

Finishing Oils

Water resistance and finish quality

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In Creative Wood of December 2021, we showed how hardening finishing oils enhanced the grain and changed the wood colour in a very similar way. In this article we look at two further features of a finishing oil which might assist your choice of product. In our test for this article all bowls and blocks were hand sanded to 400 grit and all were wiped with 0000 steel wool between coats.

Tung Oil is a drying oil obtained from the nut of the tung tree (*Vernicia fordii*) marketed by Supreme Natural Wood Finishes, Napier www.supremeoils.co.nz and retailed by <https://www.woodgrainnzwoodturning.co.nz/>. This is our first choice if wanting 100% natural finish. It is applied as three coats: 1st coat thinned 50%:50% with D-limonene orange Citrus Solvent; the 2nd coat 75% oil:25% solvent; and 3rd coat 100% with 48 hours between coats. It can take a long time to dry and harden.

Haarlem Danish Oil made by Supreme Natural Wood Finishes, Napier. www.supremeoils.co.nz. It is available from some Mitre10 stores and retailed by <https://www.woodgrainnzwoodturning.co.nz/>. This is Tung Oil rich and does not contain added fillers or synthetic resins. The 1st coat is applied generously. After a few minutes remove all excess oil using a soft dry cloth. Allow it to dry for 16 hours then apply two further coats at 16 to 24 hour intervals.

Rustins Danish Oil. Made in UK. www.rustins.co.uk and available from most Mitre10 stores. This contains a lot of Tung Oil but also has drying agents (either petroleum-based or heavy metals). Application: Using a clean soft cloth or brush apply liberally, then wipe off the excess after a few minutes. New or bare wood should be oiled three times initially. Allow 4 to 8 hours between applications.

Liberon Finishing Oil. Available from <https://www.liberon.co.nz/> or their outlets in NZ. This does contain drying agents (either petroleum-based or heavy metals). Apply the 1st coat generously but dry it off rapidly and don't leave or more than a couple of minutes before wiping off the excess. Apply two more coats at 24 hour intervals.

Boiled Linseed Oil available from most hardware stores. This is a slow drying oil that protects and enhances timber leaving a low lustre finish. Boiled Linseed Oil is obtained from the dried, ripe seeds of a flax plant with drying agents (either petroleum-based or heavy metals) added in order to make it better for finishing wood furniture. Apply two coats with the 1st being a 50%:50% mix with Mineral Turpentine and leave 48 hours until the 2nd coat.

Osmo Polyx Oil made in Germany and marketed by a variety of NZ stores. This is the easiest finish to apply with two coats and 24 hours between coats.

Penetrol Wood Oil. Made by PPG Industries Australia Pty Ltd and available from Bunnings stores. Based on natural oils, it is high in solids, extremely durable, easy to apply and easy to clean. Apply two or more coats wet on wet until the wood is saturated and does not absorb any more oil. Remove any oil standing on the surface after 20 minutes with a soft lint free cloth. For our test, three coats were used with 24 hours between coats.

Organoil Danish Oil available from Carbatec and Timberly. The first coat is applied generously. After a few minutes remove all excess oil using a soft dry cloth. Allow this to dry for 16 hours then apply one further coat.

Organoil Hard Burnishing Oil available from Carbatec and Timberly. It is a sealing and finishing oil formulated from pure natural plant and wood oils - the major component being Tung Oil. It may be applied using the burnishing (wet sanding) technique" or wiped on as two coats a minimum of 24 hours apart.

There are many more similar products available to woodworkers. We strongly recommend that you test them well and read all the data about them.

Our Water Test

First is a need to know how an oil might resist water in a bowl. This is our approximation of fruit breaking down in a fruit bowl. For this test, blocks of wood of the same species were cut and finished to the same size and oil was applied to each and allowed to dry as instructed by the manufacturer. Then each block was weighed, tested with a moisture meter and placed in a tub part-filled with one cup of water (*Fig. 1*) for 8 hours.

After removal from the water each block was wiped dry and then weighed and tested again with the moisture meter. This data and a visible assessment of the water damage to the finish was assembled to provide a rough ranking of the finishes.

Haarlem Danish Oil and Tung Oil very clearly provided the best waterproofing for the wood (*Fig. 2*) while Rustins Danish, Osmo Oil and Boiled Linseed provided the least protection (*Fig. 3*).

As a side-line comparison we also applied Wattyl Stylewood 30% lacquer and Briwax Original Wax to two blocks and put them through the same wetting and drying process. Stylewood was a very effective coating when fresh but that might not persist as the



Fig. 1. Water Test.

wood moves over time and cracks the finish. Briwax Original Wax offered the least protection against water of all products tested (Fig. 4).

Bowl Finish Test

We then wanted to compare the finished “look” of these oils by applying them, in the manner suggested by the manufacturer, to a set of small bowls turned from a large rimu beam. Users of these finishing oils will be looking for a variety of finish qualities varying between low and high gloss. So it is not reasonable for us to declare that any finish is “Best”.

We can, however, show that some finishing oils do not achieve a level of acceptance in our opinion. We place Boiled Linseed Oil, Tung Oil and Organoil Burnishing Oil in this unacceptable finished look group but we are aware that Organoil Burnishing Oil produces a superb finish when used on Australian hardwoods (Fig. 5).

Then, using a subjective visual assessment, we place Liberon Finishing Oil, Rustins Danish Oil and Haarlem Danish Oil into our most acceptable finish group (Fig. 6).

For good looks that leaves three products to use, when finish quality is considered, in the middle of the range. Penetrol, Osmo Oil and Organoil Danish all gave a passable finish when first completed but then slowly lost their gloss (Fig. 7). Some users of these



Fig. 4. Stylewood Lacquer & Briwax.

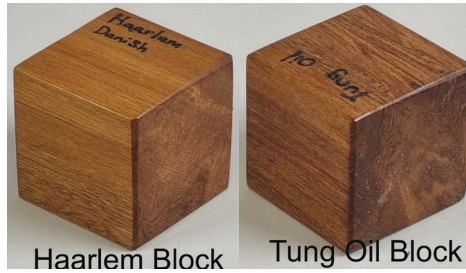


Fig. 2. Best water protection.

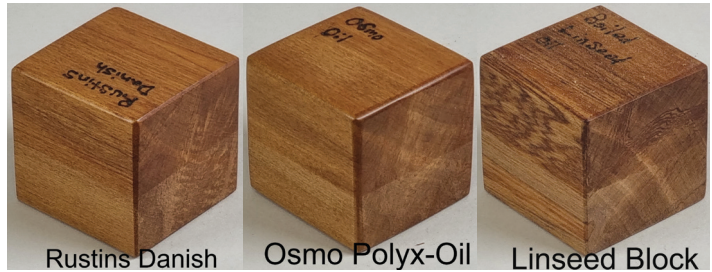


Fig. 3. Least water protection.

products say they always apply a wax over the oil finish but this is surely extra work when a product alone, like those in our most acceptable group, can provide a good finish using just one product. Furthermore, adding a wax may add a less robust surface than the oil finish.

Last, but not least, we considered the chemicals mixed into these finishes to “improve” them. The purpose is perhaps to thin them down for better soakage into wood, or to make them dry faster or harder, or for some other benefit. Our pure Tung Oil has nothing added to it. Haarlem Danish, Osmo Oil, and the two Organoil products have little added chemicals that should unduly concern us. At the other end of the scale are Boiled Linseed and Penetrol which are products we suggest we should not be handling. If in doubt read the manufacturer’s Material Safety Data Sheets (MSDS).



Fig. 5. Least acceptable



Fig. 6. Most acceptable



Fig. 7. Passable but lost gloss.