

ecolAP Performance Warranty

high performance timber cladding

Teknos provide extended coating warranties, of up to 7 years, on ecoLAP cladding. The warranty relates to cladding manufactured, installed, and fully factory finished with Teknos approved systems, in accordance with its cladding technical specifications.

Teknos warranties cover:

- embrittlement or flaking of the coating system resulting from a coating manufacturing fault
- Cracking of the paint film over > 5% of the total coated area
- Damage due to fungal growth within the coating
- Excessive yellowing of the coating on ageing

Warranty periods are dependant on: the substrate timber species, the coating system chosen, and the expected exposure conditions. Teknos warranties are based on practical experience, supported by Teknos' test results, and reflect the combination of:

- Best practice building design
- Component design, manufacture, storage and installation in accordance with TRADA, Napier, and BRE recommendations
- Compliance with the requirements of BS EN 942: 1996
- Specified application of Teknos fully factory applied coating and mould inhibiting systems



Warranty scope

Warranties apply only to installations in the UK and Ireland and are subject to the terms and conditions, design, installation, use and maintenance guidance set out in the warranty document.

A Warranty is given to the first owner (Client) of the approved structure and is non transferrable.

Claddings must be inspected and maintained on a regular basis in accordance with Teknos' maintenance instructions. Failure to provide proof of routine maintenance and inspection will void the Warranty. Copies of Teknos cladding maintenance instructions are supplied by the cladding installer and can be downloaded from the Teknos website at www.teknosonline.co.uk

Teknos warranties are supplied in conjunction with selected cladding manufacturers, coaters and suppliers. These parties

take responsibility for the materials and workmanship involved in the cladding contract which are outside the control of Teknos as the coating supplier and excluded from the Teknos Warranty as described in the limitations overleaf.

Warranties are issued by Teknos following inspection and acceptance of a cladding contract by a Teknos technical representative (effective date). Any defects highlighted by such inspections must be remedied in line with Teknos' instructions before the warranty is issued and will not change the effective date.

Teknos' total obligations under a Warranty will be limited to a maximum remedial cost of £10 per m² and shall, in no circumstances, exceed the original purchase value of the coatings supplied on the original warranted project.

Warranty Limitations and Exclusions

1. Extractive staining, resin bleed, mildew and colour appearance are not product defects and are not covered by this Warranty.
2. This Warranty only applies to cladding produced from timber species which have been selected to reduce the likelihood of dimensional instability (e.g. warping, shelling, slitting, checking and cupping), through design, machining and orientation of the cladding in line with each specific substrate and its individual characteristics and which incorporate recognised industry performance design details such as (water shedding, soft rounds, clearance gaps and machined detail e.g. (balance grooves on the reverse face), to encourage any face cupping of the cladding to be concave.
3. Any cladding found to be unsatisfactory prior to installation must not be installed and should be returned to the supplier for replacement. Teknos will not be responsible in any way if defective cladding is installed.
4. Teknos will not be liable for any consequential or special damages or for other expenses such as accessories (building paper, sheathing, fasteners, caulking, etc) which may arise in connection with this Warranty.
5. Improper Installation, leaking walls or water damage are not covered by this Warranty, nor does it cover cracking, peeling or blistering of the coating which may result due to inadequate ventilation or improper construction techniques.
6. The Warranty excludes damage or failure to the cladding wood caused by excessive warping, cupping, splitting, checking, shelling, and shrinkage of the cladding material (as defined by industry standards); accidental damage, structural defects; fire, lightning, hurricane, tornado, windstorm, earthquake, hail, or other acts of God; harmful chemicals (including harmful cleaning compounds); surface deterioration due to air pollution, vandalism; mildew accumulation; scratching, wind driven sand, abrading, or misuse/abuse of the cladding product after application.
7. Failure to follow the correct maintenance procedures or using coatings not recommended by Teknos will render this Warranty invalid.
8. All claims under this Warranty must be made by contacting Teknos no more than 14 days from the discovery of a possible defect or failure, and a copy of the original invoice for the Cladding products must be included with the claim details. The claimant must allow Teknos or their agents to enter the property and structure where the product is installed and examine, photograph and take samples of the warranted product.
9. Teknos' consent, in writing, must be obtained before any repairs/remedial work is attempted. Failure to do so shall render this Warranty invalid.
10. Coatings repaired or replaced by Teknos under this Warranty shall receive the benefit only of the unexpired duration of the Warranty period applicable to the Coatings originally supplied.
11. This Warranty shall in all respects be governed by and construed in accordance with English Law and all parties agree to submit to the non-exclusive jurisdiction of the English Courts.

Maintenance

Timber cladding exhibits a variety of natural characteristics which vary depending on the exposure environment and may cause minor coating imperfections which are not covered by the Teknos Warranty. So it is important to inspect your cladding on a regular basis and to follow the Teknos maintenance recommendations to ensure compliance with the Warranty.

Teknos recommend at least annual inspection and repair of any minor areas of breakdown. Preventative rather than reactive maintenance will ensure the cladding is always protected, extend its service life and help keep lifetime maintenance costs down.

Full maintenance instructions are provided by the cladding installer and are available from the Teknos website www.teknosonline.co.uk.

General Care

At least once a year inspect the cladding, washing it down with soapy water to remove any surface pollution and mould. This can be done at the same time as windows are cleaned. Pressure washers must not be used as they may damage the coating.

Inspect the coated boards for signs of surface damage or splitting,

coating breakdown, or discolouration of the timber surface beneath the coating, which indicates moisture ingress.

Inspect and clean out guttering and downpipes. Repair leaks, which can cause localised and excessive wetting of the cladding.

Spot repair minor areas of coating damage, shakes or open joints. Since repaired areas may appear more glossy, the entire board or wall section can be coated to maintain colour consistency.

Extractive and resin bleeding is a normal feature of many types of timber cladding and though sometimes unsightly will not normally harm the coating. Once dry, resin can be removed with a soft bristle brush and warm soapy water.

Teknos maintenance products can be purchased from our service centres in Banbury, Livingston and Belfast. Primers and topcoats are available in 3 and 20 litre containers and typically primer or topcoat will cover a surface area of 8 - 10 m² per litre.

All Teknos recommended products are water based, with VOC levels significantly below current and proposed legislative levels. Teknos does not use heavy metal additives in any of its products.

Exposure conditions, Warranty and redecoration intervals

Exterior cladding, fully protected by Teknos coating systems, would be expected to give a service life in excess of 30 years when best practice is followed.

The Teknos Warranty period reflects the expected maintenance cycle for claddings and varies according to the timber substrate used, the coating system specified, and the exposure stress on the cladding as defined in BS EN 927-1.

The charts illustrate the Warranty periods and maintenance cycles for fine sawn European Redwood cladding boards and show how these are influenced by exposure and design factors.

Please consult Teknos for more details.

Maintenance intervals for ecoLAP opaque coating systems
BS EN 927-1

Design Factor	Mild exposure	Moderate exposure	Severe exposure
Sheltered	7 years	5 years	5 years
Partial shelter	7 years	5 years	3 years
Exposed	5 years	3 years	3 years

Fig 1: Fine sawn European Redwood

Factors influencing Warranty and maintenance cycles

The choice of timber species has a significant influence on paint system durability. Species with good dimensional stability, resistance to cupping, and to surface checking will extend service life and require less frequent maintenance. This is reflected in the longer maintenance cycles for some modified timbers, such as Accoya.

Timbers such as Oak, though highly durable, are prone to splitting and checking on exposure, and discolour rapidly when wet. These timbers, if coated, require frequent maintenance and are often best treated with a non film forming oil such as Woodex Aqua Wood Oil.

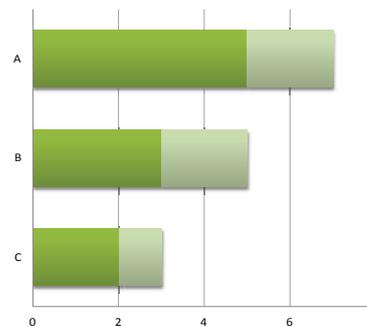
Breakdown of the coating is usually initiated by mechanical breakdown caused either by failure within the wood surface or dimensional changes in the board as moisture levels vary. Flexible (low modulus) water based acrylic coatings, such as Teknos' Aquatop 2600, provide greater resistance to this type of failure than oil based paints, but harsher exposure stresses inevitably shorten maintenance intervals.

Sunlight (UV) degrades the lignin in the wood surface, initiating breakdown, and shortening maintenance cycles. Coating pigmentation inhibits UV degradation in much the same way that sun creams protect exposed skin. If the pigmentation is low, as in translucent shades, the protection factor is less than more heavily pigmented coatings such as whites and opaque colours. This is reflected in the maintenance frequency.

Care is also required with very dark shades, such as ebony and black, which have high heat absorption in direct sunlight. At high temperatures, resin bleed and substrate checking can cause problems, with some timber species requiring more frequent maintenance.

Some "chalking" of the paint film will occur over time due to the natural erosion of the microporous paint surface. This is quite normal and does not detract from the system performance.

Influence of coating opacity on maintenance intervals



Graph 1: ecoLAP fine sawn European Redwood cladding profile

Coating Key:
 A Opaque finish
 B Parkland colours
 C Translucent

Design and Installation

The long term performance of timber cladding is largely a function of design, manufacturing and installation practice. The notes below highlight some of the key elements of best practice and must be incorporated into projects for which a valid Teknos Warranty is provided. For further information and detailed coating specifications please consult the Teknos Technical Department.

Cladding materials and design

Where possible, timbers should be selected to minimise defects; chemically modified and heat treated timbers, which can offer improved stability, can also be considered. Timber selection should be guided by BS EN 942 Standards with, in the case of European Redwood, use of J2 graded section which minimises knot and other natural defects not covered by the Teknos warranty.

Timber selection must be in accordance with the durability, use, and exposure conditions described in BS EN 350 and BS EN 335. Where the natural durability of the timber falls outside the requirements of BS EN 335-2, it must be preservative treated as per BS EN 599-1.

When using double vacuum preservative impregnation, particularly with solvent based materials, the manufacturer's recommended drying times (typically 2 - 14 days) must be followed before coating. If using a water based, surface applied, preservative, such as Teknos Aqua 1410 or Aqua Primer 2907, the boards must be factory coated to a *minimum* dry film thickness of 80 µm before site exposure to comply with BS EN 599-1.

During processing and factory coating, cladding moisture content should be controlled following the guidelines set out in BE EN 942. As a broad rule of thumb, the moisture content of cladding during final fit should approximate to the equilibrium moisture content of the cladding in service.

All exposed edges and internal and external mould details must have a minimum 3mm radius, to avoid thinning of the coating.

All non vertical surfaces must allow efficient water shedding, with a minimum slope angle of not less than 15°.

All component profiles to follow best practice design recommendations and for cladding as described in the relevant Trada, Napier and BRE publications. Key points to note:

- Installation and design must include air gaps at the top and bottom of the facade to allow ventilation of the back of the boards and preclude moisture ingress.
- A chalk line or jig block should be used to obtain 3mm clearance between board joints, allowing for board expansion and contraction in service
- Profile design should allow for individual boards to be removed and replaced without damaging adjacent boards or incurring significant maintenance cost.
- Cladding profile design should maximise water shedding to encourage rainwater run off and eliminate traps for standing water.

- Stress grooves must be machined into the back face of the boards to minimise warping and twisting.

Building design

Reducing exposure stress will significantly reduce maintenance and increase the durability of a coating system. Where possible building design should give consideration to roof overhangs and recessing clad sections, common design features in European countries where clad buildings are common. Avoiding or limiting cladding features on elevations exposed to direct weathering should also be considered.

Fixings

The design should incorporate concealed fixing where possible. Moisture ingress through surface fixings will cause localised saturation and discolouration of the timber, creating a weak spot for Blue Stain development and leading to localised failure.

If factory finished Cladding boards are fixed through the face, caps and fillers will help protect the fixing and a final site applied finish is required to ensure the integrity of the coating system.

Factory finishing

Most modern factory finished cladding coating systems use water based acrylic resins because of their durability and flexibility. These systems dry much faster than traditional solvent paints, allowing for faster handling, but require a period of time to fully cure before developing their final water resistance. A minimum temperature of 15°C is recommended during coating and drying operations and Teknos' recommended overcoating and drying schedules must be followed at all times.

When using vacuum or brush coaters, ensure the coating is uniformly applied to achieve the specified dry film thickness across all weathered surfaces. Uneven film application will reduce service life and require more frequent maintenance.

All End grain must be sealed with 2 coats of Teknoseal 4000 in accordance with Teknos' cladding system specifications. This is especially important on finished boards cut during the installation process.

Transport and site storage

Boards must be protected from the elements during transport.

Site storage areas should be well ventilated and not subject to extremes of temperature. Remove any airtight packaging before storage to ensure free ventilation and prevent condensation forming. Store the boards off the ground on suitable bearers.

If stacking finished boards face to face, always interleave with a protective paper or "Jiffy Foam". Avoid films that contain Plasticisers as these will adhere to the coating surface.

Under no circumstances should boards get wet before installation.

Paint with Pride

Installation, Storage and Wall Construction

Important Installer Responsibilities

1. Seal all site cuts with 2 coats of Teknoseal 4000 end grain sealer
2. Use a chalk line story pole or jig block to obtain 3mm clearance between board joints
3. Nails must penetrate solid wood (sheathing and stud) by 30mm. Nailing to sheathing alone does not properly secure the cladding
4. Claddings must not be installed over wet sheathing. Use kiln dried sheathing and strapping. Allow rain soaked materials to dry prior to installation.
5. Butt joints must be tight, treated with 2 coats of end grain sealer, and made over solid wood to provide secure nailing.
6. Do not lift pieces to allow for alignment. Cut along the top and touch up the cut. Raising one end may result in unlocking.

Making Walls Waterproof

Weatherproofing exterior walls requires the proper application of an approved sheathing membrane under the cladding. The purpose of the sheathing membrane is to provide a continuous barrier to prevent drafts and the entry of wind driven rain into the wall cavity.

Joints in the cladding are not designed to prevent passage of wind and rain. Passage of wind and moisture into the wall may occur, with sustained exposure to strong winds. Moisture may be driven through nail penetrations and overlap joints of sheathing membrane. In such exposures, improved resistance against moisture penetration may be obtained by a modified construction technique known as the Rain Screen Method in

which the cladding is fastened to vertical wood strapping placed over the sheathing membrane and attached to the wall studs. This construction technique provides an air space for wind driven moisture to flow by gravity down the back face of the cladding to vents at the bottom of the wall. To maintain the Teknos warranty, cladding must be installed on strapping.

Installing over Rigid Insulation

Timber cladding should not be applied directly over rigid insulation. Rigid foam sheathing can cause moisture to accumulate on the back of cladding, causing staining, buckling, and damage to finish coats. Application over rigid foam sheathing must meet the following conditions:

1. Cladding must be applied to strapping, creating an air space between cladding and rigid foam or fibreglass.
2. Strapping must be a full 30mm thick and kiln dried. The air space allows for the venting of accumulated moisture.
3. Use thicker cladding patterns in widths of 150mm or less. Thick, narrow cladding is more stable than thinner, wider patterns and better able to resist dimensional changes.
4. Lighter opaque colours will maximise heat reflection and reduce dimensional movement.

Caulking

If Caulk is used where cladding meets corners, windows, doors and trim, use colour matched or clear caulking. Take care to avoid creating water traps or inhibiting ventilation of the back of the boards and, as an alternative in critical areas, consider the use of cover molds in jointing details.

Final inspection

All items are to be inspected by Teknos' representative to ensure complete compliance prior to handover and completion of the Teknos warranty.

Any damage/defect must be made good, prior to handover, in strict accordance with Teknos' recommendations.

Teknos UK and Ireland

Teknos is one of Europe's leading suppliers of industrial wood coatings. We provide technical support and delivery services throughout Western Europe from 3 service centres, located at Swerford, near Banbury, Livingston and Belfast.

For further information, please contact your local service centre.

Teknos (UK) Limited
Unit E1, Heath Farm
Banbury Road
Swerford
Oxfordshire OX7 4BN

Tel. +44 (0) 1608 683494
Fax: +44 (0) 1608 683487

Email: sales@teknos.co.uk
Web: www.teknos.co.uk

Teknos Scotland Limited
Nettlehill Road
Houston Industrial Estate
Livingston
EH54 5DL

Tel. +44 (0) 1506 436222
Fax: +44 (0) 1506 448826

Email: sales.scotland@teknos.co.uk
Web: www.teknos.co.uk

Teknos Ireland Limited
Unit 1
Fortwilliam Industrial Estate
Dargan Crescent
Belfast BT3 9JP

Tel. +44 (0) 2890 960670
Fax: +44 (0) 2890 960674

Email: sales.ni@teknos.co.uk
Web: www.teknos.co.uk

