



Exclusively By  
**BSW Timber**



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# A Giant Step Forwood

in Secured by Design  
Doorsets and Windows

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

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# 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.

# Major Benefits to Consumers

- High performance timber windows and doors
- 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\*.



**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.

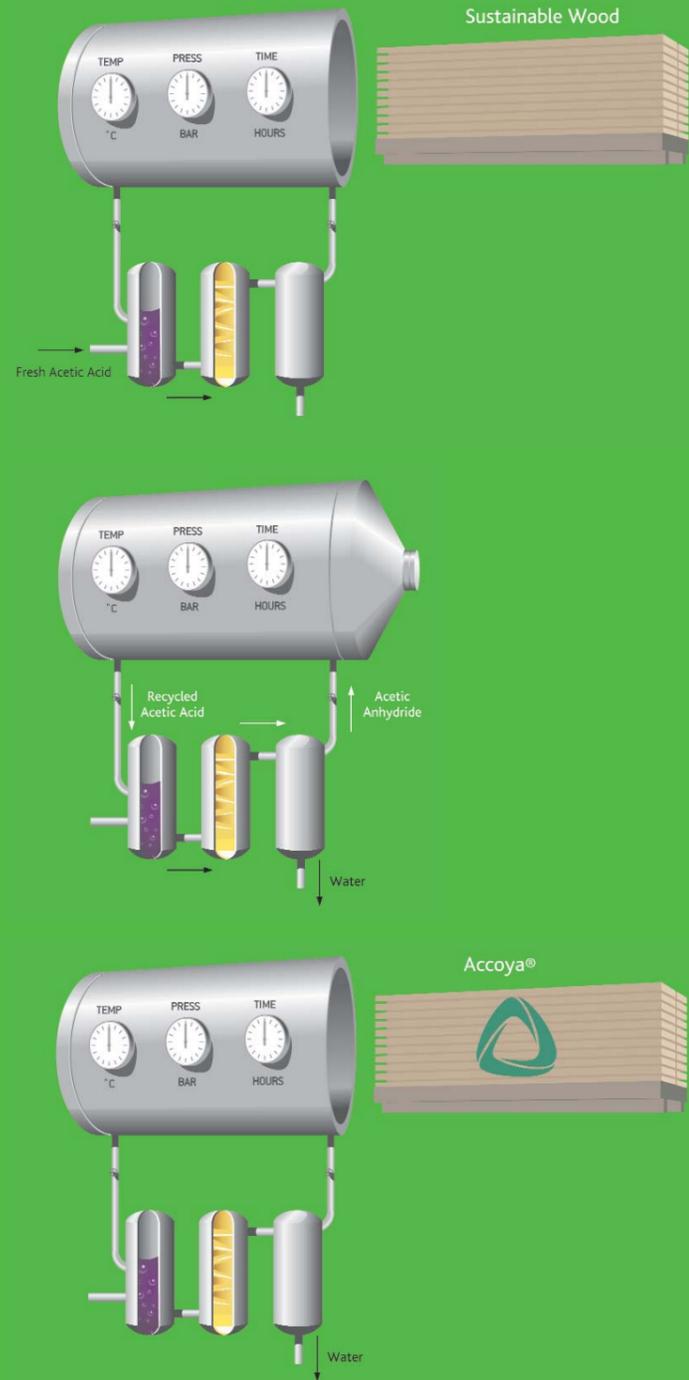
\*For more information on coatings performance please visit [www.bswaccoya.co.uk](http://www.bswaccoya.co.uk)

Beautiful Timber - Exceptional Performance

Long Life and Low Maintenance

# The Accoya® Production Process

Accoya® raises the standards and reliability of timber windows and doors 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

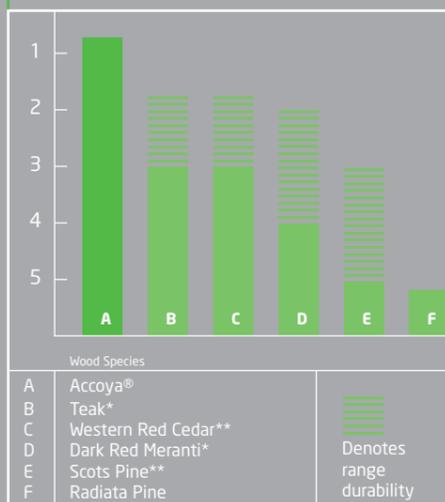
WOOD SPECIES	Durability/ Class † (1 = highest)	Janka Hardness Newton ††	Bending Strength †† N/mm²	Radial & Tangential Swelling between 60-90% RH	Tangential Shrinkage between 60-90% RH
<b>Accoya®</b>	<b>1</b>	<b>3950</b>	<b>80</b>	<b>0.4</b>	<b>0.7</b>
Scots Pine	4	2900	80	1.0	2.4
Western Red Cedar	2 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.

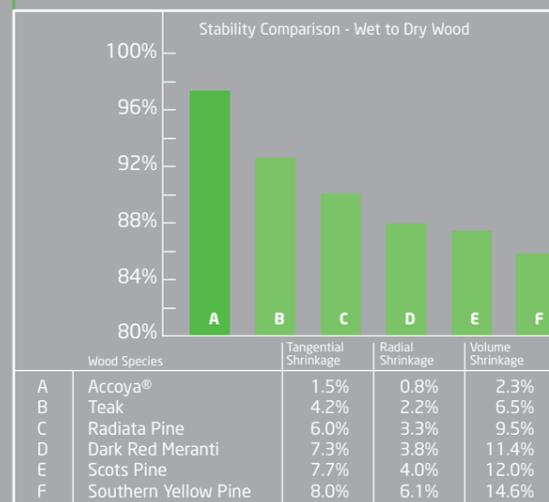
†† Janka Hardness and Bending Strength are based on wood conditioned at 65% RH and 20°C. Values for all values are heavily influenced by local growth conditions.

## 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).

# 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: PVC and Softwood Compared to Accoya®

Window Type	No. of Units	Whole Life Cost (NPV)	Evaluation Period	Initial Cost	Maintenance Interval	Window Life	Maintenance Escalation Factor	Discount Rate
Softwood window - paint finish	1	£634*	60 years	£358	8 years	30 years	10%	2%
PVCu window	1	£959	60 years	£330	1 years**	40 years	0%	2%
Accoya® window - paint finish	1	£541	60 years	£500	12 years	60 years	10%	2%

The whole life cost model is sensitive to project specific input data. This model example has been produced with default data provided by the Paint Advisory Bureau. BSW Timber are happy to share the default data or run the model to produce project specific reports in consultation with interested parties.  
 \*Many softwood windows require painting and rot repair more frequently than the periods used in this example. These cause dramatic increases in whole life cost.  
 \*\*Required cleaning of PVC surfaces.

Whole Life Cost Model: Hardwood Compared to Accoya®

Window Type	No. of Units	Whole Life Cost (NPV)	Evaluation Period	Initial Cost	Maintenance Interval	Window Life	Maintenance Escalation Factor	Discount Rate
Hardwood window - stain finish	1	£880*	60 years	£487	5 years	35 years	10%	2%
Accoya® window - stain finish	1	£547	60 years	£500	10 years	60 years	10%	2%

The whole life cost model is sensitive to project specific input data. This model example has been produced with default data provided by the Paint Advisory Bureau. BSW Timber are happy to share the default data or run the model to produce project specific reports in consultation with interested parties.  
 \*Many hardwood windows require painting and rot repair more frequently than the periods used in this example. These cause dramatic increases in whole life costs.

# Market Leading Guarantees

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

60  
YEAR  
SERVICE LIFE

## 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*

50  
YEAR LIFE  
GUARANTEE

## 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.



## EXCEPTIONAL COATINGS PERFORMANCE

Sikkens and Teknos offer their longest warranties yet with Accoya®

12  
YEAR LIFE  
GUARANTEE

## 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.

10  
YEAR LIFE  
GUARANTEE

## 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)

# JCK Joinery Doors

At JCK Joinery our quality is second to none, combining quality craftsmanship with the latest machinery to produce a cost effective, high quality product for our customer.

Our extensive range of doorsets can be tailored to suit a wide variety of projects, our flexibility means that we can take any design or concept from a customer and carry the project through to manufacture.



BESPOKE DOORSET WITH SIDELIGHTS AND STOREY FRAME



SECURED BY DESIGN WITH STAINED GLASS DESIGN



BESPOKE DOUBLE DOORSET WITH STOREY FRAME



SECURED BY DESIGN DOUBLE DOORSET & SIDELIGHTS



CUSTOM DESIGN DOORSET & WINDOWS

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



# JCK Joinery Doors

A Leicester based company with roots dating back to 1830. We pride ourselves on our extensive knowledge & service, which our customers have come to rely on.

## RESEARCH

There is on-going research and development in our specialist field Secured by Design (SBD). We are constantly striving to produce new SBD products and by keeping in touch with our customers requirements and working to meet their needs we find success.



## OUR PHILOSOPHY

Quality workmanship and technical competence demonstrated by our investment in training and apprenticeships, which produce a highly skilled workforce, with years of experience in our specialised products.

## RESOURCES

We have a modern fully equipped workshop including CNC capability, ensuring fast delivery of competitive, quality bespoke products.



SECURED BY DESIGN INTERNAL AND EXTERNAL FLAT ENTRANCE DOORSETS

# JCK Joinery Doors



ACCESS CONTROL DOORSET, SIDELIGHT WITH BONDED BARS



SECURED BY DESIGN ACCESS CONTROL DOORSET



ACCESS CONTROL DOORSET AND SIDELIGHT

## SECURED BY DESIGN TESTING AT CHILTERN DYNAMICS



JCK has undertaken a great deal of development and research in Secured by Design and can provide security doorset for most applications. JCK have also been accredited with Chain of Custody and can supply both FSC and PEFC products



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