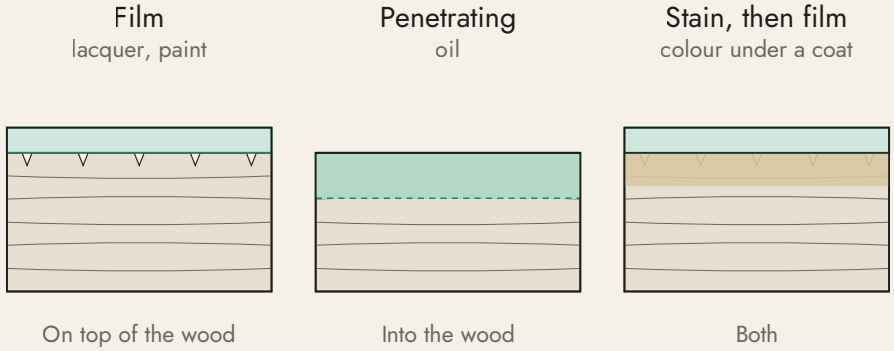
Finishes on timber joinery: lacquer, oil, hardwax, stain and paint

Lacquer, oil, hardwax oil, stain and paint compared from the sources we read, the furniture surface tests named, sheen as a number, and wording that asks for a test report on a panel finished like the real thing.

AT A GLANCE

Finish	What the sources we read say	Best on	Watch for
Nitrocellulose lacquer (AWS system 1)	Film. Repairable, quick-drying. Lacks durability and resistance to most solvents and water. Yellows.	Interior trim, panelling, ornamental work	Heat, solvents; affects flame spread
Catalysed lacquer (AWS systems 2 and 3)	Film. Repairable; stain, abrasion and chemical resistance. Post-catalysed adds heat resistance. Some yellowing.	Furniture, casework, panelling, doors	Affects flame spread
Two-pack polyurethane (AWS system 11)	Film. Durable, good build; slow-drying, very difficult to repair. AWS: for floors, stairs and high-impact areas, generally not casework or panelling.	High-impact horizontal surfaces	Repair; ask the finisher
Water-based (AWS systems 4, 8, 12)	Film. Low VOC. In 2009 the AWS rated the latex acrylic (4) low for moisture, solvents and heat, and the cross-linking acrylic (8) and polyurethane (12) better. Its text and scores do not always agree.	Interiors with low-VOC briefs	Ratings are 2009 and US
Oil (penetrating)	Penetrating. Close-to-the-wood look, low sheen, easy to repair. Labour-intensive to maintain; low resistance to most substances (AWS 6).	Trims and furniture wanting a natural look	Wear, liquids, upkeep
Hardwax oil	Penetrating oil with wax. Not named in the AWS or Wood Handbook. Low sheen, repairable (trade usage). Some “penetrating” products leave a film.	Tops wanting a low sheen	Evidence thin: ask for test data
Opaque paint	Film. High or semi-gloss enamel is usual on trim. Stain-blocking primer over knots and finger joints. Seal MDF edges.	Trim, panelling, doors	Joints and edges show

AWS is the Architectural Woodwork Standards, 1st edition (2009, US): its ratings are subjective judgements for generic products. The Wood Handbook is the US Forest Products Laboratory’s (2021). Hardwax oil is not in either; it is described from trade usage. Stain is a colour step under a film or oil, and is not in the basic systems. No pass levels are given. The partner workshop’s finish data and your sample govern.



Three ways a finish sits on timber, in section. Schematic, not to scale. Original drawing by Make Bespoke Studio.

SPECIFICATION WORDING

FINISH SYSTEM

Finish: [two-pack catalysed lacquer], [open pore / closed pore], sprayed in the workshop on [substrate], [ ] coats over [sealer], every face and edge finished with the same system. Sheen [ ] +/- [ ] gloss units at 60 degrees, measured on the approved control sample. Colour or stain reference [ ]. System named by type and performance, not trade name.

TEST EVIDENCE

Before production the finisher is to supply a report from [an accredited test house] on a panel of the same substrate finished identically (same system, coats, sheen and cure), showing results for surface resistance to cold liquids (BS EN 12720), wet heat (BS EN 12721), dry heat (BS EN 12722), abrasion (BS EN 15185) and scratching (BS EN 15186, method [A / B]), current editions stated, to achieve [rating] for [ ].

SAMPLES AND APPROVAL

[Three] control samples, each not less than [305] mm square on panel products, showing the colour range, grain and sheen, signed and dated, one held by [ ]. Production to match them. Touch-up kit [ ] supplied; jobsite touch-up by [ ].

CARE AT HANDOVER

Care notes issued at handover: a soft, lint-free cloth lightly dampened with water; no abrasives, ammonia cleaners, wax or silicone polish; spills wiped at once; mats under hot items; protect from direct sunlight [where relevant].

TERMS USED

Sheen

How shiny a finish is, measured in gloss units at 60 degrees; matt is low, high gloss is high. The same colour looks different at different sheens.

Film-forming finish

A finish such as lacquer, varnish or paint that builds a layer on the surface. Usually easier to clean and more stain-resistant than an oil, but wears away and can chip.

Penetrating finish

A finish such as an oil that soaks into the timber without building a layer. It leaves the texture of the wood and is easier to refinish. Products labelled penetrating can still leave a film.

Hardwax oil

A penetrating timber finish of oil and wax that sits mostly in the surface fibres, gives a natural low-sheen look and can be spot-repaired.

STANDARDS AND SOURCES

- BS EN 12720, 12721, 12722 (2009+A1:2013): surface resistance to cold liquids, wet heat, dry heat: BSI listing for 12721 read (current, under review). Not read: confirm editions; ISO 4211 series may supersede.
- BS EN 15185:2023 (abrasion) and BS EN 15186:2024 (scratching): 15186 listing read; 15185 edition from search. Not read.
- PD CEN/TR 17292:2018 and FIRA news article (13 Dec 2018): Article read (archived Dec 2019). Report not read.
- USDA Forest Products Laboratory, Wood Handbook (2021), chapter 16: Read 5 Nov 2026.
- Architectural Woodwork Standards, 1st edition (2009), Sections 2 and 5: US standard. Read 5 Nov 2026.

Full guide: https://makebespoke.com/trade/technical/finishes-on-timber-joinery. Make Bespoke Studio coordinates manufacture through its partner workshops. Figures are guidance only and your specification governs; some may be superseded, so contact the studio to verify.