



Timber Protection -
making the right choice



Uni**Q**ue timber protection



qniQUE timber protection

Helping you make the most of timber

Timber is our most environmentally friendly and sustainable construction material. Commercial softwood timbers are continuing to be responsibly managed through industry initiatives such as the FSC and PEFC programmes which help to ensure the continued availability of these species and a low environmental impact from their harvesting. Our only truly renewable natural resource, timber also offers a range of functional qualities, inherent warmth and beauty and an economic suitability which are unmatched by man-made alternatives.

Correctly treated with modern wood protection products and processes, timber's long term durability, performance and market appeal can also be significantly enhanced.

Arch Timber Protection offers the most comprehensive range of industrially applied wood protection products to help make the most of timber.

- Proven wood preservative systems that provide complete protection against fungal decay and insect attack for a wide range of timber end uses.
- A choice of established and industry recognised fire retardant treatments, which provide a highly effective surface spread of flame protection and more time for a safe escape in a fire situation.
- A new modified timber product that provides a durable, versatile and sustainable construction material.

All are unique products which offer effective and assured timber protection solutions. Preservative treatments are offered through a network of licensed treaters throughout the UK and Europe. Fire retardant treatments are available exclusively through Arch's own ISO 9001 and ISO 14001 accredited treatment centre at Castleford.

This document explains the range of products available from Arch, the Use Class system designed to help classify levels of preservative protection and details of the relevant British and European Standards applicable to timber protection.



Each product range is detailed within an individual specifier's guide available from Arch.



High Pressure Preserved Timber

USE CLASSES AND EXAMPLES



TANALISED E pressure treated timber has been high pressure impregnated with TANALITH E preservative, a waterborne product based on copper triazole technology. TANALISED E pressure treated timber is usually specified for both in and out of ground contact applications where there is a medium to high risk of decay or insect attack. TANALISED E pressure treated timber has a natural pale green colouration.

Use Classes **1, 2, 3.1, 3.2 & 4**
Ideal for general construction, fencing, garden and leisure timbers and industrial applications such as transmission poles, cooling tower timbers and retaining walls.



TANALISED Extra pressure treated timber has been high pressure impregnated with TANALITH E preservative containing a built-in water repellent. This provides extra protection against the effects of weathering for highly visible and decorative timbers. TANALISED Extra pressure treated timber has a natural pale green colouration.

Use Classes **3.2 & 4**
Ideal for decking components, cladding, garden and playground timbers.



TANATONE pressure treated timber has been high pressure impregnated with TANALITH E preservative containing a built-in brown colouration. TANATONE pressure treated timber is usually specified for fencing and landscaping applications, eliminating the need for brush applied colour at the point of installation.

Use Classes **3.2 & 4**
Ideal for rough sawn fencing and landscaping timbers.



TANALISED Clear pressure treated timber has been high pressure impregnated with TANALITH M preservative, a metal free waterborne product based on triazole technology. TANALISED Clear pressure treated timber can be specified for exterior, out of ground contact applications without the need for a coating. This treatment does not alter the natural appearance of the timber and helps maintain a natural, clean and fresh appearance for longer.

Use Class **3.2**
Ideal for cladding, deck boards and garden buildings.

Timber is our only truly renewable natural resource.

Low Pressure Preserved Timber

USE CLASSES AND EXAMPLES



VACSOL Aqua treated timber has been low pressure impregnated with VACSOL Aqua preservative, a waterborne product containing biodegradable fungicides. VACSOL Aqua treated timber is usually specified for above dpc level interior construction timbers and external coated joinery applications where there is a low to medium risk of decay or insect attack. The colour of VACSOL Aqua treated timber is virtually unchanged, although a treatment colour indicator can be added, if required.

Use Classes **1, 2 & 3.1**
Ideal for interior timber frame components, roofing and building timbers and external joinery.



VACSOL Aqualine treated timber has been specifically developed to allow the use of I-Studs and I-Beams in timber frame external walls where preservative protection is required to meet the latest standards. A novel in-line application system allows the VACSOL Aqua preservative to provide a fast, efficient and effective protection to these particular timber frame components.

Use Class **1/2**
Designed for I-Studs and I-Beams.

Fire Retardant Treated Timber

STANDARDS



DRICON fire retardant treated timber and sheet material has been high pressure impregnated with DRICON, a Type HR (humidity resistant) fire retardant formulation, and kiln dried to a specific moisture content. DRICON fire retardant treated timber and sheet material is suitable for interior and weather protected (with a well maintained decorative coating) exterior situations. It is the only industrial fire retardant treatment for timber with BBA (British Board of Agrément) approval.

The treatment does not significantly alter the appearance of the timber.

Euroclass B & C in accordance with BS EN 13501-1.
BS 476: Part 6 'Fire Propagation Test' & Part 7 'Surface Spread of Flame Test'.



NON-COM Exterior fire retardant treated timber and sheet material has been high pressure impregnated with NON-COM Exterior, a Type LR (leach resistant) fire retardant formulation, and then kiln dried and heat cured to a specific moisture content. NON-COM Exterior fire retardant treated timber and sheet material is suitable for exterior or severe damp situations. A decorative coating is not required for NON-COM Exterior treated timber in exterior applications.

The treatment does not significantly alter the appearance of the timber.

Euroclass B & C in accordance with BS EN 13501-1.
BS 476: Part 6 'Fire Propagation Test' & Part 7 'Surface Spread of Flame Test'.
BS 476: Part 3 AA/P60 'Roof Penetration Test'.



VACSOL FR treated timber has been low pressure impregnated involving a two stage process to provide timber frame components with a fire retardant protection during the construction phase of a building, as well as a long term preservative protection once the construction has been completed.

The treatment does not significantly alter the appearance of the timber.

60 year desired service life preservative protection to BS 8417.

Modified Timber **NEW PRODUCT**



KEYWOOD is the latest generation of modified timber. Using a resinification process, a biomass based resin is used to modify the finest quality Radiata Pine. The process also involves raised temperature curing to thermoset the resin within the timber structure.

Ideal for cladding, decking, joinery, flooring and furniture applications.



KEYWOOD has an improved dimensional stability and enhanced mechanical properties, and delivers a provisional Durability Class rating that will provide a 60 year desired service life in above ground, outdoor use (Use Class 3) applications without the need for a coating. Whilst the use of KEYWOOD is not restricted to Use Class 3 situations, this is its main application. KEYWOOD can also be utilised for the manufacture of indoor building components. Ideal applications therefore include cladding, decking, joinery, flooring and furniture.

KEYWOOD has a consistent and appealing brown colouration which blends with both outdoor and indoor surroundings.

Timber is the most environmentally friendly and sustainable construction material available.

Unique timber protection

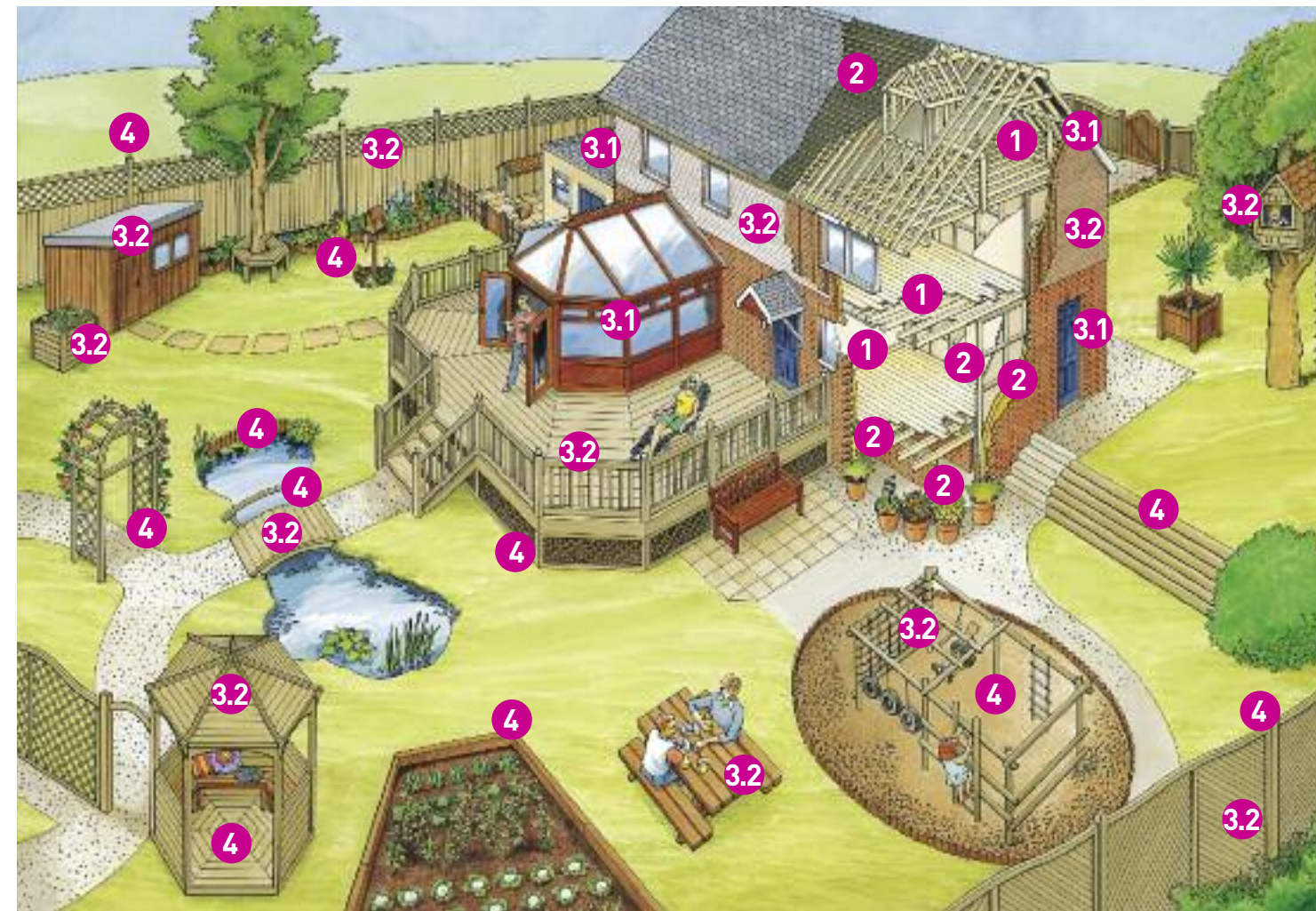
A Choice of Preservative Treated Timber

The following information highlights the importance of Use Classes to determine the correct choice of preservative treated timber to meet the protection requirements of the timber's end use. Use Classes are defined in the European Standard BS EN 335. The range of preservative treated timbers shown in the illustration is not exhaustive and if your required timber component is not highlighted, please contact Arch for further advice.

Ready treated stocks of TANALISED E and TANATONE pressure treated timbers, together with specific treatments for VACSOL AQUA, TANALISED CLEAR and TANALISED EXTRA treated timbers are available through a wide network of timber companies and treaters throughout the UK and Europe.

What is special about Use Class 4?

Timbers destined for USE CLASS 4 situations will be permanently exposed to wetting in either ground or fresh water contact – one of the most challenging environments for timber. It is therefore even more important to specify and treat correctly to meet either the 15 or 30 year desired service life specification available. Whenever you are specifying or purchasing preservative treated timber for in ground or water contact end uses, **make sure it's treated to Use Class 4!**



make sure it's



Use Classes and Preservative Treated Timber

USE CLASS	USE SITUATIONS	PRINCIPAL BIOLOGICAL AGENCY	TYPICAL SERVICE SITUATION	TYPICAL EXAMPLES	RELEVANT ARCH PRESERVATIVE TREATMENTS FOR EACH USE CLASS			
1	Above ground, covered. Permanently dry. Permanently less than 18% moisture content	Insects	Internal with no risk of wetting or condensation.	All timbers in normal pitched roofs except tiling battens and valley gutter timbers. Floor boards, architraves, internal joinery, skirtings. All timbers in upper floors not built into solid external walls.	VACSOL AQUA	TANALISED E		
2	Above ground, covered. Occasional risk of wetting. Occasionally more than 20% moisture content.	Fungi Insects	Internal with risk of wetting or condensation.	Tiling battens, structural timbers in timber frame houses†, timber in pitched roofs with high condensation risk, timbers in flat roofs, valley gutter timbers, ground floor joists†, sole plates (above dpc), timber joists in upper floors built into external walls.	VACSOL AQUA	VACSOL AQUA LINE	SPECIAL APPLICATION I-Studs/I-Beams	TANALISED E
3.1	Above ground, not covered. Exposed to frequent wetting.	Fungi	External, above damp proof course (dpc) – coated .	External joinery including roof soffits and fascias, bargeboards, cladding.	VACSOL AQUA	Exterior woodwork should be subsequently protected with a maintained and appropriate surface coating.	TANALISED CLEAR	TANALISED E
3.2	Often greater than 20% moisture content.	Fungi	External, above damp proof course (dpc) – uncoated .	Fence rails, gates, fence boards, garden timbers, cladding, deck boards and balustrades, agricultural timbers not in soil/manure contact.	TANALISED CLEAR	TANALISED E	TANALISED EXTRA	TANATONE
4	In contact with ground or fresh water. Permanently exposed to wetting. Permanently above 20% moisture content.	Fungi	Soil contact. Timbers in permanent contact with the ground or below dpc. Fresh water contact. Timbers in permanent contact with fresh water. Cooling tower timbers.	Fence posts, gravel boards, deck support timbers, agricultural timbers in soil/manure contact, poles, sleepers, garden timbers. Lock gates, revetments. Cooling tower packing (fresh water).	TANALISED E	TANALISED EXTRA	TANATONE	
AQIS	Packaging Timbers in cargoes to Australia	Fungi	External uncoated timbers	Pallet and packaging timbers in accordance with Australian standards AS1604.	TANALISED E			

† These timbers are assigned to a higher Use Class than suggested by their location in the structure of a building, owing to the potential consequences of failure based on experience within the UK.

British and European Standards

One of the 'Essential Requirements' of the Construction Products Directive (CPD) 89/106/EEC states that building products covered in the scope of the CPD should exhibit adequate 'Mechanical Strength and Stability' throughout their design life.

A clear legal onus is therefore on the designer of any structure encompassed by the CPD to take the necessary measures to ensure that the materials specified are of sufficient strength and stability to fulfil these requirements and therefore the need arises to apply the appropriate timber preservative protection to wood.

Whilst the designer/specifier continues to have considerable freedom in the choice and use of preservative protection, their duty to safeguard the mechanical strength and stability of the structure is explicit.

Following are the principal documents, British and European Standards and national specifications currently covering wood preservation, which provide more detailed information to the designer/specifier. Also listed are the key documents and British and European Standards relating to fire protection of timber.



Specification clauses are available to download from the NBS Plus Product Selector - www.nbsplus.co.uk.

PRESERVATION

WPA Manual

The Wood Protection Association (WPA) publishes a manual which contains information on products suitable for the industrial preservative pre-treatment of timber. This manual largely mirrors BS 8417 but also includes commodity codes covering specific timber products.

BS 8417

Provides recommendations and guidance for the preservative treatment of timber to provide protection against biodeterioration in certain specified end use situations in the United Kingdom.

BS EN 599

Defines the formal efficacy assessment procedures by which the performance of wood preservatives can be evaluated.

BS EN 351

Part 1 governs the classification of retention and penetration of wood preservatives as used in BS 8417. Part 2 provides guidance on sampling for the analysis of preservative treated wood.

BS EN 350 (Part 2)

Gives information about the 'natural durability' of named wood species.

BS EN 335

Describes and classifies the many situations in which wood may be used into Use Classes.

Highways Agency

Specification for highways works clause 311.

National Building Specification Z12

Preservative/fire retardant treatments.

National House Building Council (NHBC) Standards, Chapter 2.3

Timber Preservation (Natural solid timber).

Zurich

Refer to British Standards for timber preservatives, chiefly BS 8417.

FIRE PROTECTION

WPA Manual

The Wood Protection Association (WPA) publishes a manual which contains information on product types suitable for the industrial fire retardant treatment of solid timber and panel products.

BS EN 13501-1

Defines the formal reaction to fire performance assessment procedures by which fire retardant treated materials are evaluated and graded with a European classification.

prEN 15912

Draft European standard which classifies durability of reaction to fire performance of fire retardant treated wood based products in interior and exterior end use applications.

BS 476 Fire Tests on Building Materials and Structures

BS 476 Part 3 - Classification and method of test for external fire exposure to roofs.

BS 476 Part 6 - Method of test for fire propagation for products.

BS 476 Part 7 - Method of test to determine the classification of surface spread of flame of products.

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