

Owner Expectations Guide

Overview

This aim of this guide is help establish a set of fair and reasonable owner expectations for the installation of resin flooring by professional installers.

This includes all types of resin flooring technology, such as epoxy, polyurethane and polyaspartics, and all types of common systems, including:

- **Thin-film rollcoats** (e.g. single, plain-colour floor in a warehouse).
- **Thin-film broadcast** (e.g. flake floor in a garage or non-slip floor in a commercial kitchen).
- **High-build decorative** (e.g. metallic floor in a retail outlet).
- **Self-levelling finishes** (e.g. 2mm high-gloss floor in a showroom).
- **Trowel-applied finishes** (e.g. 4mm+ topping chemical processing facility).

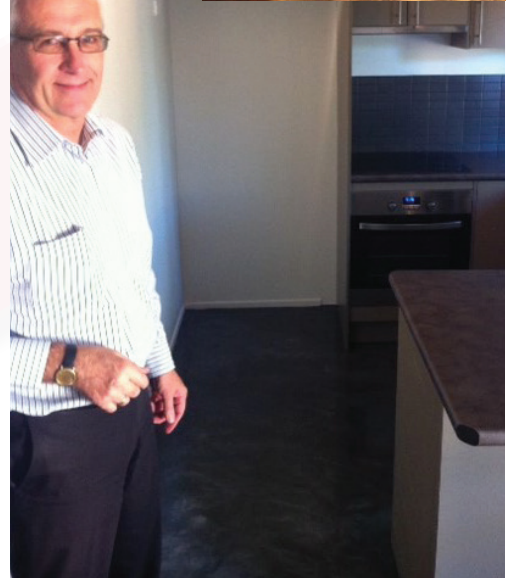
The expectations covered in this guide fall into two main categories: appearance and performance.

The appearance of a resin floor focusses on possible visual imperfections that can be seen immediately in the finished floor, which are typically caused by the conditions at the time of installation and installer practices.

For performance, the discussion shifts to issues that may appear over time during service, including how they can be minimised with good specification and other preventative measures.

It's important to point out that although a perfect floor is always the goal, resin floors are field-applied systems exposed to elements of the environment that can't be fully controlled and some tolerances need to be factored in.

In the event of genuine complaints, it is recommended to report the defect in writing to the installer within 14 days of the discovery. An original, written invoice should be submitted with the claim and an opportunity for the installer to inspect the site provided.



What to expect with APPEARANCE

All floors and floor coverings are functional surfaces applied in the field and subject to much heavier wear than furniture or walls. Although a good quality finish can be expected, it is simply not practical to expect a completely flawless finish.

There are a number of imperfections that may be present to some degree. The degree to which they occur, where they occur and the presence of other imperfections will determine their acceptability. Assessment of the floor should be done from a standing position and at an angle of about 45°.

Common visual imperfections in resin flooring are outlined below:

▶ Misses

With most resin floors being applied by roller at less than 1mm thickness, occasional misses can occur leading to small areas of the substrate not being fully coated. These are more common along the edges of the floor and in hard-to-reach spots, with the risk tending to increase in rooms with poor lighting.

Recommendation: *Despite some challenges, misses aren't acceptable in a finished resin floor and will need remedial work via patching or the application of another coat.*

▶ Bugs, Dust and Debris

A degree of contamination in the finish is unavoidable and will vary from one site to another depending on a number of factors such as location, draughts/natural openings, weather, lighting etc. It can be expected the installer will take reasonable measures to minimise the risk and there will not be heavily contaminated areas that are obvious when viewing the floor.

Recommendation: *Even with precautionary measures in place such as closing/sealing all openings and switching off lights, some contamination is to be expected. Historically, less than 1% of total area has been deemed acceptable. Re-sanding and finishing is effective at correcting these issues, however this may be charged as a variation.*

▶ Bubbles and Pinholes

These tend to look similar, however bubbles are usually the result of air/gas being trapped within the resin, while pinholes are caused by air trying to push through from the porous concrete underneath. Suitable conditions, good mixing practices and proper surface preparation are the keys to avoiding these defects.

Recommendation: *Just like dust, bubbles and pinholes are very hard to eliminate entirely and instances of small, isolated defects should not impact on appearance or performance. It can be expected that large, visible clusters and single, open craters will receive remedial attention.*



▶ Gloss Variation

Variations in gloss can be due to a number of reasons, including differences in film thickness, levelling issues in the coatings, inconsistent broadcast of materials such as flake, and even adverse reactions of the resins to the ambient conditions (e.g. amine blushing in cold, wet weather). With the right products and good installation practices, an even finish should be possible on every resin floor.

Recommendation: *Although consistency can be expected, some variation may be apparent among separate areas finished at different times. Gloss variation on the same floor and within the same area usually requires remedial work, which typically involves the application of another coat to even out the finish.*

▶ Colour Variation

This type of variation is about small visible differences on adjacent areas of a floor rather than differences in chosen colours, which is a specification issue that can be avoided by viewing a sample prior to installation. The most common example of this type happens on grey, plain-colour floors where the pigments can separate slightly and create a different shade where the roller over-laps.

Recommendation: *Variations in colour are typically very subtle and in floors that serve more of a functional purpose than purely aesthetic. As they don't impact on performance, remedial work is unlikely to be necessary.*



▶ Lap Lines and Roller Marks

The majority of resin floors will involve application with a roller to create a smooth, even film. This rolling action, however, can leave small raised areas on edges and seams, as well as a visible texture.

Recommendation: *Some products are more prone to lap or roller marks than others. If they are minimal in size and number, and not visible from all directions, they should be deemed to be acceptable.*

▶ Ghosting

Ghosting is the immediate or gradual appearance of visible patterns showing through from the surface beneath. This defect is associated more with a grid-like pattern from tiles, however it can also be seen in other forms such as swirl marks from surface preparation. Removing tiles is often the best option, otherwise using the right type of levelling compound at the required thickness can help prevent ghosting.

Recommendation: *Applying over tiles is challenging in a number of ways and is hard to guarantee. All options and expectations should be discussed and agreed upon with the installer prior to work beginning.*

▶ Soft Spots and Blemishes

Soft, sticky areas that quickly become dirty blemishes are usually the result of poor mixing practices prior to application of the resin floor.

Recommendation: *Soft spots do not happen in resin floors when mixed and applied correctly. Remedial work will be required and usually involves the patching of small areas or complete re-coating of large areas.*

What to expect with PERFORMANCE

While the appearance of the floor will be largely determined by conditions and installation practices, performance and longevity hinges mainly on the quality of the specification. A good specification is about compiling all the information needed so that you can confidently choose the right system for your project.

This task can be split into two separate parts:

1. The floor – understand what type of floor you need by defining the primary role of the resin floor, as well as the service expectations, conditions and restrictions.

2. The subfloor – understand the type of floor you already have, as some cases of flooring selection will be heavily influenced by what can or can't be done with the surface you're looking to cover.

With the right specification, the performance issues described below should not normally occur in a floor, and if they do, remedial work is often necessary:

▶ Wearing

In a flooring context, wear-through is often defined as loss of floor design due to normal foot traffic, and, an area is considered "worn through" only if the subfloor is visible in an area of more than 1cm². Gloss reduction or wear-through at transitions, joints and other structural regions are typically not included.

Recommendation: Most resin flooring systems are capable of withstanding foot traffic and excessive wearing should not occur. For floors subject to more abrasive conditions, e.g. trolley, forklift or vehicular traffic, greater film thicknesses and the addition of hardwearing non-slip particles such as aluminium oxide should be considered.

▶ Staining

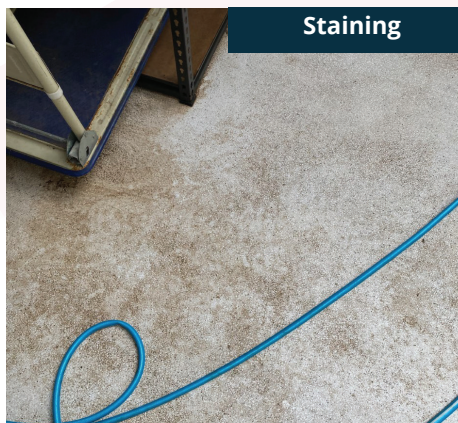
While staining can occur when floors are exposed to aggressive chemicals, the majority of instances are the result of water and other common liquids being able to penetrate into the film. The biggest risk factor for resin floors, therefore, is failure to apply enough resin to fully seal the surface and prevent ingress.

Recommendation: Quality resin flooring systems that are applied correctly have good stain resistance and should resist spillage of most household/commercial chemicals, e.g. detergents, soaps, oils/grease etc. If exposure to more aggressive chemicals is possible, chemically resistant epoxy systems should be considered.

▶ Delamination

Separation of one coating from another or lifting from the substrate underneath should not occur, and in such instances remedial work is necessary. These system failures usually stem from inadequate surface preparation and/or film thicknesses that prevent the floor from establishing a strong adhesive bond.

Recommendation: Delamination can also occur in thin-film systems exposed to rapid changes in temperature during service or cleaning, which is known as thermal shock. The specification of trowel-down, high-build systems (>4mm) that can absorb the thermal stresses should be considered in these applications.



▶ Indentation

The appearance of shallow depressions, grooves or tracks underneath heavy objects is usually the result of indentations occurring in the concrete and reflecting through the thin coating on top (less than 1mm).

Recommendation: For heavy, static objects, floor protectors should be used. For very heavy traffic, the specification of high-build systems (>2mm) that can protect the concrete underneath should be considered.

▶ Blisters

The appearance of blisters can usually be tracked to the presence of excess moisture in the concrete. High-risk areas include basements and floors situated next to frequent run off, e.g. hillside.

Recommendation: Identifying potential sources of moisture is crucial at the start of any project. If there are concerns, the use of a moisture barrier underneath the resin flooring system should be considered.

The following issues have been addressed separately as they are hard to eliminate even with correct specification and should therefore be considered natural wear and tear:

▶ Scratching and Scuffing

While measures can be taken to minimise the superficial damage caused by every day use, it's very hard to completely avoid. Instances of rapid deterioration under normal service conditions, however, should be addressed and may require remedial work.

Recommendation: High-gloss finishes are most susceptible and should be avoided if there are concerns. Polyurethane topcoats with a matte finish can be effective at resisting and concealing damage, while simple maintenance measures such as mats at entrances and sweeping instead of vacuuming are also important.

▶ Cracking

Minor cracking due to movements in the concrete/subfloor can occur and provided it does not progress, remedial work is unlikely to be necessary.

Recommendation: While small, static cracks are acceptable, large dynamic cracks need to be identified and treated prior to installation as they can continue to expand and pose a threat to the integrity of the floor.

▶ Fading and Discolouration

It should be expected that every floor will exhibit some degree of fading and/or discolouration over time as a result of UV exposure, whether that be sunlight exposure or indoor sources such as fluorescent bulbs. Instances of rapid deterioration, however, should be addressed and may require remedial work.

Recommendation: Measures such as aliphatic urethane topcoats, full layers of vinyl flake, dark or tan colours, and careful use of mats and other objects that create sharp contrast lines, should be considered.





www.resinfloor.org

Resin Flooring International was formed to provide a single platform where all members of the resin flooring community could collaborate, share, learn and grow together. It reflects the balance of purpose, innovation, education and sense of community in the resin flooring industry that has been fostered by its founders for over a decade.

Disclaimer: Although care has been taken to ensure, to the best of our knowledge, that all information contained herein is accurate to the extent that it relates to either matters of fact or accepted practice or matters of opinion at the time of publication, Resin Flooring International assumes no responsibility for any errors in, or misrepresentation of, such information or any loss or damage arising from or related to its use. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, recording or otherwise, without prior permission of Resin Flooring International.