



Timber preparation: Sandpaper Grit Guide

Recommended Grit		Best Use
Paint stripping quickly	40–80	Removes old paint and heavy material
Masonry repairs	80–180	Smooths rough repair areas
Bare wood before primer	120–180	Smooths raised grain before painting
Filler and patch repairs	120–240	Levels repairs and feathers edges
Previously painted wood imperfections	120–240	Keys old paint and removes
Walls and plaster	180–240	Smooths surfaces without deep scratches
Gloss paint before repainting	180–240	Dulls sheen so new paint can grip
Between coats of paint	240–400	Removes brush marks and dust nibs
Fine finish before topcoat	320–600	Prepares for ultra-smooth finishes
Wet sanding and polishing	800–2000	Final polishing and mirror finishes

Industrial coating of timber requires a meticulous sanding process to ensure optimal adhesion and a flawless finish.

The standard process follows a structured sequence: starting with heavy stock removal (P60–P80), refining to a smooth surface (P120–P150), and finishing with between-coat denibbing (P220–P320).

Sanding has two "golden rules." The first is to never skip more than one grit size when working your way up. The second is to always sand with the grain of the wood.

Proper surface preparation prevents common finishing defects, such as grain raise or blotchy coatings.

Always sand with the grain to avoid swirl marks and visible scratches.

Every time you sand, your goal is to use the abrasive to remove the scratches left by the previous, rougher grit.



The Rule: The next grit number should be no more than roughly 50% higher than the previous one. For example, after an 80-grit paper, the next paper should be 120-grit.

Why it matters: Skipping too many steps (e.g., jumping from 80-grit to 220-grit) leaves deep scratches from the coarser paper that the finer paper is too smooth to remove.

Typical progression: A common progression for raw wood is 80 → 120 → 180 → 220.

Rough Surface/Paint Removal:

Use P60 to P80 grit. Ideal for stripping old finishes or removing severe surface imperfections.

Initial Wood Preparation (Uncoated Timber):

Use P100 to P120 grit.

Opens the pores of the timber to ensure the initial primer or stain creates a strong mechanical bond.

Pre-Coating Preparation:

Use P150 to P180 grit. Removes minor scratching from the previous stage while ensuring the surface remains slightly textured for coating adhesion.

Intermediate Sanding (Denibbing):

Use P220 to P320 grit. Used after the initial sealer, primer, or first topcoat is fully dry to knock down raised wood fibres and dust nibs.

Final Finish (High-Gloss/Perfection): Use P360 to P400 grit. Lightly abrade to remove minor imperfections in the top layer just before the final varnish is applied.

The Rule: Move your sandpaper in the same direction as the natural lines (grain) of the wood.

Why it matters: Sanding across or against the grain cuts across the wood fibres rather than smoothing them. This creates highly visible, ugly cross-scratches that absorb stain unevenly and ruin your final finish.

by Peter Wells, Polyvine Technical Director.



How to check: If you are unsure which way the grain runs, drag the tip of your thumbnail gently over the wood. If it catches or feels rough, you are likely sanding against the grain.

Let the tool do the work: Pushing down too hard on a power sander can cause gouges, heat up the sandpaper, and wear it out prematurely.

Remove dust between grits: Always wipe away sanding dust before moving to the next grit. Otherwise, loose coarse particles can create deep, unwanted scratches.

Avoid Over-Sanding: Do not use grits finer than P180 if you are applying a stain, as over-sanding polishes the wood and closes the pores, preventing proper colour absorption.

Avoid Aggressive Pressure: Pressing too hard creates heat, burns the timber, and causes sandpaper to wear out prematurely. Let the weight of the sander do the work.

Remove All Residue: Thoroughly vacuum the timber after each grit. Wipe the surface using a tack cloth or a solvent-dampened rag (like naphtha) to prevent dust contamination in your next coat.

Select the Right Abrasive: For industrial timber finishing, use durable, specialized abrasives such as high-quality aluminium oxide sheets.

In some cases, certain timber types and coating combinations can result in grain or fibre raising, which means the fibres of the substrate may stand up after the initial sanding. This is common when applying water-based primer on MDF, for example. To address this issue, a thorough denibbing process is required between coats. Using a higher grit sandpaper such as 240-320 grit, ideally with a mechanical sander, can level the surface and provide a smooth finish for the subsequent coats.



Hardwood Softwood

Preparing and sanding hardwood and softwood for industrial coatings is different. While the final industrial coating may look similar, softwoods require finer starting grits, more open-coated abrasives to prevent resin clogging, and extra sealing for knots, whereas hardwoods demand more aggressive abrasives and require finishing at a lower grit to avoid closing the wood's pores.

Preparation (e.g., Pine, Cedar, Larch)

Abrasive Type: Use open-coated aluminium oxide abrasives to prevent the paper from loading with resin and sap.

Grit Progression: Start at P80 - P120 and finish at P180 - P220. **Special Prep:**

Softwood fibres raise easily.

You must deal with natural resin. Knots must be sealed with a knotting solution (patent knotting) to prevent resin bleed-through from staining the industrial coating.

Hardwood Preparation (e.g., Oak, Teak, Iroko)

Abrasive Type: Use tougher, more rigid abrasives (like Zirconia or high-quality Aluminium Oxide) due to the timber's high density.

Grit Progression: Start at P80 - P100 and finish at P150 - P180. **Special**

Prep: Do not sand beyond P180 - P220 for bare wood. Over-sanding hardwood "burnishes" the wood, closing its natural pores and preventing proper adhesion and penetration of the industrial finish.

You must degrease oily, exotic hardwoods (like Teak or Iroko) with methylated spirits prior to coating.

Regardless of the species, proper factory and industrial coating preparation requires the following standardized steps:

Flush Fixings: Punch all nails and screws below the timber surface, and fill holes with a compatible wood filler.



Break Edges: Slightly round over sharp corners and edges. Sharp 90-degree corners cause industrial coatings to stretch thin and fail prematurely.

Dust Removal: Thoroughly vacuum and wipe down the surface with a lint-free cloth or a tack cloth before applying primer or base coats.

Denibbing: Sand lightly (denib) between coating layers using P240 - P320 grit to remove grain raising and surface imperfections.

Grain raising is the natural phenomenon where wood fibres swell and stand up when exposed to moisture. It creates a fuzzy, uneven texture.

We can intentionally raise and sand down the grain beforehand, so the wood remains smooth when applying Polyvine water-based stains or finishes later.

Wood is highly porous. When water touches raw, freshly sanded wood, the fibres absorb the moisture and swell. During initial sanding, loose fibres aren't always cut completely; instead, they are pushed down into the pores. Adding moisture makes these crushed, folded fibres pop back up, ruining a perfectly smooth finish.

How to Pre-Raise and Sand the Grain

Intentional grain raising (often called de-whiskering or sponging) prevents finishes from creating a rough, uneven texture.

Complete the primary sanding up to the desired final grit (e.g., 180 or 220 grit).

Lightly dampen the raw wood using a spray bottle or a damp cloth. You want the surface moist but not pooled with standing water.

Dry: Allow the moisture to dry completely, typically 30 to 60 minutes. The surface will feel prickly or fuzzy to the touch.

Sand Smooth: Lightly sand away the raised fibres using 320-grit sandpaper. Use a light touch so you don't remove the material you worked hard to flatten earlier.

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