

Top Coats

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It pays to read beyond the label when it comes to choosing a toxic-free finish for your new floor.

Timber is a magical material – it brings warmth and texture into a room, is gentle underfoot and is inherently sustainable. It can be applied in many ways in a dwelling but one of its most common and functional uses is the timber floor. Floorboards, parquetry, plywood panels ... the floor sets up the *je ne sais quoi* of a space.

The floor receives the most impact from use so needs to have a finish applied to it to protect it from damage. The options for timber floor finishes are many and varied, and the potential impact of these finishes on human health can vary as well.

The options ...

The main options for timber floor finishes include oil-based finishes, water-based polyurethanes, solvent-based polyurethanes and finishes that combine oils and solvents. The finishes with solvents in them generally have very high odours during application and for some time after. Natural oils can have a strong odour at application but this dissipates after a couple of days. Water-based polyurethanes often have a low odour during application. Oils and oil composite products require regular maintenance and re-application. Water-based polyurethanes require more maintenance than solvent-based polyurethanes and, unlike oils, re-sanding between applications is suggested.

The issues ...

There are a number of things to consider when selecting a suitably healthy finish for your timber floor.

Floor finishes are often discussed with regard to the amount of VOCs emitted. Many of the products and finishes applied in buildings emit gases during and after their application that are known as Volatile Organic Compounds (VOCs). Some VOCs have known human health impacts such as eye, nose, throat and skin irritations, breathing problems and allergies. However, just because a product has VOCs doesn't necessarily mean it is harmful – it depends on the type of chemical that is the source of the VOCs. Many natural products emit VOCs that are not necessarily toxic.

VOCs are measured in grams per litre – that is, emissions per litre of product – prior to application. VOC content ranges from less than 5 g per litre (a low odour paint as defined by the Australian Paint Approval Scheme) upwards, with standard paints usually between 50 and 80 g per litre, and solvent-based paints around 350–450 g per litre. It starts to get a bit tricky, however, if you consider application. Take this scenario: one product with a higher level of VOCs only requires two coats, and has a high coverage (area coated per litre). Another product with a lower level of VOCs requires three coats to achieve the required finish and has a lower coverage, thereby resulting in more product, and more VOCs. Which then, is the best option?

The toxicity of the product is the other main consideration. Something is toxic if it has the potential to cause human health issues. Many of the products used for coatings are made from toxic substances. Unfortunately many of the products on the market claim to be 'non-toxic' so how do you wade through the information to make an informed choice? →

The solutions ...

There are a couple of ways to proceed, so some research is required to determine the best solution for each application.

It is worth investigating low- and no-VOC options. These are products that claim to have low or zero off gassing, and will include water-based polyurethanes and waxes for internal applications, and oil-fortified water-based finishes – often used for external decks.

It is also worth considering natural products. These are made from 100% natural products, and include penetrating timber oils. They can be completely non-toxic – indeed some are considered to be food safe – that is you could eat off a surface finished with them. Some of these products may actually emit VOCs during the curing process, but once cured are then odourless.

Avoid products with synthetic solvents, for example solvent-based polyurethanes, as these will significantly off gas various chemicals.

Some questions you might ask of any finish you are considering include:

- What is the finish made from? Is it made from natural or synthetic materials?
- How are the VOCs measured? By volume or by outcome (i.e. VOCs in finished space)?

Be aware that some people can be sensitive to natural VOCs, or to a low-VOC product. If you are concerned about the health impact of a product it is always advisable to do a test patch on a sample piece of timber and then leave it inside the space for a while.

Products for external timber are usually penetrating oils as they provide protection against UV and water. Again, there are natural and low-VOC options for decking finishes as well.

Products available in Australia include:

Low- or no-VOC timber finishes

Ecolour POLYCLEAR Hard Surface Sealer
Livos Koimos High Solid Floor Oil
Synteko Natural Oil Floor Finish
Syteko STAR Waterbased Timber Floor Finish

Natural timber finishes

Livos Koimos High Solid Floor Oil
Livos AVDVQS Universal Wood Oil
Livos KUNOS Natural Oil Sealer
Livos MELDOS Natural Resin Hardening Oil
Bio Floor Varnish
Bio Hard Floor Wax
Bio Teak Oil
VOLVOX Floor and Furniture Hard Wax
VOLVOX Hard Oil
VOLVOX Hard Oil Wax finish
VOLVOX High Solid Hard Oil Finish
VOLVOX Liquid Wax
VOLVOX Timber Deck Finish
Cooee Tinted Timber Treat

References

greenpainters.org.au

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