The topical subject

The shrinkage and swelling of softwoods

Why does wood change?

Wood is a natural product. It reacts to moisture in the air and its surroundings. When wood absorbs moisture, it swells. When it releases moisture, it shrinks. These natural properties are not a defect, but must be taken into account during processing and surface treatment. Softwoods in particular show these effects clearly. Within the annual rings, the so-called early wood is softer and absorbs moisture more quickly than the harder late wood.

Why is the type of cut important?

The way a board is cut from the log has a major influence on how much it will warp later on.

Wood can be cut in different directions:

1 2 3

1 | Cross-section

The cut runs perpendicular to the trunk axis. The heartwood is located in the central area and is usually darker. The surrounding area, which is usually lighter in colour, is called sapwood.

2 | Tangential cut

Clearly visible annual rings, lively grain. This type of cut shows the strongest swelling and shrinkage movement.

3 | Radial cut

The annual rings are almost perpendicular to the surface. These boards are significantly more dimensionally stable. In our tests, the early wood showed the lowest swelling potential.

This difference is particularly noticeable in furniture, worktops and wall panelling.

Special feature: laminated wood panels

Glued wood panels consist of several individual wood lamellas that are glued together. This reduces the overall warping of the panel. Nevertheless, differences can be felt on the surface, as different types of cuts and wood areas lie next to each other.

The aim of the method described is to compensate for these differences and create a smooth, even surface.

Step-by-step instructions for users:

1 | Preperation

The wood surface must be clean, dry and free of dust. Ensure that the wood is acclimatised (do not process it directly from a cold or damp environment).

2 | First coat

Apply **AURO Hard Oil DuraQuick No. 529** evenly with a microfibre roller. Ensure that the film is even and closed.

3 | Short waiting time

Allow the material to set for approx. 15 minutes. It should still be moist, but no longer runny.

4 | Sand the surface

Sand the surface sharply in the direction of the grain using a Japanese or surface scraper. This will even out any differences between early and late wood.

5 | Drying

Allow the surface to dry completely. Follow the manufacturer's instructions.

6 | Second coat

Apply **AURO Hard Oil DuraQuick No. 529** again in a normal coat thickness. This coat ensures a final, even surface.

Result

After drying, a smooth, even wood surface is created. Raised or indented areas caused by swelling are no longer noticeable. The result is reliably reproducible.

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Conclusion for consumers

Wood works – that is completely normal. However, with the right type of wood, the appropriate cut and a suitable surface treatment, very high-quality and durable results can be achieved.

As a general rule:

The harder the wood type and the more radical the cut, the less swelling and shrinkage will occur.