

### Knots

Double vacuum preservative treatment is widely used in the manufacture of external softwood joinery products. Due to the variable nature of timber i.e. density and structure, the absorption of preservative will vary and therefore the drying time of the treated timber.

The area in and around knots needs particular attention due to the high density of the knots and levels of resin they contain. The preservative treatment partially dissolves and mobilises the resin which is then drawn out of the timber towards the surface as the solvent evaporates. In most cases this process will occur prior to the joinery being factory coated. However, the density and structure of resinous knots/timber increase the evaporation time and if insufficient drying time is allowed, the process will carry on after the joinery has been factory finished and cause staining of opaque finishes.

Ideally, preservative drying times should be extended when resinous and knotty timber is treated, but often this is impractical particularly when production schedules are tight or drying conditions less than ideal.

Switching to water based preservatives, either vacuum or surface applied, will reduce the problem though not eliminate it completely.

Application of a proprietary knotting product (e.g. Teknos Knotting) in accordance with the manufacturer's recommendations will help to reduce staining caused by resin in knots. Application should encompass the whole of the knot and any adjacent resinous area and should be applied to a smooth level finish. Smaller brushes are often more suitable for such applications.

Movement within knots which has resulted in cracks developing must be removed by filling the cracks, prior to the application of the knotting, with a fine surface filler such as Teknofill 5001. This allows the knotting to bridge the cracks gap and removes a potential weakness in the seal which the resin can pass through.

Finally, a knot inhibiting primer Anti Stain Aqua 5200 should be applied prior to any opaque topcoats.

The above guidelines will significantly reduce, though not completely prevent, knot staining and minimise site remedial work, though the only way to completely eliminate knot staining is to switch to knot free timber.

### End Grain

The most vulnerable part of exterior joinery is the end grain, which readily absorbs moisture, discolouring the timber and reducing the adhesion of the coating system. Teknos strongly recommend that all exposed end grain is treated with Teknoseal 4000 and all construction joints are filled with Teknoseal 4001. The use of these sealers will substantially reduce the uptake of moisture through end grain, especially important when coating mitre joints, and significantly extend the life of the coating system.

#### Opaque Systems:

Brush apply one or two full coats of Teknoseal 4000 end grain sealer and allow to dry fully prior to spraying. Apply a thin bead of Teknoseal 4001 on all construction joints prior to final topcoat application.

#### Translucent Systems:

Apply one coat Aqua Primer 2900 translucent basecoat stain and allow to dry.

Brush apply one or two full coat of Teknoseal 4000 end grain sealer and allow to dry fully prior to spraying. Apply a thin bead of Teknoseal 4001 on all construction joints prior to final topcoat application.

In all cases, always ensure that the tops and bottoms of doors and all end grain of external joinery are fully coated when sprayed.

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