

## floor finishing options

ready reference guide<sup>©</sup>

Ironwood has prepared the following explanatory material so that we can provide our clients with a rudimentary understanding of the flooring finish options. We have not tried to investigate, rank or promote any particular product. Rather, we chose 2 of the major flooring finish manufacturers, looked at their product range and selected 2 additional floor finishes that we wanted to display in our showroom.

We then started investigating the flooring finish options and realised how difficult this subject must be for our clients to digest. Suffice it to say we now have 3 large areas in our showroom with the 3 popular finishes (polyurethane, Synteko Classic and Feast Watson Alkathane), a few sample boards to highlight the effect that different products can have on the same timber species and an information bulletin!

We intend to build on these displays so that our clients and the architectural community can come to one shop and see for themselves the contrast between the different product finishes. There is no need for end users to really get involved in the detail. You either like what you see or you don't.

In this document we have tried to find the middle ground and have attempted to cut through many of the debatable issues. We make no apologies for over simplifying this topic!


It has been very interesting and informative preparing this paper. Our thanks go to Tony Sellman at Synteko and Tony Vazoller at Orica for their assistance.

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## 1 general product categorisations

a: solvent based (these finishes sit on top of the timber)				b: water based polurethanes	c: natural oils
Polyurethane	Tung Oils	Acid Catalysed Coating	Oil Modified Finishes		
Single pack	20%-25% Solids	Synteko Classic	Feast Watson Alkathane		Some more natural than others!
2 pack			Synteko Urethane		Synteko Solid
					Feast Watson China Wood Oil
Cleanup: thinners	Cleanup: turps	Cleanup: white spirit	Cleanup: turps	Cleanup: water	Cleanup: turps

## 2 durability of floor finishes (very subjective)

<p><b>hardest wearing</b></p>  <p><b>least durable</b></p>	1. Penetrating Oils – low sheen, widely used for airports, libraries and public facilities
	2. Polyurethane Gloss – in a household situation say 8 years
	3. Feast Watson Alkathane, Synteko Urethane and Synteko Classic
	4. Polyurethane Satin
	5. Polyurethane Matt – in a household situation say 5 years +
	6. Tung Oil – in a household situation say 3 months before regular waxing and 3 years before recoating

# 3

## general rules

- a) For light coloured timbers we prefer waterbase flooring finishes and Synteko Classic as they show off the real colour of the timbers.
- b) For dark coloured timbers use Alkathane, single or 2 pack poly or tung oil finishes as they enhance the rich colours in the timber and also darken over time – except for both Jarrah and Spotted Gum which are best with a waterbase or Synteko Classic finish (you don't want these 2 timbers to darken as they lose their colour definition).
- c) Never use a waterbased product on a brush box floor. In combination with the silica it makes the timbers very milky in appearance and can also cause product rejection.
- d) Polyurethanes are the hardest wearing and fastest curing. Unfortunately they tend to yellow over time.
- e) Synteko Solid and Feast Watson's 'Peerless' are both natural penetrating oils, which are extremely durable and commonly used in public locations. They are not often used in domestic situations as they have a very dull matt finish.
- f) Penetrating oils and poly's are regarded as old fashioned timber treatments – the newer oil modified products (Alkathanes & Urethanes) have 'extra' drying time, hardening and preservative attributes.

### Practical advice

Be very careful with the placement of mats and furniture on new floors – particularly in the first six months. Covered floorboards will not oxidise at the same rate as exposed areas – which will cause floors to have a chequered appearance and take 12 months to get rid of.

# 4

## characteristics of:

### Polyurethanes – Single Pack and Two-Pack

- Very hard wearing, low maintenance. Apply a floor wax only if the floor is well worn and to fill bad scratches – wax shows off traffic activity.
- Synonymous with edge bonding or clumping because people do not correctly acclimatise their floors – e.g. only running the air conditioning or winter central heating when you start living in your new home will dry out and shrink your floorboards!
- Poly's tends to yellow over time, which clouds the timbers' natural colour. They also don't retard the timber oxidising process – both factors which cause floors to darken.
- Poly's are very elastic compared to other finishes. When floors shrink due to moisture loss poly's stretch over the spaces which open up between the floorboards, thereby creating white lines to appear over the cracks.
- Close the doors when applying poly's to keep the dust down until the floor is touch dry. Surface is hard enough to walk on within a few days.
- Heavy molecules given off during curing are toxic and unhealthy when floors are wet. Once the floors have hardened the poly's are inert and non-toxic.
- Some 2-pack poly's can accept 3 coats in a day – though not ideal. First 2 coats add 'Fast A' and final coat use normal poly (3 coats of Fast A can give a satin (non-gloss finish).
- Single pack poly usually needs a drying catalyst added in winter and in colder climates.

### Tung oils (see both Synteko and Feast Watson product ranges)

- Contain phenolic resins. Resins are usually modified to improve durability and drying times.
- Require regular maintenance with 'Gemini' or 'Floorshine' waxes and pH neutral cleaners.
- Very soft finish, scratches easily and goes yellow over time because of phenolic resins.
- Can be touched up without sanding back IF the floor has not had wax treatments.
- Waxes build up around the edges, which collect dirt and make this finish very unpopular among those people who have maintained timber floors for years!

# 4 characteristics of:

## Alkathanes and Urethanes (Synteko Urethane and Feast Watson Alkathane)

- Contain Alkyd resins to improve drying and hardening attributes.
- Maintain light colours of the timber but do go yellow over time.
- Allows for movement of individual floorboards – i.e. no edge bonding. These products deliver a beautiful, clear and hard wearing finish.

## Waterbased Polyurethanes (see both Synteko and Feast Watson products)

- Environmentally friendly – no toxic fumes.
- Maintains light colour of timber and most quality products don't yellow over time.
- Can handle 2 coats on a summer day – dries quickly but takes 2 weeks plus to harden. Can and should add a drying catalyst during winter and in colder climates and in summer may need to add wet edge extender so that the finish does not dry too quickly.
- Allows for movement of individual floorboards – i.e. no edge bonding.

## Synteko Classic

- Does not amber over time. Gives the timber a very natural look. We like it because it is a very clear finish which enhances the colours within the timber.
- Allows for movement of floorboards and sheers neatly along the joints when floorboards move.
- 'Newshine' maintenance polish can be applied once or twice a year – does not build up.

- Classic needs air to cure on application – so open up the doors to help it dry.
- Touch dry very quickly. Can apply 2-3 coats in a day but needs 14 days to properly harden so walk around in your socks for a few days and don't move furniture in.

## Synteko Solid Oil/Feast Watson China Wood Oil

- Are penetrating oils. Have a very dull matt finish. Synteko solid oil is 90% solid (almost like a fat and only requires 1 single coat which makes it quite a unique product)
- Ideal for high traffic commercial areas such as libraries and airline lounges.
- Doesn't show off lap-marks where the oil has been applied on different days.
- Easy to repair damaged areas.
- Very high traffic locations usually maintained on a weekly basis – Wash with a soap and burnish/polish with maintenance oils.
- Oil does not build up and tends to repair damaged areas over time.
- For large areas, which need to be polished and finished in sections, you need an application that will not show off the start and finish or edges of the work. Solid Oils are ideal as they do not show lap marks.

## Decking Oils and Preservatives

- Absorbed into the timber and can help retain the original timbers colours for an extended period but require frequent and regular applications.
- In the natural course of events all timbers will grey over time as the timber oxidises when it is exposed to UV light. To preserve a timber colour indefinitely consider using timber stain on outdoor timbers.

## Lime-wash finishes and stains

- Low durability is improved by top application of Synteko Classic or Alkathane (NB – Most water-based poly's will react with the lime wash so refer to manufacturer instructions to see whether they are suitable for stained areas and steer clear of single or 2 pack poly top finishes as they will yellow over time).
- Lime wash: extremely difficult to achieve a consistency of finish between rooms because of air circulation, drying times and product inconsistency – so don't expect it.

## contact

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### For your further assistance

Feast Watson product advice line **1800 252 502**  
Synteko product advice line **(02) 9417 225**

# 5 home decor – floor finishing guide

Timber	Recommended finish	Sealer/Primer (first coat)	Comments on colour
Blackbutt	Synteko Classic and Waterbase Natural Oils Tung Oils Oil Modified Finishes	Synteko Classic – not req'd Solid oils – not required Alkathane – yes so the grain does not lift	Good quality water-based polyurethanes keep the timber light in colour and also slow down the timber oxidising process. Synteko Classic provides a beautiful clear finish and slows down the timber oxidising. Polyurethanes go yellow over time and don't really slow down the timber oxidising. Non-yellowing poly's are a bit more expensive but not as clear as a water-based finish.
Spotted Gum	Synteko Classic and Waterbase Natural Oils Tung Oils Oil Modified Finishes	Yes – for all products because of high oil content of the timber	Good quality water-based products look terrific on spotted gum and also retard timber oxidising process – which is a big issue with spotted gum as coastal timbers turn dark brown with time. Water-based poly has a very clear finish. This timber tends to lose its colour definition with polyurethane finishes – which also do not slow down the timber oxidising.
Ironbark, Jarrah, Flooded Gum, Karri, Sydney Blue Gum	Synteko Classic Natural Oils Tung Oils Oil Modified Finishes	Synteko Classic – not req'd Solid oils – not required Alkathane – yes so the grain does not lift	As these timbers are dark in colour they react best with oil modified products (Feast Watson Alkathane and Synteko Urethane), solid oils or polyurethane finishes. We also think that Synteko Classic gives a fantastic natural finish. NB: polyurethanes, Alkathanes and Urethanes go yellow over time and also don't stop the timber oxidising. Both factors result in the timber going darker over time, which is why people buy a dark timber! Waterbased products do not enhance the colour of the individual timbers as much so the colour definition in the boards is not as sharp.
Brush Box	Synteko Classic Oil Modified Finishes	Yes – for all products to seal the silica content of the timber and prevent it from reacting with the finishes	This timber has a very high silica content which means it reacts very differently with some of the more popular finishing options: a) Water-based poly finishes look very milky and anaemic b) Polyurethane and tung oils turn very yellow over time Synteko Classic and Feast Watson Alkathane finishes tend to bring out all the typical brush box shades in each individual floorboard and are highly recommended.
Cypress	Synteko Classic and Waterbase Natural Oils Tung Oils	Yes – because of the high timber resin content	Synteko Solid will turn this floor from yellow into a dark honey colour. Water-based poly's give this naturally yellow timber a bright finish.
Tallowwood	Synteko Classic and Waterbase Natural Oils Tung Oils Oil Modified Finishes	Yes – for all products because of high oil content of the timber	Water-based poly turns this floor from yellow into a dark honey colour – particularly with old growth timbers. Most polyurethane finishes will cause this timber to go very yellow over time – therefore not recommended.
NZ Kauri/Rimu	Synteko Classic and Waterbase Oil Modified Finishes Tung Oils Polyurethanes		Single pack and 2-pack poly's yellow over time and enhance the colour of this floor to produce a beautiful rich yellow tone. Polyurethanes, being very durable are ideal because they help protect the soft timber.
Victorian Ash/ Tasmanian Oak	Synteko Classic and Waterbase Tung Oils	Yes – depending on the look you want	Avoid poly finishes as they detract from the beautiful white timbers hues. Must use a sealant if you want to suppress the pink tones