



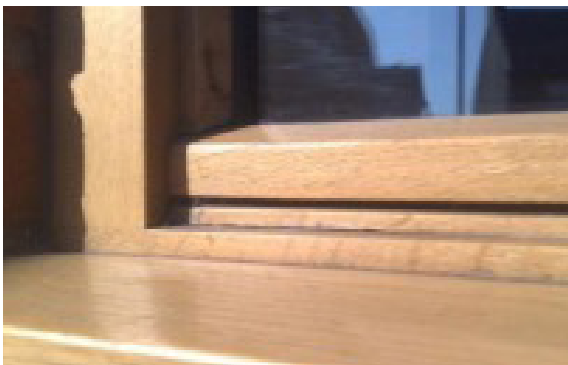
OAK

Oak is a popular, sustainable and durable timber for exterior joinery applications but there are a number of points to be aware of:

- It flexes and moves with changes in ambient humidity, putting stress on the structure and causing joints to open
- It has a tendency to surface check (split) when externally exposed
- Uncoated, it rapidly discolours in sunlight, typically to a dull greyish colour.

Oak also has a high natural tannic acid content which causes the timber to turn black when exposed to moisture containing trace amounts of iron.

As a result **external oak joinery needs more frequent care and maintenance than most other species**, particularly early in its service life, to maintain its decorative appearance.



We are frequently asked for remedial advice on installations which have been coated with clear finishes or inappropriate coating systems.

These guidance notes are intended to support remedial work on oak joinery and further advice on this is given in the 'maintaining oak' section of thi document.



MAINTAINING OAK

Oak naturally greys and discolours in sunlight regardless of the coating system applied or how much 'UV protection' the coating claims to offer.

- **A light tint in the coating** helps to disguise this 'greying' and mask the patchy appearance which can be evident in the early stages as the sunlight bleaches the timber surface.
- **Regular washing down** with a mild detergent solution, when the windows and doors are cleaned, will help to remove surface contaminants. At the same time we recommend all external joints, gaps and end grain are inspected and any defects repaired.
- **If joints have opened**, reseal them using our V-joint and end grain sealers and if surface splits have opened, patch repair the protective coating with the appropriate topcoat. Sand down sharp edges to 3 mm radius. After treatment, reinstate the full Teknos coating system in the original translucent shade.

Following this regular maintenance regime, particularly early in the service life of the joinery, will help maintain oak's decorative appearance and reduce the need for more time consuming maintenance at a later stage.



Gaps and exposed end grain should be sealed with TEKNOSEAL 4001 or TEKNOSEAL 4000 END GRAIN SEALER before the coating is reapplied.

Discolouration usually results from moisture ingress either through open joints and gaps or where the timber surface has split, disrupting the protective coating.

When this occurs the surface of the underlying timber will turn black as the moisture reacts with the oak's naturally occurring tannic acid.

The blackening is not rot, and does not affect the structural integrity of the timber, but it can be visually unappealing.

Where only localised 'blackening' has occurred, a detailed sander, is often the quickest way to remove the affected layer.

- Feather back into the surrounding unaffected area then reinstate the coating system in line with our maintenance guidelines.
- For more extensive blackening, chemical treatment will be necessary.



Localised staining can be sanded out using a detail sander and the coating system reinstated.

CHEMICAL REMOVAL OF DISCOLOURATION

The discolouration shown in the illustrations is caused by moisture reacting with the natural acidic tannins in the oak surface and occurs where the protective coating is mechanically disrupted either by joints opening, the surface splitting, warping or twisting of the wood section.

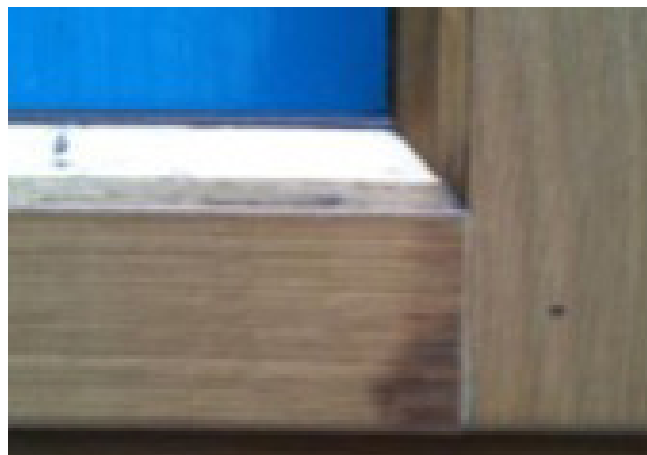
If staining is light, the black colour can be removed using a solution of Oxalic Acid.

This treatment will return the oak surface to an even tone similar to its original colour and the protective finish can then be reapplied once any remedial work on joints or other areas has been completed.

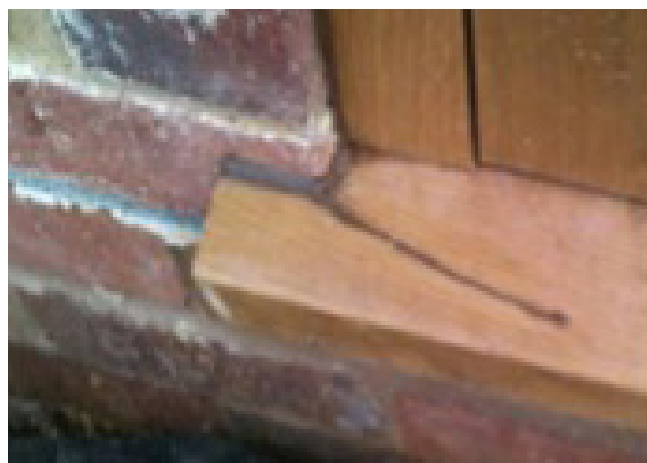
INSTRUCTIONS

1. **Before treatment**, remove the protective coating from the affected timber - this is best done with a detail sander using a coarse, then fine, grit pad.
 2. Oxalic Acid (a natural extract of rhubarb leaves) is supplied as dry crystals and is available from most hardware stores or online.
 3. **To treat discoloured oak**, make up a saturated solution of the crystals in a plastic bucket using four tablespoons of Oxalic Acid crystals to one pint of hot water. Some undissolved crystals in the bottom of the container after mixing show the solution is saturated. Allow the solution to cool to room temperature.
 4. Apply the Oxalic Acid solution evenly over the entire surface with a sponge or brush. Avoid spot treating which can cause an uneven patchy appearance.
 5. Leave the solution on the surface for 10 - 20 minutes then wash off with clean water. If staining still remains, apply more solution and repeat until the desired even colour is obtained.
 6. **To stop further bleaching** action, rinse the surface with clean water and wipe down with dry cloths. Several water rinses and wipe downs will remove most of the Oxalic Acid.
 7. To fully neutralise, rinse with an alkaline leave the solution (a heaped tablespoon of baking soda in two litres of water will do the job), leave for five minutes then rinse off the baking soda solution with fresh water and dry.
- These treatments will raise the grain of the wood, which must be allowed to dry thoroughly (at least overnight) before sanding down with a fine grade sanding pad.
8. Finally, repair any defects in the joinery, and reinstate the protective coating system, remembering to reseal all joints and end grain as detailed in the 'maintaining oak' section.

Health and safety: Oxalic Acid is corrosive. Read carefully and follow the manufacturer/supplier's detailed guidance at all times and always wear suitable gloves, mask and eye protection when handling this product.



The natural movement of oak can cause joints to open allowing water to enter, react with Tannic Acid in the timber causing characteristic staining



The surface of oak joinery tends to split in service, disrupting the protective coating, allowing water to enter and react with Tannic Acid

GENERAL MAINTENANCE

Refer to 'Exterior Maintenance' Guides for product information and general maintenance advice.

Always refer to the Technical Datasheet for full instructions on how to use Teknos products.

For further support, contact your local Teknos representative or visit teknos.com