

LMA TIMBER Alternative Solution

Guidance for Timber Flooring

(E3 Installations)

For use with LMA Timbers Engineered Flooring System by Pentarch



Pentarch Forestry Installation Guidelines for Pentarch Engineered Flooring including Metallon™ (E3 Installations).

This Guideline applies to Single-dwelling kitchens, Multi-dwelling Kitchens & Laundries.

Pentarch Forestry engineered flooring is not recommend for installation in wet areas such as bathrooms (rooms with baths or showers).

E3 - Impervious (E3.3.3 & E3.3.5)

Impervious is defined in the E3/AS1 Acceptable solution as “Impervious – that which does not allow the passage of moisture”.

LMA has engaged SGS New Zealand Ltd (An IANZ accredited laboratory) to conduct independent testing on the passage of moisture for all Pentarch engineered flooring products equipped with the uniclic® glueless locking technology. All Pentarch uniclic® engineered flooring products have passed this test without the need for any alternative installation methods, refer to pages 4,5 and 6 of this document for test certificate: INZ80375-03.

The **Alternative Acceptable Solution** as per Comment under 3.1.1 of E3/AS1 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 water splash, and/or if the surface is sealed with a suitable durable coating.”

To summarise the above sentence, it can be broken down into three parts.

1. Installed in a manner that prevents gaps or cracks within the finish.

Pentarch forestry’s glueless uniclic® engineered flooring boards are precision milled to allow for a tight board to board finish. The uniclic® system ensures that seasonal expansion and contraction does not occur between the boards as it would with a traditional tongue and groove system and surface moisture is unable to penetrate the boards. Testing as per ISO 4760:2022(e) has shown that no additional installation requirements are necessary, and the standard installation guideline can be followed for E3 installations.

2. Installed in a manner that prevents gaps or cracks at any parts of its perimeter that are exposed to watersplash

Pentarch forestry's glueless uniclic® engineered flooring boards are precision milled to allow for a tight board to board finish. Perimeter expansion gaps are required to allow for seasonal expansion and contraction (refer installation guidelines) however it is recommended that these expansion gaps are hidden underneath the skirting boards so they would not be exposed to watersplash.

Should a tight gap between the skirting and the floorboards not be achievable that it may be necessary to use an acrylic-based flexible joint filler suitable for use with timber flooring. This is to be used to seal any parts of the perimeter and any fixed items within the area that are exposed to water splash. (including a minimum of 1.5m from all sanitary fixtures and sanitary appliances in open-plan rooms as per 3.1.1 of E3/AS1).

3. Surface sealed with a suitable durable coating

Pentarch forestry's glueless uniclic® engineered flooring boards are coated with 7 layers of high-quality UV cured acrylic coating. As per the requirements of B2/AS1 2.1, the 7 layers of UV cured acrylic would be classified as a suitable, durable coating.



LMA Timber – E3 – Alternative Acceptable Solution – Updated: June 2024



TEST CERTIFICATE No.: INZ80375-03

Client: LMA Timber
 Order No.: PO-0283
 Sample Description: Engineering Flooring by Pentarch
 Identification: As per photos
 Material Specification: Not specified
 Tested in accordance with: ISO 4760:2022(E)

Scope: SGS was engaged to test the moisture spill resistance of flooring samples supplied.

Methodology: Engineering flooring planks were supplied by client to SGS which were then cut and assembled in a "T" joint in accordance with ISO 4760:2022(E), clause 6. A rubber mallet was used to hammer the joints as per assembly procedure of "T" joint to ensure there was no gap in between the joints. The specimens were then conditioned at 23°C and 50% R.H for 24 hrs prior the surface swell test. A 100mm diameter plastic ring was glued over the inverted "T joint" with suitable sealant and 1 kg weights placed at each corner of the test area. For each specimen, four initial height measurements were taken before water exposure. One measurement at the "T joint" position and three at the "line joint" positions. After the initial measurements were taken, sealed area was exposed to 100ml of water with coloured food dye and allowed to stand for 24 hrs. The water was then removed, area patted dry and the wet swell measurement carried out within 15 min after 24 hrs of exposure. The specimens were allowed to stand for a further 24 hrs and the recovery swell measurement were carried out within 15 min after 48 hrs of exposure.

Results:

	Wet (mm)	Recovery (mm)
Final Avg. Swell (Pos 2-4)	0.27	0.15
Final Avg. Swell (Pos 1)	0.2	0.08
Final Avg. Qualitative Rating	1	1
Observations: No leaking was observed from the underside of the plank		
Disassembly observations: No leaking through the joints was observed		

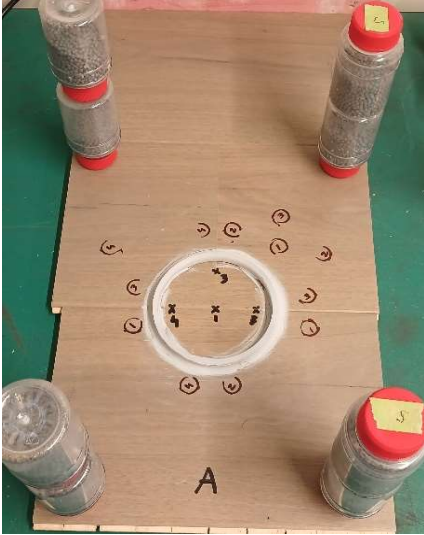
Qualitative Rating Description as per ISO 4760 Table- 1 :- 1 = No change, 2 = Slight swelling, 3 = Moderate, 4 = Objectionable, 5 = Failed test.

Acceptance Criteria: Report Findings

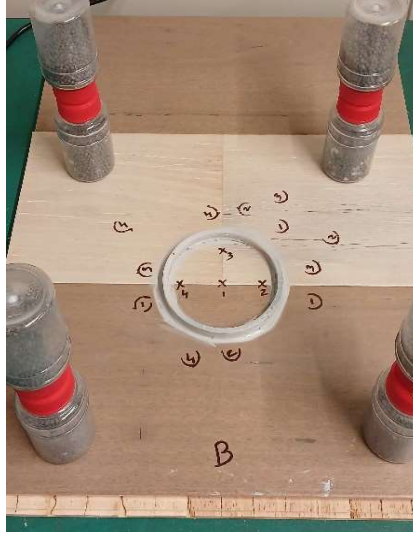
Tested by: M.Bhatt	Reviewed By: Alistair Remmington	Authorised By: Kelvin Chin
Date: 8-Apr-24	08-Apr-24 <i>Alistair Remmington</i>	09-Apr-24 <i>Kelvin Chin</i>

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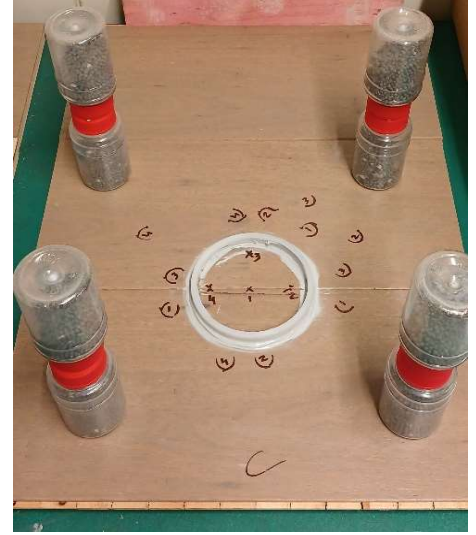
TEST CERTIFICATE No.: INZ80375-03



Sample - A

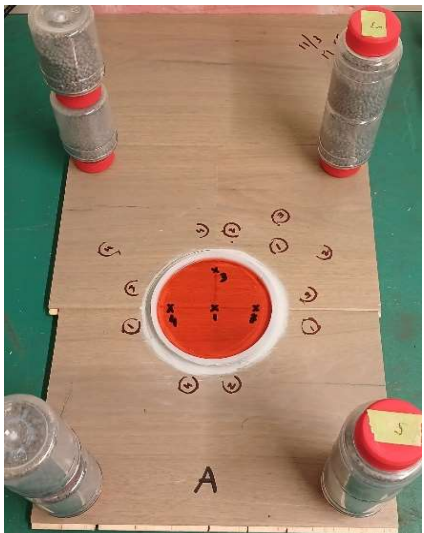


Sample - B

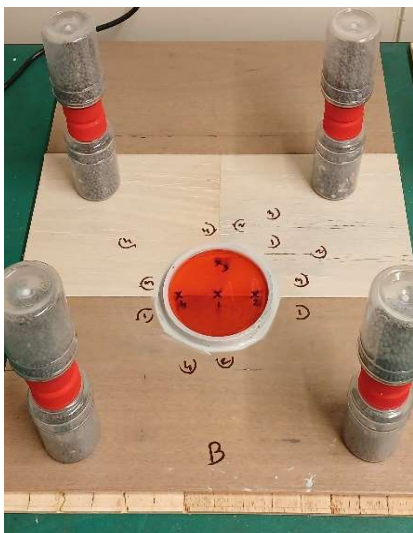


Sample - C

Note- The above pictures shows the assembled "T" joint of sample A,B and C.



Sample - A



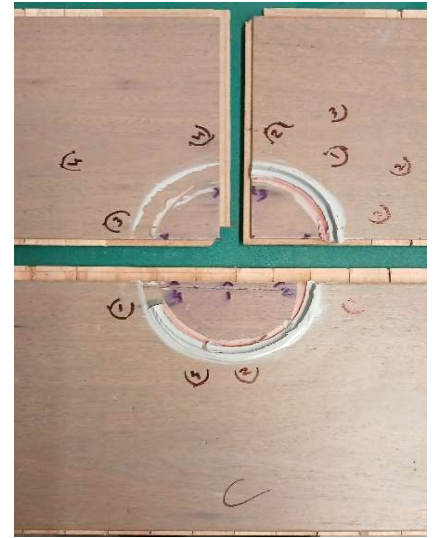
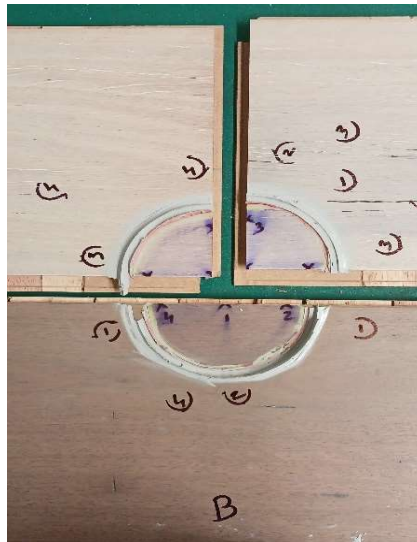
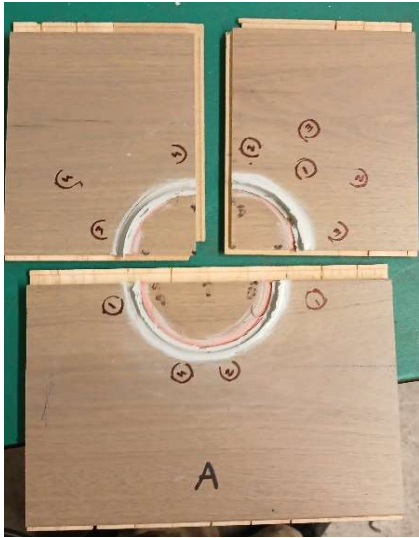
Sample - B



Sample - C

Note - After 24 hours, all the 3 samples were able to hold the water and there was continuous film of water left in all the samples.

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The above pictures of Sample A,B,C were taken after disassembling the joints, after a total period of 48 hours of wet and recovery phase combined.

Note:- No water leakage was observed.



Sample - A



Sample - B



Sample - C

Note- The above pictures indicates no water leakage at the back side of the samples.