

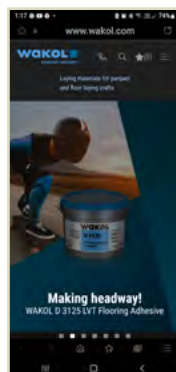
How much is enough?

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Some questions always seem to come up in moments of crisis, like “Where’s my wallet?”, “Will it hurt?”, “Are you sure it’s mine?” and, of course the dreaded “Why does it look like that?”

When a stressful floor coating moment pops up, we generally only go looking for answers to the big questions once a problem has already occurred – which is usually a little late. While it's fortunate that as coating technologies have advanced over recent years, life's little finishing problems seem to be getting less and less frequent – and with less severe outcomes. Which always surprises when you think of all the different coating systems around these days and all of the variations, additives and application techniques to keep track of.

So, where do we go looking for these answers? Labels and data sheets usually. However, if the last few years have taught anything it is that most of the information you seek has never been easier to find – it's all in your pocket! A favourite is these new-fangled 'QR code' thingies – information in an instant can make life easy for anyone who can drive their mobile phone, it's the world at your fingertips and on demand. Okay, so yes I may be a little behind the times, but thanks to the COVID people I'm all over it now. Best of all many products now include a QR code on their labels, which makes getting answers to your questions super easy.



Wave your camera over one of these and get one of these. Magic!!!

Once you have found your desired reference you will find that there's a mountain of useful and not so useful information; but, pretty close to the top of most datasheets is the bit about *product coverage rates*, or how much coating product you should use relative to how many metres you have in front of you. This is probably one of the major contributions from the folks in the lab and one of the first questions they ask after a 'hiccup'. To the user of said product it often tends to look like a reference

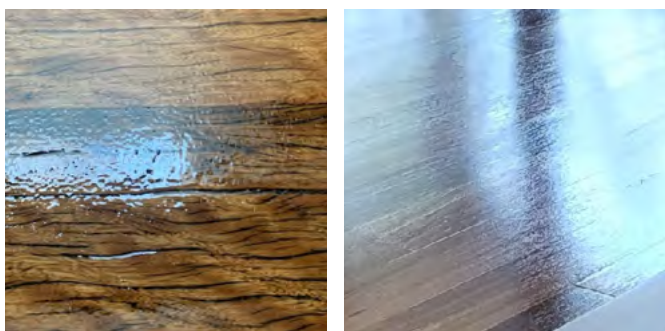
that just sort of sits there; it doesn't look like a warning – not in capitals or bold red letters – it's just there, not really sounding any sirens as such. I think this may be why a lot of folks may dismiss this as a fairly loose reference, a generalisation, a non-essential guide if you will. While these coverage rates seem to be oddly similar in many instances, generalising can facilitate an unfortunate experience when applying the same guideline across multiple coating technologies; which on a bad day can potentially provide a spectacularly poor result. Fortunately, the tolerances and flexibilities of most of our modern coatings can cope with a minor wander from the path of righteousness, and coating catastrophes are relatively limited. Although you probably don't want to have THAT conversation with the company chemist, it's not worth it, life's too short – trust me.

But, let's just say we do push our luck a bit, something's gone amiss, something that can seem relatively minor... Maybe you're running low and need to stretch the coating out a bit, maybe you get to site and only have a 5mm poly roller and you've got a water-based going down today, or conversely you have a 12mm roller and you're putting down hard-wax... What's the worst thing that can happen?? Hopefully, on most occasions absolutely nothing, but there will be those relatively rare times when an envelope is pushed, and something ultimately goes 'pear shape'. The following are just a few of the little gremlins to be mindful of when you push said envelope that little bit too far.

First up is **moisture cured polyurethane**: Moisture cure or single pack poly is a weird creature at times as it seems to have the highest level of reactivity to site and application variables of any of the coatings – but balances this out with the advantage of easy use and minimal waste. This beast uses the moisture in the air to trigger or 're-trigger' the curing process, which actually starts (and is stopped) at manufacture, eventually curing to a very hard but flexible film. It was the 'coffee white with two' floor coating choice for some contractors for the last 30 years; mainly due to its general ease of application, its darkening of the timber and its high gloss – from back when dark and glossy were desirable things. While it seems to be tapering off in popularity a bit now, it was a pretty good performer in its glory days.

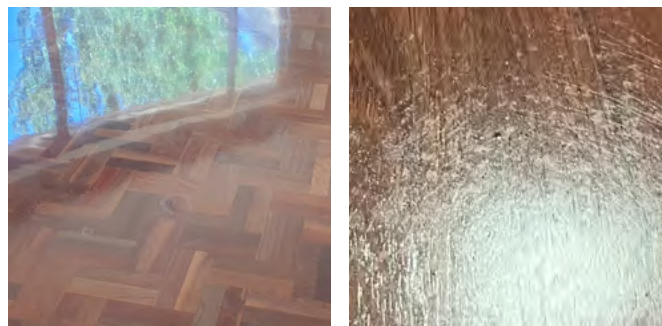
General rule of thumb with this class of coating would suggest a coverage rate of about 10 to 12 square metres per litre is ideal depending on porosity of the timber, gaps/waste, solid content of the coating etc. However, the coverage rate and/or film build could vary based on a number of factors, some of which can be difficult to recognise, control or prepare for at the time of coating. Cold weather, poor storage or unsealed container can make the poly thicken up a little and roll out 'fat' and prone to 'peeliness' and quilting (thus the water in the bath tub trick). Whereas hot weather, warm storage (back of the van in summer) or direct sunlight on the drum could potentially make the same coating roll out thinner and a tad duller. A high humidity or drafty environment could also dry it quicker and risk effects like orange peel; while a low humidity environment might have it curing slower and of an uneven or duller sheen, and that's just the gloss version.

Unfortunately, because it's a slower drying coating you're also unlikely to know about it until the following day. Fortunately, most concerns can be sorted with a cut back and a recoat; but, it is always better if you don't have to – so try to be mindful of these potential contributing factors that may affect you getting a coat of your favourite MCPU on at 10 to 12, and life shouldn't get too exciting.



Two pack polyurethane on the other hand, while probably as rare as unicorn poo these days, was always a very consistent performer. It came in gloss, gloss, gloss and gloss, was prone to attracting a little dust, *but folks were more understanding back in the day*, and there would always be a couple of excess litres at the end of the job to seal the inside of central heating vents or kill weeds and the like – but the advantage was reliability and a very hard and shiny coating. While the directions provided were sometimes misleading (some said they weren't suitable for flooring), two-pack polys, depending on brand, seemed to behave best when averaging about 14 to 16 square metres per litre off a 6mm nap mohair roller, again considering the timber porosity and gaps in the floor etc. With gremlins in these products only a very rare occurrence, two-pack only seemed to play up when the sun, the moon and the stars lined up, and one of the coats might go on a tad thick or be recoated too early. At worst the topcoat might *fry* areas of the previous coats, it might just look a bit scratchy from the cutback, or alternately could potentially stay a little soft and 'imprint' when furniture or heavy items are put on the floor – but this would be a relatively rare occurrence. The only downfall of two-pack was probably its aversion to recoating itself, which can occasionally be problematic, or when it starts to look a bit 'lumpy' when the coating count gets up there. But problems are generally rare – if

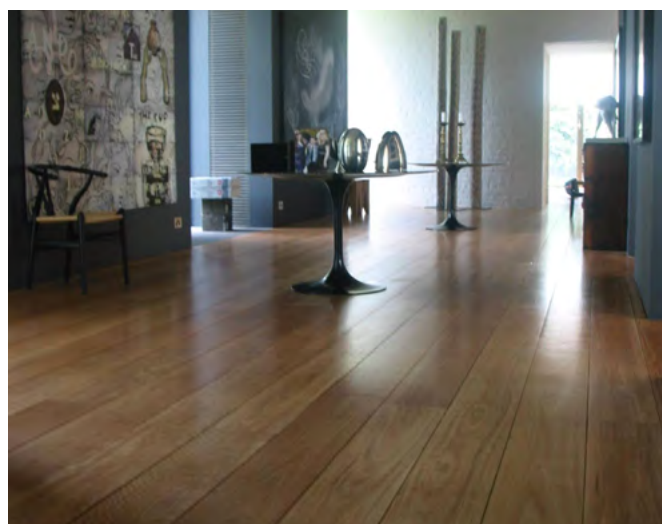
you keep to that all important coverage rate you'll generally get the job done.



Lumpy

Scratchy

Thin for the win! I'm sure most folks are familiar with this term since **hard-waxes** became fashionable – get it down thin, like really thin, and let it dry properly before recoating and you're going to be pretty good. Oh, and by really thin I mean between 20 and 40 square metres per litre – and of course depending on product, porosity and waste/gaps. This extremely thin application, while at odds with everything the poly-loving contractor knows and believes, is the trick to keeping these products on the rails. Too thick and it might not dry or cure as well and is likely to stay relatively soft, which may ultimately result in premature wear or scratching. So, number one is to get it on thin and it will eventually cure to a hard trafficable finish. The best application method to avoid any gremlins with hard-wax finish is generally achieved via a 5 to 6 mm roller and/or steel trowel (depending on brand) stretching it out on purpose to a nice uniform thin film – which sort of makes up for the price of the stuff, another good reason you don't want to be doing extra coats. It can take a few goes to get your eye in but keep that coverage rate stretched out and keep an eye on the site conditions and a lovely finish can be achieved with consistency.

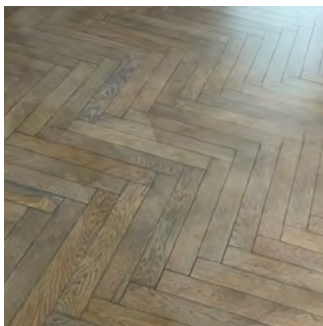


Just to keep it interesting, **water based finishes** provide another varied application method. While there is currently a proliferation of water base coating choices, and a broader range of water base technologies, it is a generally accepted norm that these applications perform better with a generous application. A coat of water base polyurethane, while similar in chemical

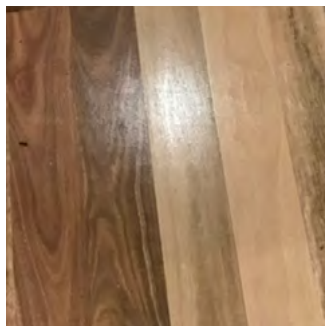
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How much is enough? continued

makeup to a non-yellowing solvent polyurethane, is likely to be significantly lower in solids and will therefore behave better with a heavier application of coating. Generally applied with various types of rollers (depending on manufacturer) most are in the 10 to 12 mm nap region. These thicker rollers are designed to hold a lot more coating and help get the coat on at the magic rate of 8 to 12 square metres per litre – thus providing the optimum coating film. While it is an unfortunate fact that water base coatings are generally more expensive than say a solvent based poly, stretching the coverage rate out to save a few coins is not a fantastic idea. While it will still look pretty, a thin under spec water base coating application will be unlikely to deliver the durability provided when the 8 to 12 is achieved. A thin application of water based can look a tad grainy, orange peely and/or scratchy or have lap marks and need another coat; a thicker application of WB is generally not too problematic – as long as it's even. The primary consideration for consistent success with this stuff is to try and keep the coat at 8 to 12 square metres per litre – and, of course, don't look back... Never look back, it doesn't look great wet.



Lap marks

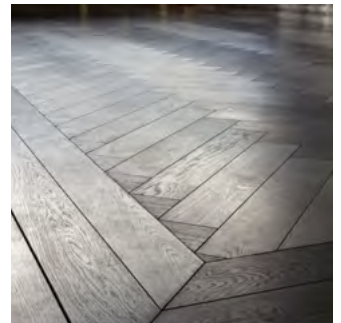
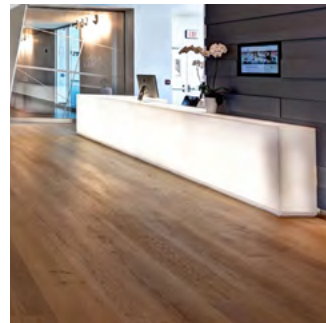


grain rise

Last but not least, **penetrating oil**. As the name suggests this penetrates the surface of the timber as opposed to being film-forming or creating a visible layer of coating. This alternate approach to timber finishing can be a wonderful thing – if you manage to apply it at 12 square metres per litre you are going to have one mighty mess to clean up, as the coverage on this stuff is amazing. This is why oils normally tick the box in regard to being very economical – even at a selling price that may seem a little steep, they generally have a surprisingly low material requirement, especially on Australian timber species. Oils are

generally trowelled or rolled on thinly and buffed in – which not only facilitates penetration but minimises output and waste during application. Usage can, however, vary significantly depending on species, gaps and waste. But, at a theoretical application rate of between 25 square metres and 100 square metres per litre, you can cover a lot of real estate with relatively little oil.

If by chance you manage to slap down the oil a little more enthusiastically than directed, you may find that it takes a lot more time, a lot of pads, and a bunch of nappies to remove all the excess oil applied to the floor – but if you get to it straight away you will still get a finish. If you don't know any better and a 'chip shop' of oil goes on and is left to start drying, removal will be a lot more time consuming and I suggest painful afternoon's work and could potentially end up in a sticky re-sand. Conversely, not enough oil or inadequate penetration and the timber may be too open, which can potentially result in water-spotting, particularly on some tannin laden species like blackbutt. Oil responds best to airflow for drying, so when possible, ensure that not only is the coverage or 'consumption' correct, but there is also a little warmth, some airflow and at least 24 hours drying allowed before folks start putting foot prints in your finish.



So, while the gremlins don't show up every day, most folks have a war story about how they have had to do something to a floor that could be considered just a bit on the dodgy side, and certainly not something suggested on a data sheet, but I truly hope it had a happy outcome. My chemist friend on the other hand, will call you rude names and shake his finger at you while holding his patiently crafted technical information sheet – of which a copy is conveniently located just inside your phone – somewhere just behind the QR code thingy. 📌