



Exclusively By



# A Giant Step Forwood

in timber windows,  
doors and conservatories

# The Gold Standard in Wood Modification

Accoya® is the result of more than 75 years of research and development on wood acetylation. The commercial launch of Accoya® creates the gold standard in high performance, sustainable timber which creates joinery products that will outlast and outperform others.



Beautiful Timber - Exceptional Performance

# Major Benefits to Consumers

- High performance timber windows, doors and conservatories
- Class 1 durability
- Minimal coating maintenance required
- Highly sustainable
- Only naturally occurring wood compounds are added during the wood modification process
- Peace of mind with credible and robust guarantees



## 60 Year Life Expectancy

- Minimum 60 year life expectancy backed by BRE and supported with a 50 year guarantee.



## Environmentally Friendly

- Wood is the most environmentally friendly building material available.



## Exceptional Coatings Performance

- Up to 12 year guarantee for an opaque (paint), fully factory applied coating system to first brush applied planned maintenance, up to 10 year for translucent (stains)\*.



## 100% Non-Toxic

- Accoya® is non-toxic. The only addition to Accoya® is naturally occurring acetyl groups. Pine has 2%, Oak has 4% and Accoya® has 20%.



## Stability

- Accoya® is guaranteed to shrink and swell less than any other joinery timber - making windows and doors open effortlessly all year round.



## Rot Resistant

- Accoya® achieves the highest possible British Standard durability rating - Class 1.



## Complete Protection

- Accoya® wood modification process is all the way through to the core of the timber.



## Credible Guarantees

- The guarantees offer peace of mind on durability, stability, longevity and coating performance.



## Sustainable

- Accoya® timber is sourced from managed, sustainable sources.



## Premium Manufacturing

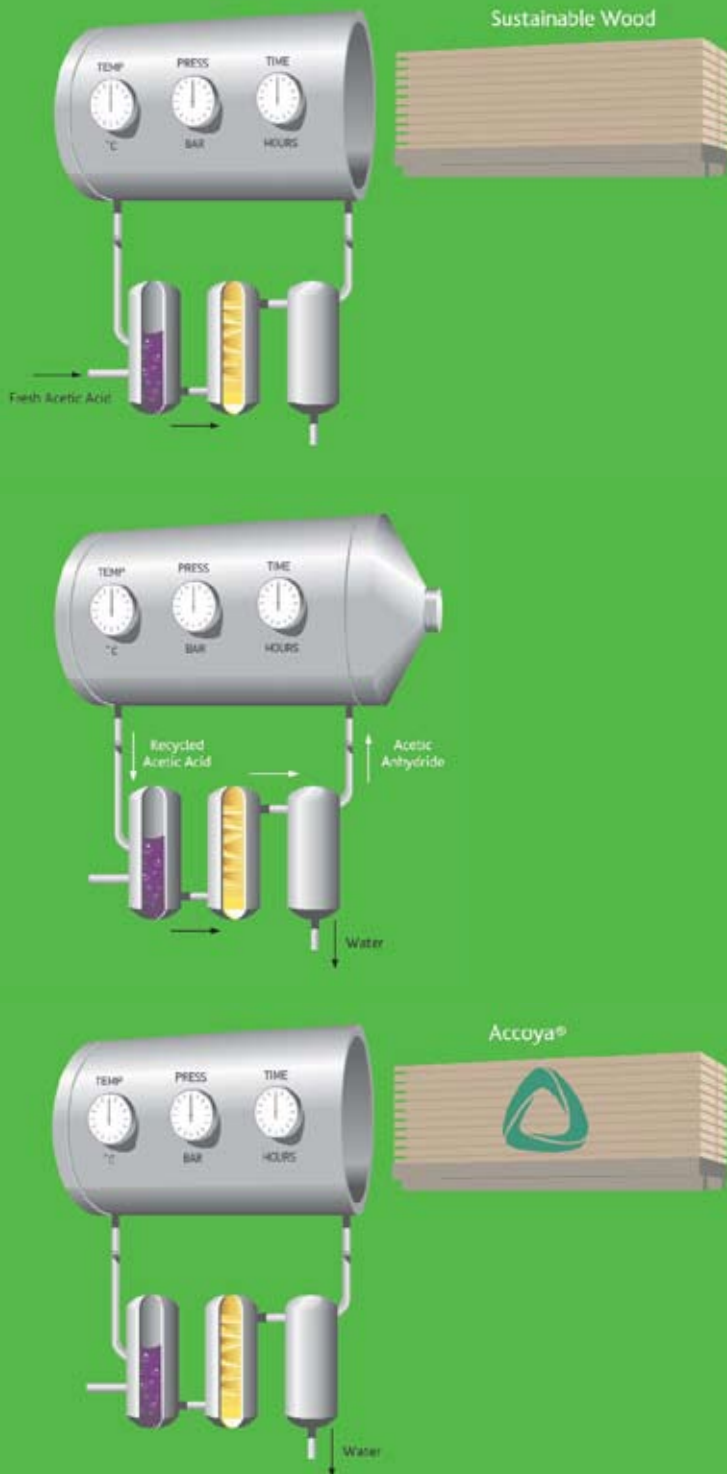
- High quality manufactured windows, doors and conservatories available from premium joinery companies throughout the UK.

\*For more information on coatings performance please visit [www.bswaccoya.co.uk](http://www.bswaccoya.co.uk)

Long Life and Low Maintenance

# The Accoya® Production Process

Accoya® raises the standards and reliability of timber windows, doors and conservatories to new levels with a 50 year guarantee against rot and decay. Accoya® has properties that surpass those of the best tropical hardwoods, yet is manufactured using a non-toxic wood modification process and timber from sustainable sources.



## Stage 1

Radiata pine is used for Accoya® production. The sustainable plantation involves pruning of the branches up to a height of 6 metres. Clear, knot-free timber is normally only available from old growth boreal or tropical rainforests. Pruning, along with finger jointing, allows us to provide more sustainable, clearer grade timber.

## Stage 2

Wood is prepared for the modification vessel by separating the layers with fillets. These fillets are designed to allow optimum circulation and facilitate complete cross sectional modification of the timber.

## Stage 3

To produce Accoya®, the acetic anhydride reacts with and blocks the chemical components of wood which normally absorb water and moisture. This is a closed loop process where the residual materials are recycled and used for subsequent modifications.

## Stage 4

Accoya® is removed from the modification tank. Only naturally occurring wood components have been added to Accoya® in this process. The wood resists rot, decay and swelling by resisting moisture absorption.

Revolutionary Wood Modification Process

# Achieving a New Standard in Joinery Timber Products

Accoya® is the result of more than 75 years of research and development that have brought together a long established acetylation wood modification technique, and cutting edge technology to create a high performance timber product.

## GUARANTEED TO LAST 50 YEARS



The picture above shows extensive "graveyard" field trials over a 10 year period which demonstrates Accoya® Class 1 durability rating which exceeds some of the worlds most durable timber species, including Teak.

## LOW MAINTENANCE



The picture above shows extensive field trials over a 10 year period that prove Accoya® has excellent coatings compatibility. The field testing has been undertaken for 10 years on south facing stands at 45° angles to demonstrate that Accoya® can offer market leader paint warranties in the most severe elevations.

## ROT RESISTANT TIMBER



The picture above shows a 10 year outdoor field test of Scots Pine and Accoya® with a translucent coating. The picture demonstrates that Accoya® is durable, rot and UV resistant, easily maintained and has exceptional coatings performance.

50 Years Life Guarantee against Rot and Decay

# Market Leading Joinery Products

Extensive laboratory and field testing by leading research institutes around the world (including New Zealand Forest Research Institute, University of Wales, Imperial College London, The US Department of Agriculture and several institutes in Europe and Japan) has shown the performance of acetylated wood to be extremely reliable.

Accoya® has been thoroughly tested for dimensional stability, durability, UV resistance, paint retention and in-ground conditions to guarantee maximum performance. Indeed, it is so reliable that for many years it has been and continues to be used by scientists as the benchmark against which other treatments and modification techniques are measured.

Decades of high quality scientific work are now at the forefront as acetylated wood is brought to the market for the first time in the Accoya® wood modification process. Compare Accoya® to traditional timbers in the tables below.

Excellent performance across the board

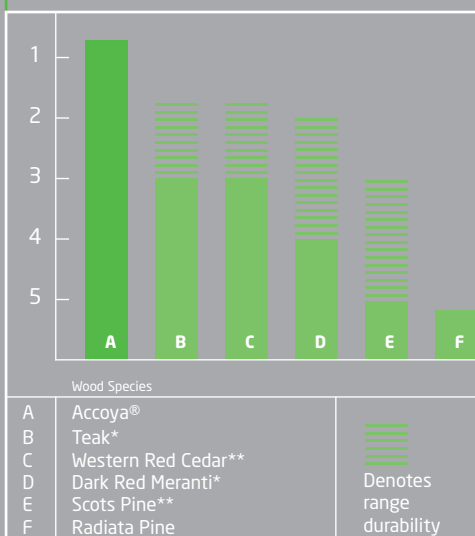
WOOD SPECIES	Durability/ Class † (1 = highest)	Janka Hardness Newton ††	Bending Strength †† N/mm <sup>2</sup>	Radial & Tangential Swelling between 60-90% RH	Tangential Shrinkage between 60-90% RH
<b>Accoya®</b>	<b>1</b>	<b>3950</b>	<b>80</b>	<b>0.4</b>	<b>0.7</b>
Scots Pine	4	2900	80	1.0	2.4
Western Red Cedar	2 to 3	1450	55	0.5	1.2
Dark Red Meranti (DRM)	2 to 3	4300	90	0.9	1.8
Sapele Mahogany	3	6700	105	0.9	1.2

Comparison of the technical specifications of different wood species and Accoya®.

† Based upon classification by EN350. Durability Class 1 corresponds to a 60-year service life in applications such as windows, doors, balconies and cladding in the British Standard recommendation BS 8417.

†† Janka Hardness and Bending Strength are based on wood conditioned at 65% RH and 20°C. Values for all values are heavily influenced by local growth conditions.

## Durability Comparison

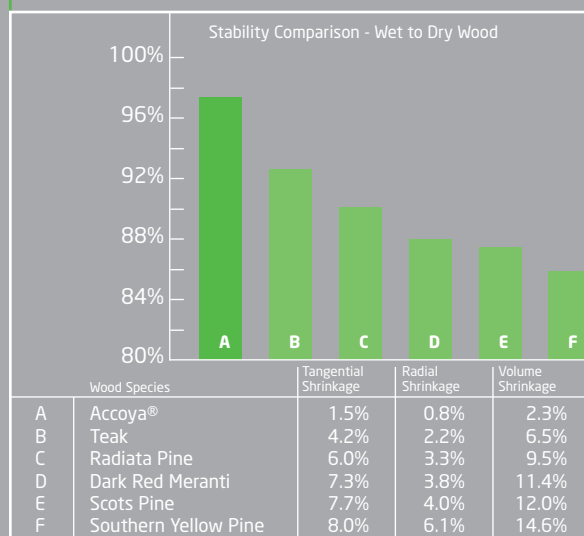


EN350-2. Classification Tests: EN113, EN252, ENV807

\* Range caused by variability of species

\*\* Range caused by difference between Heartwood and Sapwood.

## 75% Less Shrinkage and Swelling



N.B. this graph shows the maximum swelling and shrinkage from fully soaked to oven dry (the most extreme laboratory test). The main data table shows instability in more normal weather conditions (with simulated humidity varying between 60 and 90 percent).

**Class 1 Durability and Maximum Stability**

# Accoya® is More Cost Effective

The whole life costing model was developed by the Paint Advisory Bureau Ltd in October 2006. It demonstrates that Accoya® is more cost effective over its life span of 60 years than windows produced from PVC, Hardwoods and Softwoods.

Accoya® provides a sustainable option with absolutely no sacrifice in longevity or coatings maintenance.

## Whole Life Cost Model - Summary of Results

Window Type	No. of Units	Whole Life Cost (NPV)	Evaluation Period	Initial Cost	Maintenance Interval	Window Life	Maintenance Escalation Factor	Discount Rate
Laminated Red Wood - Paint finish	15	£12,519	60 years	£6,797	6 years	30 years	10%	2%
Saple - Paint window	15	£15,642	60 years	£8,809	6 years	30 years	10%	2%
Laminated euro oak - Paint finish	15	£20,710	60 years	£12,075	6 years	30 years	10%	2%
Accoya® - Paint finish	15	£8,875	60 years	£7,862	10 years	60 years	10%	2%

# Market Leading Guarantees

Accoya® offers market leading timber joinery guarantees for life expectancy, durability and maintenance to give exceptional performance in windows, doors, conservatories and cladding.



## 50 YEAR LIFE GUARANTEE

Accoya® has an excellent performance life which is guaranteed to be rot free for 50 years minimum and be more stable than any other joinery timber.



## BRE BACKS ACCOYA® WITH 60 YEAR LIFE

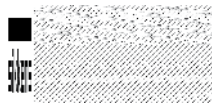
"We consider that a window prepared from a permeable timber species that is acetylated through the cross section to 20% WPG, will show significantly improved coatings performance properties. If the window is designed and built to the principles of best practice, installed by competent contractors and linked to the Sikkens Sentinel Plus® coated wood care and planned maintenance package it will provide a window of outstanding durability and dimensional stability that would meet a 60 year service life requirement."

Dr E D Suttie, *Director of BRE*



## 100% NON-TOXIC

Extensive research from SHR Institute, Netherlands demonstrates that Accoya® is non-toxic, protecting the environment from the harmful effects of poisons leaching into the earth. Accoya® may be safely reused and recycled.



## EXCEPTIONAL COATINGS PERFORMANCE

Sikkens offer their longest warranties yet with Accoya®



## 30 YEAR GUARANTEE

30 year guarantee in conjunction with the Sikkens Sentinel Plus Wood Maintenance Protection Programme.



## UP TO 12 YEAR GUARANTEE

Up to 12 year guarantee for an opaque (paint), fully factory applied coating system to first brush applied planned maintenance.



## UP TO 10 YEAR GUARANTEE

Up to 10 year guarantee for a translucent (wood stain), fully factory applied maintenance coating system to first brush applied maintenance.

For more information on guarantees and coatings performance please visit [www.bswaccoya.co.uk](http://www.bswaccoya.co.uk)



# Bespoke Quality

Boyland Joinery Limited have been manufacturing and installing high performance timber windows and doors since 1961. Popular with architects, developers, contractors and private clients, Boyland Joinery offer a versatile range of quality assured products from its factory on the edge of the New Forest.

To give our customers piece of mind we ensure our accreditation is from well know trade bodies, these being, The British Standards Institute (BSI) Kitemark, The British Woodworking Federation (BWF), The timber window accreditation scheme (TWA), The wood window alliance (TWA), Association of Chief police officer crime prevention initiative (ACPOCPI) Secure by design and we are also FENSA, Fair Trade and Construction Line registered.

Our Portfolio of products encompasses high performance flush fitting casement windows, stormproof casement windows, traditional casement windows, high performance sliding sash windows, traditional weights and cords sash windows, fully reversible windows, pivot windows. Pre hung French casement doorsets, entrance doorsets, patio sliding and bi fold doorsets.

Boyland Joinery Limited are one of a few leading joinery companies who offer a professional site fixing service. We will co-ordinate delivery and installation to the agreed programme working to our high standards, thus ensuring our window guarantee is not compromised by unqualified fitters. We arrange FENSA inspections negating the need for building regulation approval. This all to relieve you of any concern and provide peace of mind for you, our customer.

To ensure we tend to your instruction efficiently, we have a superbly skilled team of technical surveyors, CAD designers, Estimators, Fitters and thirty five skilled joiners and wood machinists, blending modern technologies with traditional craft. To ensure we carry out your work to the highest standard and deadline.



[www.boylandjoinery.co.uk](http://www.boylandjoinery.co.uk)

# Bespoke Quality Timber Windows

Whether you wish to replace your existing windows, or designing a new project, Boyland Joinery Limited can manufacture a range of windows to meet your needs.

## SASH WINDOWS



## CASEMENT WINDOWS



## CONTEMPORARY



[www.boylandjoinery.co.uk](http://www.boylandjoinery.co.uk)

# Bespoke Quality Doorsets

The doorway to your house is not only a security and weather barrier from the outside world, it gives the first impression of your home. Boyland Joinery Limited can supply doors and frames of any size and configuration to suit your project.





Exclusively By



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