler, and with the top side facing up, cut heavily and several times on the same axis. The knife will not go through the surface but make a deep cut. You can then lift one half of the plank using your other hand to hold down the second placing it very close to the cut. The plank will split naturally.
5. **Second row, first plank:** Start the second row with the leftover cut part of the last plank of the previous row. This small plank should measure at least 30 cm. Otherwise, cut a new plank in half and use it to begin the second row. The end joints of each adjoining row should not be closer than 20 cm to each other. Whenever practical, use the piece cut from the preceding row to start the next row.
6. **Second row, second plank:** Click the long side of the plank into the previous row and place it tight to the short end of the previous plank with an angle of 25-30 degrees. Drop the plank and gently tap on the end with a rubber mallet so it firmly locks into the previous plank until both are at the same height. Make sure both planks are perfectly aligned.
7. **After finishing the installation of every row:** Use scrap pieces and a small hammer or rubber mallet to gently tap the planks into the click of the previous row to make sure they are tightly clicked together and make sure there is no gap between the long side of the planks installed. Any gapping can compromise the whole installation.
8. **Tip:** After the first 2-3 rows of planks are installed; they should be checked with a string line to ensure that rows are still running straight. If they are not, it could be that the starting wall has some irregularities that caused bowing in the installation. If so, the starting row of planks may have to be scribed and re-trimmed to account for any unevenness in the wall. This can be done without having to disassemble the beginning rows.
9. **To lay the last row:** Position a loose board exactly on top of the last row laid. Place another board on top, with the tongue side touching the wall. Draw a line along the edge of this boards, to mark the first board. Cut along the edge of this board to mark the first board. Cut along this line to obtain the required width. Insert this cut board against the wall. The last row should be at least 50 mm wide. The spacers can then be removed.
10. **Holes for pipes:** Measure the diameter of the pipe and drill a hole that is 20 mm larger. Saw off a piece as shown in the figure and lay the board in place on the floor. Then lay the sawed-off piece in place.
11. **Door molding and skirting:** Lay a board (with the decorative side down) next to the door molding and saw as shown in the figure. Then slide the floorboard under molding.



BATHROOM / WET AREAS / SPLASH AREAS INSTALLATION

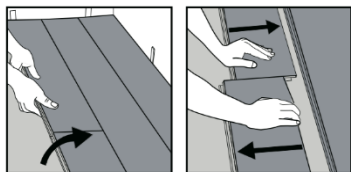
Fill the expansion spaces with a 10 mm compressible PE foam backer rod and cover with a flexible 100% silicone sealant to the entire perimeter of the installation. Do not use an acrylic sealant.

- Prior to installing moldings, apply silicone sealant to the portion of the molding or transition that will contact directly with the flooring surface.
- Install moldings and immediately wipe away any excess silicone sealant.
- Apply silicone sealant at connections to doorframes or any other fixed objects.
- Branded and generic silicone tubes are available in any local home center or hardware location.
- If a watertight installation is required, apply a silicone bead across the bottom of the tongue on both long and short side prior to installing the floorboard. Wipe off any excess silicone immediately.

IV. FINISHING THE INSTALLATION

Replace molding or wall base, allowing slight clearance between the molding and the planks. Nail the molding to the wall surface, not through the flooring. At doorways and at other areas where the flooring planks may meet other flooring surfaces, it is preferable to use a "T" molding, or similar, to cover the exposed edge but not pinch the planks. Leave a small gap between the planks and the adjoining surface.

V. DISASSEMBLING



Separate the whole row by lifting it up delicately at an angle. To separate the planks, leave them flat on the ground and slide them apart. If planks do not separate easy, you can slightly lift up the planks (5°) when sliding them apart.



MAINTENANCE GUIDE

Cleaning

- As particles of dirt and grit left behind can damage the surface of the floor, clean your floor regularly with a vacuum cleaner or a soft broom.
- Remove stains immediately with a well-wrung cloth. Worn-in stains are difficult to remove.
- The use of residential steam mops on this product is allowed. Use at lowest power with a suitable soft pad, and do not hold a steam mop on one spot for an extended period of time (longer than 5 minutes). Refer to the steam mop's manufacturer instructions for proper usage.
- After washing allow your floor the time to dry.

Protect from

- Carpets and furniture should be moved from time to time to avoid permanent color changes.
- Apply appropriate protection to the legs of the furniture.
- Apply freely rotating, non-rubber wheels to chairs with castors and/or use protective matting.
- Please bear in mind that pets with sharp nails can leave deep scratches on the floor
- Place beige, felt floor protectors under chair and table legs; do not use colored floor protectors!
- Prolonged contact with rubber can cause permanent stains. Do not use rubber-backed doormats.
- Avoid contact with dirt, sand, grit and substances such as oil or asphalt by placing carpets and doormats at the front- and backdoor.
- NEVER use aggressive cleaning products, soap or abrasive cleaners or cleaning products that contain oil or wax.

Watering

No special requirements.

Others

- Make sure the humidity in the room is at least 45%. Use a humidifier, if necessary.
- Never use abrasive agents, as those can affect the gloss layer.
- Never use wax on a NovoCore floor.

TEST REPORT

No. : XMIN2206006782CM

Date : Jul 05, 2022

Page: 1 of 4



CUSTOMER NAME: CFL FLOORING (CHINA) CO., LTD.
ADDRESS: NO.111 CHANGJIANG ROAD, JIASHAN DEVELOPMENT AREA,
JIAXING, P.R. CHINA

Sample Name : SPC
Product Specification : 5.5+1mm IXPE

Above information and sample(s) was/were submitted and confirmed by the client. SGS, however, assumes no responsibility to verify the accuracy, adequacy and completeness of the sample information provided by client.

Date of Receipt : Jun 27, 2022
Testing Start Date : Jun 27, 2022
Testing End Date : Jul 05, 2022
Test result (s) : For further details, please refer to the following page(s)

(Unless otherwise stated the results shown in this test report refer only to the sample(s) tested)

Signed for
SGS-CSTC Standards Technical
Services Co., Ltd Xiamen Branch
Testing Center

Civi Huang
Authorized signatory



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TEST REPORT

No. : XMIN2206006782CM

Date : Jul 05, 2022

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Summary of Results:

No.	Test Item	Test Method	Result
1	Laminate Surface Swell Test – Assembled Joint	Refer to NALFA Surface Water Test_Final_08-01-2019 and client's requirement	See results

Original Sample Photo:



Sample

Assembled Laminate Planks with Plastic Ring seal



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TEST REPORT

No. : XMIN2206006782CM

Date : Jul 05, 2022

Page: 3 of 4

Test Item: Laminate Surface Swell Test – Assembled Joint

Sample Description: See photo

Test Method: Refer to NALFA Surface Water Test_Final_08-01-2019 and client's requirement

Test Condition:

Specimen: 2pcs samples of 150mm×230mm×6.5mm and 1pc sample of 300mm×230mm×6.5mm form a specimen, total 2pcs specimens, see photo(s)

Exposure time: 24h

Recovery time: 24h

Test Result:

Specimen No.		1	2	Average
Quantitative calculation (see note 2)	The inverted "T" Joint _{Wet} swell value (mm)	0.007	0.016	0.012
	Wet swell (mm)	0.004	0.004	0.004
	The inverted "T" Joint _{Recovery} swell value (mm)	0.006	0.006	0.006
	Recovery swell (mm)	0.003	0.002	0.002
Remaining water after 24h exposure time (%)		89	89	/
Qualitative rating (see note 3)		Grade 1	Grade 1	/

Note:

1. All test specimens were cut from the samples, see the photograph.
2. For Quantitative calculation as below:
Wet swell = Wet height – initial height, Recovery swell = Recovery height – initial height.
3. For Qualitative rating, Evaluate the joints for apparent differences, in visual and feel (light touch can be helpful in discerning differences) within the circle compared to unexposed portions of the specimen and grade the test assembly per the criteria listed below:

Grade:

- 1 = No change – No noticeable change in edge swell or panel surface lift.
- 2 = Slight swelling – Slight swelling, small ridge along one or more joints, very little if any panel surface lift.
- 3 = Significant – Noticeable edge swelling and some panel surface lift extending in away from joint.
- 4 = Objectional – Severely raised edge and swelling extending noticeably under the panel surface.
- 5 = Invalid Test – Water leaked out of the ring, leaving no continuous film of water inside the ring (this grade is given even if there is no swell of the edge joint).



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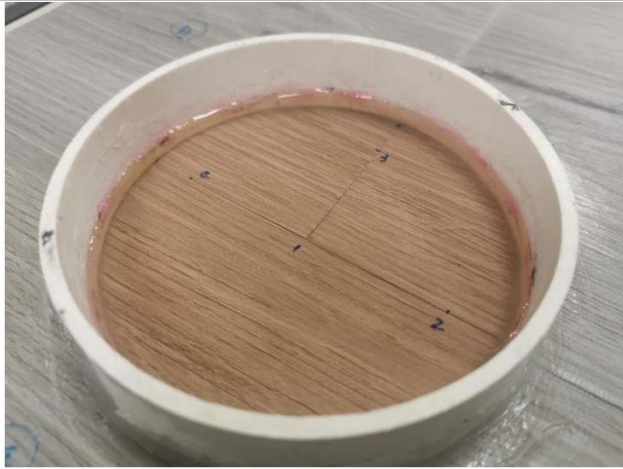
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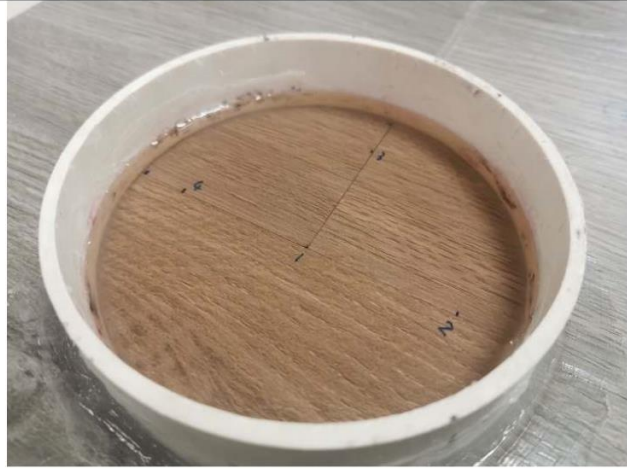
Date : Jul 05, 2022

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Test Photo:



After 24 hours Exposure time – Specimen 1#



After 24 hours Exposure time – Specimen 2#



After 24 hours Recovery time – Specimen 1#



After 24 hours Recovery time – Specimen 2#

***** End of report*****

TEST REPORT

No. : XMIN2206006867CM

Date : Jul 13, 2022

Page: 1 of 4



CUSTOMER NAME: CFL FLOORING (CHINA) CO., LTD.
ADDRESS: NO.111 CHANGJIANG ROAD, JIASHAN DEVELOPMENT AREA,
JIAXING, P.R. CHINA

Sample Name : SPC
Product Specification : 4.5+1mm EVA

Above information and sample(s) was/were submitted and confirmed by the client. SGS, however, assumes no responsibility to verify the accuracy, adequacy and completeness of the sample information provided by client.

Date of Receipt : Jun 29, 2022
Testing Start Date : Jun 29, 2022
Testing End Date : Jul 13, 2022
Test result(s) : For further details, please refer to the following page(s)
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Signed for
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Civi Huang
Authorized signatory



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Xiamen Branch Testing Center Commercial Construction Material Laboratory

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TEST REPORT

No. : XMIN2206006867CM

Date : Jul 13, 2022

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Summary of Results:

No.	Test Item	Test Method	Result
1	Laminate Surface Swell Test – Assembled Joint	Refer to NALFA Surface Water Test_Final_08-01-2019 and client's requirement	See results

Original Sample Photo:

	
Sample	Assembled Laminate Planks with Plastic Ring seal



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Test Item: Laminate Surface Swell Test – Assembled Joint

Sample Description: See photo

Test Method: Refer to NALFA Surface Water Test_Final_08-01-2019 and client's requirement

Test Condition:

Specimen: 2pcs samples of 150mm×192mm×5.5mm and 1pc sample of

302mm×192mm×5.5mm form a specimen, total 2pcs specimens, see photo(s)

Exposure time: 24h

Recovery time: 24h

Test Result:

Specimen No.		1	2	Average
Quantitative calculation (see note 2)	The inverted "T" Joint Wetswell value (mm)	0.000	0.000	0.000
	Wet swell (mm)	0.002	0.002	0.002
	The inverted "T" Joint Recovery swell value (mm)	0.000	0.000	0.000
	Recovery swell (mm)	0.001	0.001	0.001
Remaining water after 24h exposure time (%)		83	83	/
Qualitative rating (see note 3)		Grade 1	Grade 1	/

Note:

1. All test specimens were cut from the samples, see the photograph.
2. For Quantitative calculation as below:
Wet swell = Wet height – initial height, Recovery swell = Recovery height – initial height.
3. For Qualitative rating, Evaluate the joints for apparent differences, in visual and feel (light touch can be helpful in discerning differences) within the circle compared to unexposed portions of the specimen and grade the test assembly per the criteria listed below:

Grade:

- 1 = No change – No noticeable change in edge swell or panel surface lift.
- 2 = Slight swelling – Slight swelling, small ridge along one or more joints, very little if any panel surface lift.
- 3 = Significant – Noticeable edge swelling and some panel surface lift extending in away from joint.
- 4 = Objectional – Severely raised edge and swelling extending noticeably under the panel surface.
- 5 = Invalid Test – Water leaked out of the ring, leaving no continuous film of water inside the ring (this grade is given even if there is no swell of the edge joint).



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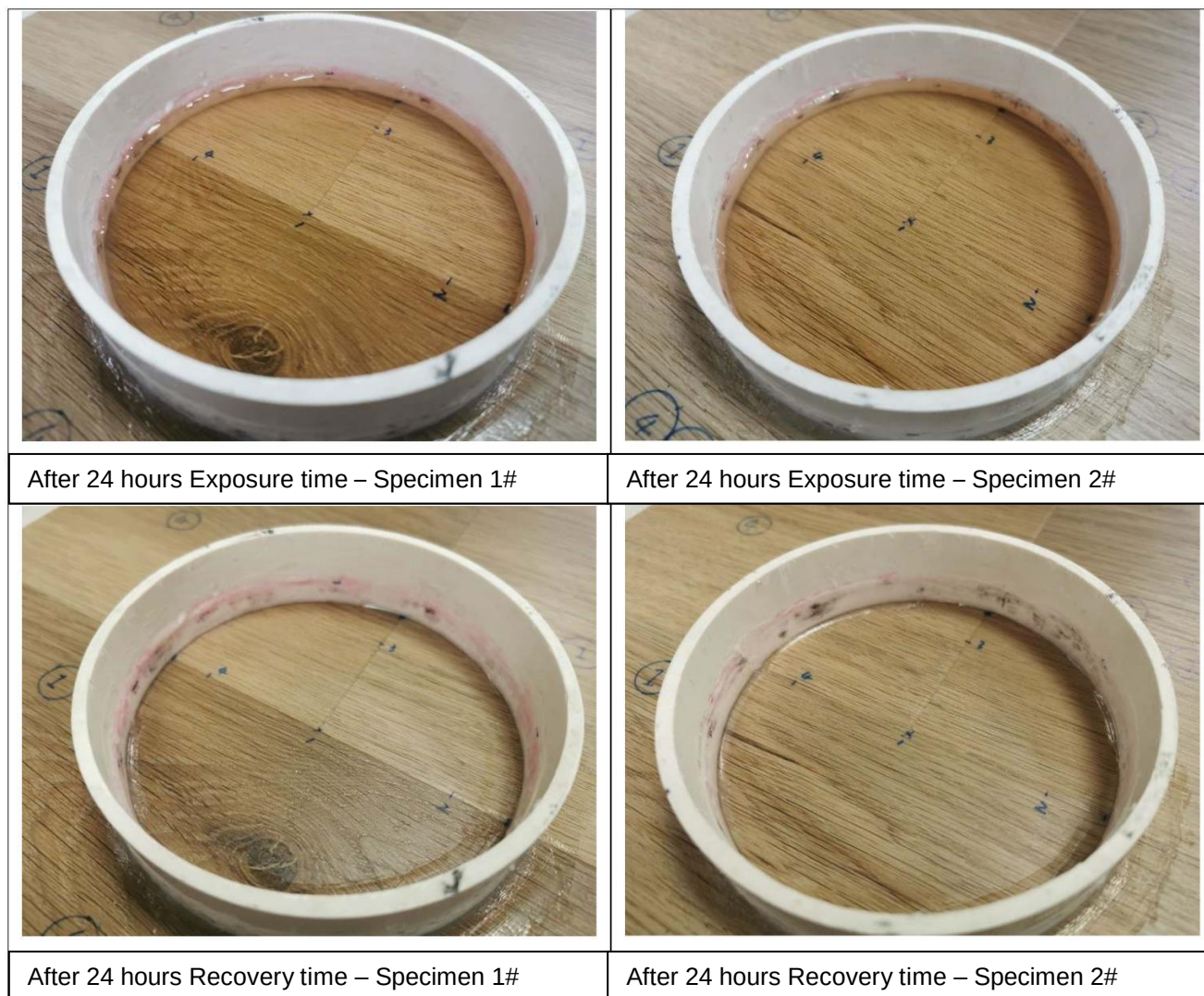
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Test Photo:



***** End of report*****



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