WOODfocus

ISSUE NO. 5 AUTUMN 2001

The magazine of the Institute of Wood Science

EXTRACTS FROM THE PRESIDENTS ANNUAL REPORT

I would like to thank all those people who support, voluntarily, council meetings as well as the various committees. Cost savings have been achieved by reducing the number of council meetings with a greater emphasis now on better communication between meetings by telephone, e-mail etc. This has already led to more effective decision-making and a quicker response time. I am especially pleased to report the greater utilisation of skills and expertise from around the council table. For too long much has rested on the shoulders of too few people.

The President, Geoff Bagnall (centre) discusses the new Foundation Course in Timber with the Vice Presidents, Jim Coulson (left) and Dr Vic Kearley (right)

Considerable effort has gone into drafting a major new course, The Foundation Course in Timber, which we have developed in consultation with the Timber Trade Federation, the Timber Industry and IWSc members. This much-needed course fills a gap in training for anyone, regardless of age, new to the timber industry. Successful completion of the course leads to The Timber Studies Award. The course was launched in July 2001 and the initial uptake is extremely encouraging with more than 30 students registered within the first month. Students can then progress to the Institute's Certificate Course and we hope that the numbers for this course will, as a result, show a marked increase.

The Institute has entered into two partnership arrangements, both concerning E-learning. We are a collaborative partner with TRADA, who have been successful in securing funding for a study of E-learning for Continued Professional Development (CPD). Likewise, we will, subject to securing funding from the European Union, be working with the University of Salford, Buckinghamshire Chilterns University College, Pirkanmaa Polytechnic (Finland) and Eurofortech (Ireland) to develop our own courses for tuition by E-learning. Both are exciting opportunities that will help us to remain at the forefront of training and education within the wood industries.

It is eighteen months since the 2000 Conference in Chichester. Wood 2001 took place in Liverpool on 27th-29th September and will be reported in the Winter issue of the Journal. Arrangements are already underway for Wood 2002, with Cardiff the proposed location.

What does the future have in store for us? Well, we must continue to be forward thinking, creative in our outlook and address change more positively in order to remain attractive to existing and potential new members. Also, we need to provide value for money and an efficient service so that membership is perceived as relevant and beneficial. With the decline in branch activities we will need to develop other ways of serving and communicating with the membership. For example, as well as the Journal and Woodfocus, we intend to make better use of electronic technology. This will involve greater investment in our website.

As already stated, we have the opportunity to remain at the leading edge of training and education. At the very least, we should aim to be the first point of contact for anyone wanting information.

Geoff Bagnall CMIWSc
President
September 2001

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CONTENTS

Did that wood really come from cedar (Cedrus sp.)?

Chuck Holder, Calgary, Alberta. Vice President of the International Wood Collectors Society

In the UK we are not alone in the culture of applying a well known timber name to woods that may, to varying degrees, have some similarities. Often such names, Phillipine mahogany, (auan) or African teak (iroko) have marketing overtones. Equally the use of "false" names can, at times, be both confusing and to the disadvantage of the user of the wood.

Warming to the introduction of Chuck Holder's article, printed below, I too came back from Italy recently with a remarkably fine sample of Italian Cypress (Cupressus sempervirens) but for the rest, the range of timber, both hardwood and softwood, which have been referred to as Cedar that Chuck has unearthed is quite remarkable – read on!
(David Woodbridge, Editor)

Recently, when a friend returned from Italy with a beautiful piece of "cedar" grown in the Naples area, I wondered aloud: "Is that really cedar?" It was a light, creamy-tan colour, had ½ inch (12 mm) wide growth rings and, when cut, emitted a delightfully spicy aroma.

It was unlike any North American "cedar" with which I was familiar — eastern red cedar, eastern white cedar, Alaska-or yellow cedar, Port Orford cedar, western red cedar. Nor was it anything like the "red cedar" or "toon" encountered in my Australian travels.

Little did I know, until I hit the books, that all "cedars" I knew were just "wannabes" and what my friend brought home from Italy was, indeed, the real thing. It really was a true cedar, and a descendent of the cedar trees that formed the pillars of King Solomon's temple in Israel.

Like "ironwood" and "redwood," "Cedar" is a name applied to many different trees and their wood, and it means many things to different people.

There are many "cedars" with such compound or modified names as red, yellow and white cedar, cigarbox cedar, Atlas cedar, shingle cedar, pencil cedar — you get the picture.

To confound the issue, some woods dubbed "cedar" are not even softwoods or conifers but belong to the hardwoods, that large angiosperm division within the Plant Kingdom.

This web of unrelated "cedars" likely stems from the fact that many "new world" woods had some similarities to the "old world" cedars, with which the New World settlers were familiar in terms of the woods' characteristics and, particularly it seems, in terms of their odour.

"True" and other cedars

Botanically and taxonomically speaking, the only true cedars belong to the genus *Cedrus*, itself a member of the great pine family, Pinaceae. To be fair, a few other woods called "cedar" are generic relatives in the same family. But most belong to other coniferous families, and many are not conifers but are hardwoods.

There are only four species of true cedars belonging in *Cedrus*. Some botanists would say there is only one species, and the others are varieties or subspecies of this major one.

The original cedar of biblical stature is *Cedrus libani*, cedar of Lebanon. It is native to Asia Minor, and mentioned in the Bible as the wood that formed the pillars of King Solomon's temple.

A "sister" species (or, perhaps, subspecies or variety) is *Cedrus atlantica*, Atlas or Atlantic cedar, a native of north Africa and now widely cultivated in the Mediterranean area. Another is *C. brevifolia*, Cyprus cedar; and the fourth is *C. deodara*, the deodar cedar of the Himalayan Mountains and the Indian subcontinent. The latter is an important timber tree in India, sometimes reaching 12m (39 feet) in girth (i.e., 12 feet in diameter).

Other coniferous cedars

While by no means exhaustive, the following reviews other "cedars" of which many woodworkers, wood crafters and wood collectors will be familiar, and perhaps a few of which many readers have never heard.

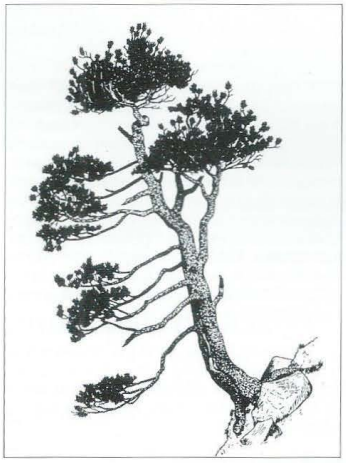
The genus *Thuja*, known as arborvitae to gardeners, includes five species of important timber trees. Probably the most important is *T. plicata*, western red cedar, shingle cedar, canoe cedar, etc., of western North America; also *T. occidentalis*, northern white cedar of eastern North America.

Another "cedar" within the pine family is *Pinus cembra*, known variously as Swiss stone pine, Italian pine tree, Siberian cedar or *cirmolo*. The list continues!

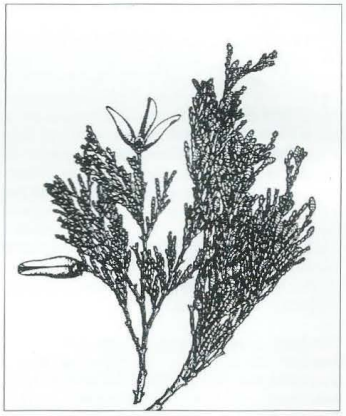
From the cypress family (Cupressaceae): *Austrocedrus chilensis*, Chilean cedar; *Calocedrus decurrens* syn. *Libocedrus decurrens*, incense or white cedar of the western USA and northern Mexico; *Chamaecyparis lawsoniana*, Port Orford cedar, *C. nootkatensis*, Alaska or yellow cedar of western coastal North America; and *C. thyoides*, Atlantic white cedar of eastern North America.

In addition: *Juniperus proceria*, the East African cedar; *J. bermudiana*, Bermuda or Barbados cedar, and the well known *J. virginiana*, eastern red cedar, pencil cedar, etc., of the eastern USA, and *J. ashei*, Mexican or mountain cedar of Mexico and the southwestern USA.

Branchlet of western red cedar (*Thuja plicata*). Except for size and range, its cones, leaves, wood and other features differ little from northern white cedar (*T. occidentalis*).



Swiss stone pine (*Pinus cembra*)



Branches of incense cedar (*Calocedrus decurrens* syn. *Libocedrus decurrens*) of the Cupressaceae; fruiting branch shown at left.

There are many other junipers that go through life as "cedars." On the lesser known side of the cypress family, we have *Widdringtonia cedarbergensis,* Clanwilliam cedar from southwestern Cape of Africa; *W. whytei* syn. *Callitris whytei* and *W. nodiflora,* mulange cedar, persistently fragrant woods of southern tropical Africa.

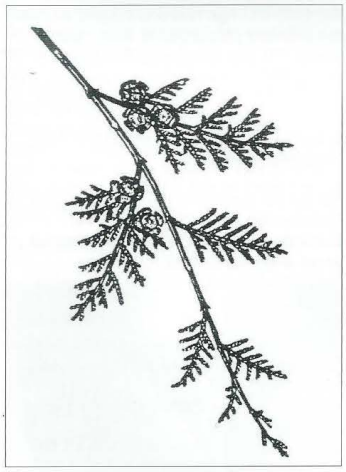
From the redwood family, Taxodiaceae, comes *Cryptomeria japonica,* Japanese cedar or sugi, an important and widely used timber tree in Japan.

The yew family, Taxaceae, is represented by *Torreya taxifolia,* stinking cedar or Florida torreya, an endangered species with a limited range in Florida and Georgia. The uninviting name results from the fetid odour given off by its leaves (needles) when freshly crushed.

Hardwood "cedars"

Not to be left out of the "cedar" vernacular, several hardwood species have been so named. Many of these species are found in the mahogany family, Meliaceae.

Examples from Meliaceae are *Cedrela*

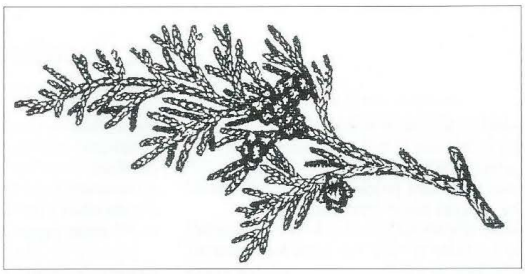


Fruiting branch from tree of Port Orford cedar (*Chamaecyparis lawsoniana*)

odorata, Spanish cedar, also called cigar box cedar because it is the wood of choice to line humidors; *Chukrasia tabularis,* white cedar or Burmese almondwood of southeast Asia, harvested for its timber, and *Soymida febrifuga,* bastard cedar or Indian redwood, a timber used for building in India.

Other Meliaceae are *Melia azedarach* syn. *Azadirachta indica,* a "white cedar" known as chinaberry, native to China and from southeast Asia to Australia; and *Toona ciliata,* red cedar or toon, the workhorse or perhaps thoroughbred of Australian furniture timbers, native to that country and found throughout southeast Asia.

Another "white cedar" is *Tabebuia insignus,* a member of the trumpet creeper or begonia family, Bignoniaceae; it is native to Mexico and several countries of northern South America. From the cacao or chocolate family, Sterculiaceae: *Guazuma tomentosa,* bastard cedar, is native to Mexico and South America.



Fruiting branchlet of Atlantic white cedar (*Chamaecyparis thyoides*)

From the legume family, Leguminosae/Papilionaceae, Mimosa group: *Paraserianthes toona,* acacia cedar, Makay cedar or red sirus; and *Acacia elata,* cedar wattle. This is an attractive 20-30 metre tall tree growing in Australia and resembling *Toona ciliata*, Australian red cedar (see earlier). Also from Australia is the shrub tree *Acacia terminalis*, known locally as the Sunshine Wattle. (Acacias from South East Australia by Terry Tame Kangaroo Press 1992).

The genus *Paraserianthes* syn. Falcataria includes four species of Malaysian to tropical Australian and Solomon Islands timbers. Among this group is the world's fastest growing tree, *P. moliccana,* batai wood of Malaysia, reported to add six inches (15cm) in diameter annually and grow up to *35* feet in height in 13 months.

From the sapodilla or white milkwood family, Sapotaceae: *Palaquium galactoxylum,* Cairns pencil cedar or red silkwood, is used in small quantities as a furniture timber in Queensland, Australia.

All the above are only a sampling of the many woods in the world referred to as "cedar" in one way or another. If one is inclined to think that scientific names are complex and unwieldy, consider the confusion and room for error that exist within the web of similar common names for non-related species.

Scientific names bring one closer to identifying woods in a unique and uniform manner, greatly reducing the chance for error and accidental misrepresentation.

Fruiting branchlets of eastern redcedar (*Juniperus virginiana*). The juvenile leaves are shaped like awls and sharply pointed.

Keep your friends

This ends our little excursion into the wonderful world of cedars and their wood.

As a means of expanding your wood collection and, if you wish, to enrich friendships by providing your friends with a "mission" when they travel, by all means commission them to bring back wood samples from far-flung places.

However, when they return with samples in hand, and interesting tales of how they were obtained, do not wonder aloud, "is that really cedar?" Just thank them, quietly research the wood, and keep the results to yourself and other xylophiles.

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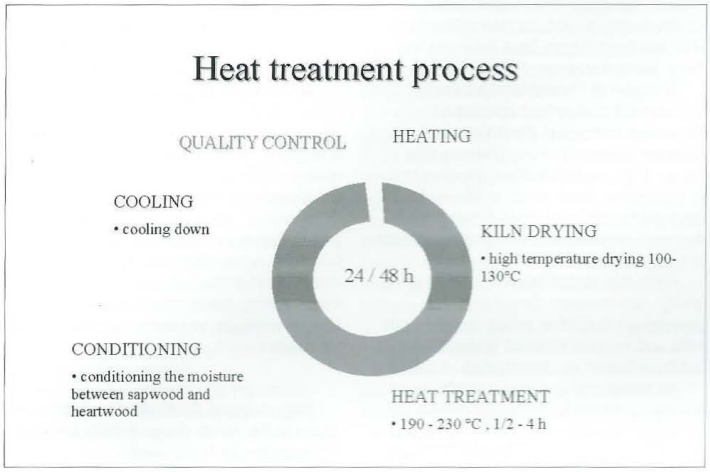
Heat Treatment of Timber

Petteri Torniainen Project Manager YTI Research Centre, Mikkeli, Finland

Heat treatment of timber means changing the properties of the wood using high temperatures (over 180°C). During the heat treatment process the structure of the treated wood changes. After treatment shrinkage and swelling caused by humidity is reduced. Heat treatment also affects the equilibrium moisture content of the wood and improves decay resistance, however material strength may be reduced somewhat by the process. The most noticeable visible change is the colour change to different, typically darker, shades of brown. The intensity of the changes depends on the degree of treatment. All the changes are achieved without any chemical treatment.



Moisture expansion and contraction

Heat treatment reduces wood shrinkage and expansion from 20 to 50 percent. Tests indicate heat treatment also effects the equilibrium moisture content of wood, reducing it by almost 50%. The amount of effect or change depends on the degree of treatment. The higher the treatment temperature the more the shrinkage and expansion is reduced.

Decay resistance

During the heat treatment, sugars in the wood are broken down into a form that the wood destroying fungi cannot use for nutrition. At the same time the natural protective compounds are diffused efficiently throughout the wood to protect it. The degree of the decay resistance in the heat-treated wood can be determined by the weight lost during the heat treatment process.

All tests carried out according to the EN 113 -standard indicate the heat treated wood meets the standards set for impregnated (pressure treated) timber. In the resistance tests carried out according to EN 252 -standards heat treated wood does not meet the requirements of A-classified impregnated timber, but should mainly be considered as an option to AB-class pressure impregnated timber.

Colour

In heat treatment the colour of the wood changes completely into different (usually darker) shades of brown. The desired shade can be achieved by adjusting the temperature of treatment. For outdoor use a surface treatment or coating of the heat-treated wood is necessary to maintain the colour attained from heat treatment. The surface treatment or coating is primarily done to protect the wood from air pollution and UV-light.

Strength

As explained above a high level of heat treatment is needed when substantial decay resistance and a reduction of moisture related movement is required. This procedure does however influence the strength properties of the wood. The most significant change takes place in the resistance to splitting and shear strength which can be reduced by as much as 50%. In addition the bending strength can be reduced by up to 25%.
Heat treatment imparts harder wearing surface characteristics to the wood which can be an advantage in certain applications, for example, flooring.

Woodmachining

The machining and working properties of heat-treated wood differ from non-treated material mainly because of the lower final moisture content and the reduced shear strength and resistance to splitting. Because of this, high level heat-treatments should be avoided if a high quality of machine finish is required. Unduly knotty timber, when treated may create problems when the wood is machined. This is due to knots splitting during the drying/ heat process and a further tendency for them to shatter during the planing and moulding of the wood.

Further Processing

Heat treatment affects the gluing properties of the wood, lengthening the adhesion process when using PVAc adhesives. Also due to the altered properties of the wood and the hardening of the surfaces, the application and coverage of surface coatings and finishes will be different to that of wood which has not been heat-treated.

YTI-Wood Technology

YTI-Research Centre in Mikkeli has been heat-treating wood since 1995. During this time YTI has researched and studied the different properties of heat-treated wood. YTI has developed this process and gathered substantial experience. This experience has been shared to benefit companies, institutions and other research centres interested in the heat treatment of wood.

Research, experimentation and studies of heat-treated wood continue at YTI. Currently the behaviour of heat-treated wood and applications for various products and target markets are beinq researched.

Contact information

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Project Manager Petteri Torniainen, tel. +358 153556287

This paper was presented in June 2001as part of the Lumberman Safari seminar programme organised by Elmia Timber AB

Snippets

Stradivarius Violins

I noticed a short article on violins that was printed earlier in the year. As a sequel to the article "Boron as a wood preservative" printed in the Spring 2001 issue it makes interesting reading.

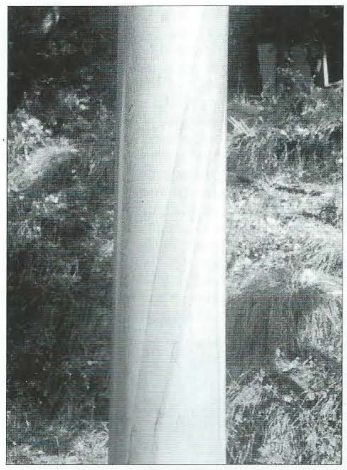
It is now being claimed that part of the secret of the famous Italian violin maker, Antonio Stradivari's (1644 - 1737) success was due to the use of Borax.

Joseph Nagyvary, a biochemist at Texas A & M University considers that borax holds the key. Stradivari used borax to protect his instruments from a woodworm epidemic. Shortly after his death the epidemic abated, and with it, the practice of using the borax. Nagyvary says that the preservative binds together the molecules in the wood and it is this that enhances the tonal properties.

A computer controlled carving machine was used to produce a violin from wood that emulated Stradivari's own materials and design. The wood was soaked in a solution of borax.

At a concert held in Texas the violinist Zina Schiff performed on a true stradivarius and the modern replica, switching instruments throughout the performance (quite a feat in itself!). She later declared that the two instruments were indistinguishable.

David Woodbridge



Where will this look alike culture end? The photograph shows a man made fibre transmission pole with a wood grain effect. And, if it were in colour it would be a close match to the green tint of timber treated with CCA! The picture was taken last year in central Italy.

David Woodbridge

Past Presidents meet at Terminal 4

Unknown to each other, on the evening of Sunday 1st April 2001, two Past Presidents were making their way to Heathrow Airport to take the same flight to Kuala Lumpur in Malaysia and they met at terminal 4 (see photograph). Dr Richard Murphy (President from 1998-2000) was setting off to work on field studies of bamboo at the northern end of peninsula Malaysia. Dr Martin Ansell (President from 1994-1996) was taking part in a British Council exchange visit concerning wood utilization and natural fibre composites.

Dr Ansell was hosted by Dr Jalaluddin Harun of the Faculty of Forestry at Universiti Putra Malaysia (UPM) and the visit was part of a long-standing British Council association with the University of Wales, Bangor. Martin Ansell met Dr Jegatheswaran Ratnasingam who is a lecturer at UPM and completed his PhD at Buckinghamshire Chilterns University College. Jega is intending to set up a Malaysian Branch of the IWSc and he explained that furniture is the main outlet for manufactured timber products in Malaysia with 4,000 factories in production. Jega commented that timber is generally not taken seriously as a material of construction because of problems of durability, particularly from termites, and stringent building codes, which favour steel and concrete.

Martin visited several research laboratories and factories during his visit including the Forest Research Institute of Malaysia (FRIM) where he gave two one-hour presentations on panel products and natural fibre composites. Martin and his wife Frances were also able to trek up through the forest close to FRIM to experience the canopy walk, an exciting series of suspended walkways passing through the forest canopy. The afternoon concluded with a tour of the FRIM laboratories and workshops. There is no doubt that panel products, such as medium density fibreboard (MDF) based on Hevea (rubberwood) fibre, will be manufactured in increasing quantities in Malaysia in the future.

Martin attended the launch of the National Technology Mapping Programme 11 including a project which aims to coherently and systematically identify core competencies in the food, wood and machinery industries that are strategic for Malaysia. Dr Jalal from UPM presented a paper on "Technology thrust in the wood-based industries". During a visit to the Malaysian Timber Industry Board in central Kuala Lumpur with Dr Jega, Martin enjoyed wide-ranging discussions about promoting timber in construction in Malaysia. He mentioned the UK promotional campaign "Wood for good". Other destinations included the Malaysian Institute for Nuclear Technology Research (MINT), where radiation cross-linking of polymers and natural fibre composites were on the agenda, and the Malayan Adhesives and Chemicals company at Shah Alam where urea formaldehyde resins are manufactured for plywood, MDF and particleboard products.

Dr Ansell completed his visit by presenting a seminar on wood research at the University of Bath to UPM staff and visitors invited from outside organisations and visiting the British Council in Kuala Lumpur. Within two months of his visit to Malaysia, Sharifah Aziz from MINT began a two year MPhil research project within Dr Ansell's research group at Bath, rounding off a most satisfactory visit.

Dr Martin Ansell
28th June 2001

The Timber Industry Awards 2001 for the design and craftsmanship of timber construction (now in it's 30th year) are to be announced on the 31st October at a presentation ceremony held at Carpenters Hall, London. The Chairman of the judges, David Harper, Senior Partner at Harper MacKay Architects, says that this year's awards have attracted a record number of applications and that the entries were of an impressively high standard. High quality design and construction work in timber, such as recorded above, has to be good news for the timber industry and to those committed to wood, the material.

COMPANY PROFILE – THE TIMBMET GROUP

The Timbmet Group is the leading distributor of hardwoods and other added value timber products in the UK, and is one of the largest companies of its type in Europe.
With headquarters in Oxford, Timbmet operates from sites throughout the country including Glasgow, Rochdale and Birmingham.

At the heart of Timbmet's business is the purchasing, kilning, storage, selection and delivery of a comprehensive range of hardwoods, sourced from forests on every continent.

In addition, the company distributes a growing range of panel products, high quality grade softwoods, doors and doorsets, flooring, decking and other timber products. The Group's 'added value' facilities include the production of hardwood mouldings and other components.

Timbmet is a privately owned company, formed in 1942 by Ludwig Kemp, the father of the present Chairman, Dan Kemp. In 1959 the company purchased its current site at Oxford. In 1986 the company expanded north and acquired a Lancashire timber merchants business and created Timbmet Rochdale. In 1993 and 1998 Timbmet acquired two well-established timber supply companies in Scotland to form Timbmet Glasgow.

From the smallest beginnings in the difficult war and post-war years, Timbmet has grown to become a major £80,000,000 turnover company - yet, at its heart, the emphasis on family values and service remains.

This was confirmed, in 1999, when the company won a total of four prestigious industry awards as General Trader of the Year, Hardwood Trader of the Year, Panel

Product Trader of the Year and the top award of 'Timber Trader of the Year'.

Sawn Timbers

Timbmet stocks an unrivalled range of over 70 different species - from Afrormosia to Wenge - in a huge range of dimensions and quality grades. These timbers are sourced from around the world and carefully prepared, with either air drying or kiln drying if required, stored and then 'hand picked' to meet each customers' exact requirement.
With a stock level of nearly £18,000,000 - a level no competitor comes near - Timbmet has the 'stock on the ground' to offer rapid and reliable delivery to customers throughout the country usually within 24 to 48 hours.

Home Grown Hardwoods

The first timbers that Timbmet traded in, way back in the late 1930s were native hardwoods. Today, Timbmet can justly claim to be the UK's leading specialist in native homegrown and European hardwood species. Over the years the company's stocks have been meticulously maintained and it can usually point to at least sixteen species in its yards. The company's present team of specialists boasts a vast pool of experience. And with the backing of equally experienced yard operatives, selection and processing of identified timbers is carried out with a dedication that ensures Timbmet's high standards are maintained.

Traditionally, virtually all Timbmet customers for homegrown and European hardwoods have purchased sawn waney-edged boards and have carried out their own processing and finishing. However, more recently customers have preferred to receive a 'semi-finished' product which more closely fits their own manufacturing requirements and schedules. The benefits include reduced wastage, lower stockholding and improved production focus. As a result, Timbmet has made considerable investment in the range of 'added value' services it can provide, including: square edging, cross cutting, dressing and 'planed all round' and fully machined and drilled components.

Timber selection is handled by yardsmen with a genuine 'feel' for native homegrown hardwoods. Estimates from customers' cutting specifications are handled by Timbmet personnel with many years 'hands-on' experience working with homegrown hardwoods

Machining, Components and Finishing

With Timbmet's unrivalled range of sawn hardwoods, the company has built up an enviable level of expertise in the way each species 'works' or cuts and machines. In addition, as health and safety legislation has become more stringent and investment in machining more expensive, more and more joinery customers have sought an 'added value' service from Timbmet.
To meet this demand, Timbmet has invested in two major moulding and machining centres at Rochdale and Glasgow which are able to offer a growing range of manufacturing and component services.
At present, the primary services include:

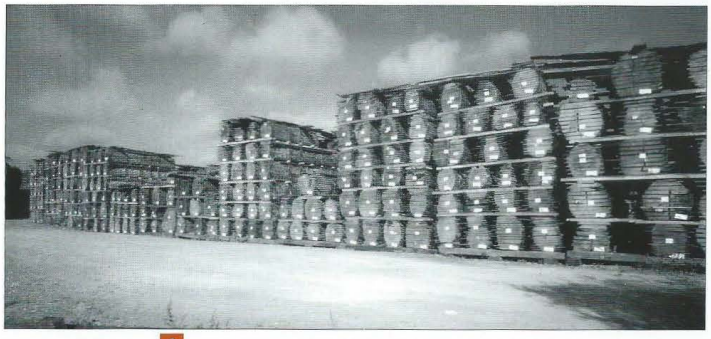
Mouldings: a wide range of standard and custom-designed mouldings produced to customer order

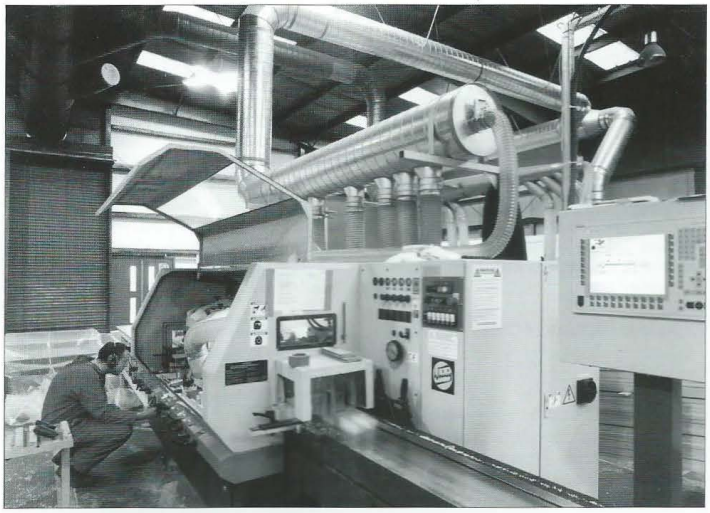
Doors and Doorsets: a complete package of manufacture and supply including re-work and finishing

Components: production of a wide range of timber components and sub assemblies, particularly for window manufacturers, shop and interior fitters, building contractors and joinery companies.

This is a growing element in Timbmet's service for customers and is backed by a continuous and significant investment programme in new machinery and skilled staff. Combined with efficient working patterns, this means Timbmet is able to provide a 'fast response' service for most hardwood machining, moulding and component requests.

Timbmet offers a number of finishing operations. A state-of-the-art, water based, high-speed universal finishing line provides lacquer finishing, base coating and priming. The line's drying system eliminates double handling and time lost waiting for individual coats to dry.
Moulded components can therefore move directly from Timbmet's machining mill to be finished as specified under the same roof, then carefully wrapped and prepared for delivery ready for use, thereby saving customers from having to schedule in one more operation.





Smaller machined and component orders can be specially finished using the facility's mechanically operated and hand-finished spraying operations.

Sheet Materials

In April 2001 Timbmet relaunched its Sheet Materials 'Division' with the establishment of Timbmet Panel Ltd.

The newly formed Timbmet Panels Limited offers specifiers, contractors, buyers and end-users a convenient 'one-stop-shop' opportunity, thanks to a particularly broad product range available directly from stock.

Panels includes exterior and interior grades, melamine and decorative veneer faced panels, moisture and fire resistant options, an excellent selection of surface finishes, plus most constructional boards. Whatever the application requirement, Panels aims to offer a solution.

Sourcing on a selected 'supplier partnership basis' through manufacturers who share Timbmet's commitment to quality, competitive pricing and service, Panels is committed to distributing leading brands such as KronoSwiss, Medite and Nexfor, as well as high quality products sourced through the Group's long-standing relationship with other manufacturers.

One such selected 'supplier partnership' is with KronoSwiss. Panels is now a recommended supplier of the manufacturer's range of melamine faced panels and associated products such as woodgrain effect and plain colour faced panels, metallic faced options, work tops, window sills and raw mdf.

Shopfitters, office fitters, furniture manufacturers, exhibition and building contractors, partitioning manufacturers, merchants and other users of specialist and constructional boards can all be supplied from stock.

Panels offers a two day-delivery service to UK mainland addresses, although more urgent requirements can be accommodated upon request.
Panels has recently launched 'Veneerplus' – a range of double A quality decorative veneered mdf panels.

'Veneerplus' is ideal for bespoke furniture production where a relatively high specification veneer is required.

Unlike A/B decorative veneer boards for which the A top quality veneer is balanced on the boards' reverse with a B quality veneer, the Veneerplus range features A quality on both surfaces. This superior grade veneer is clear of knots and filler and is fully quartered or crown cut as indicated on board descriptions. And whereas the B quality veneer of A/B boards does not carry a width specification, with AA boards the veneer width specification is pre-determined. This means customers know exactly what veneer quality and width specification they are purchasing.

Timbmet Doors

Doors are one of the staple items of the joinery trade. Every building uses a variety of internal and external doors and they have to meet a number of different demands.

The priority may be safety, with fire rated doors and fire door hardware; or it may be the decorative appearance with a specialist design to fit in with a corporate decor or interior; or the priority could simply be durability and cost-effective performance.

Since the mid-1980's, Timbmet has built up a growing business in the supply of door blanks, complete doors and doorsets, working closely with customers to meet specialist requirements.

This ranges from importing and distributing door blanks to the specialist custom manufacture of architectural fire rated doors for prestige interiors.

The Timbmet range includes external hardwood feature doors; internal veneer faced fire-rated doors, pre-assembled door sets plus a specialist 're-work' and component facility to meet customers exact requirements.

With Timbmet's finishing line and its ability to supply all associated door hardware and furniture, the company can provide the complete door solution.

Flooring

The rise in the use of timber flooring has been meteoric over the past five years, fuelled by fashion trends in home décor and health concerns where a smooth floor offers relief to asthma and allergy sufferers.

In offices, hotels, leisure developments and in homes throughout the country, carpets are being ripped out and beautiful, hard working, high performance timber flooring is being installed.

At the forefront of this trend, Timbmet's specialist flooring division, Floorboards Limited, formed in 1997, has grown remarkably quickly to become one of the leading flooring distributors, with sales in 1999 of over £8,000,000.

This rapid growth is based on the wide stock range including a choice of timber and laminated flooring, suitable for many different applications from a domestic living room to the floor of a fitness centre.

Floorboards now operates from a dedicated 20,000 sq.ft. distribution centre on the outskirts of Birmingham at the heart of the UK motorway network, providing rapid delivery nationwide.

With a continuously expanding stock selection plus specialist expert sales staff and a comprehensive point-of-sale and display package for flooring retailers, Floorboards is the supplier of choice for 'smooth' flooring customers.

New Training Initiative with the Institute of Wood Science

Giving something back to the industry, Timbmet is leading the field in the area of training. In recent years some 20 members of staff from within the Group have studied the IWSc Certificate course. Indeed, no other hardwoods company is doing as much in the UK as Timbmet to improve standards in its market place through training initiatives.

One such initiative is a new one, just being finalised in conjunction with the Institute of Wood Science. A new induction course for Timbmet staff and customers has been developed with partners, who include the IWSc, TFT and Timbmet, which offers six parts. These include the IWSc Foundation Course in Timber, two sections on hardwoods, and sections on panel products, machining and environmental issues.

Timbmet is providing course materials and lecturers for the two hardwoods elements plus the environmental section. Those taking part will be independently assessed by the IWSc for the Institute's Timber Studies Award.

This bespoke training package puts Timbmet at the forefront of hardwoods training in the UK, and will act as a spring-board for more training initiatives in conjunction with the Institute in the future.

Western Red Cedar (Thuja plicata)
A Guide to Selection, Specification and Decoration

By Geoff Taylor AIWSc Technical Services Manager, Ronseal Trade

Introduction

The popularity of western red cedar for use in exterior timber construction, particularly cladding, is becoming widespread, leading to a need to better understand the characteristics and finishing requirements of this distinctive timber species.

Western red cedar grows along the coastal ranges of western Canada, the USA, New Zealand and the UK. With 10% of the world's temperate and boreal forests (an estimated 30% of the world's boreal forest), Canada is one of the few developed nations still richly endowed with large areas of natural forest. The majority of that is used here in the UK is sourced from Canada.

General

Western red cedar combines exceptional beauty with an absence of defects and straightness of grain. It is a versatile timber suitable for a wide range of exterior applications and is increasingly being specified in new construction.

The timber may be used without preservative pre-treatment if the sapwood is excluded. Left to weather naturally it turns an aesthetically pleasing silver grey colour, which can enhance the appearance of any building structure.

However, the affects of weathering, local pollution and growth of surface moulds often produce a very unsatisfactory visual appearance in-service.
To eliminate this problem and to retain a natural uniform appearance throughout its service life, it is possible to apply coating systems, in specific colour shades, to retain the natural appearance of this timber species.

Uses

The stability, durability and aesthetic appeal of western red cedar makes it ideal for a wide range of uses including:

- Cladding
- Decking
- Fencing
- Roof shingles
- Glass houses
- Screens
- Garden furniture
- Specialist applications such as the construction of beehives
- High moisture areas internally such as kitchens, bathrooms and saunas

Quality

Largely free of knots this species is one of the softest and lightest timbers available. This makes it particularly suitable for cladding. Due to its cellular structure, it also has one of the highest insulation values of any timber.

PRINCIPAL ADVANTAGES

Sustainability

It is accepted that forestry activities in Canada are a concern. The issue of sourcing this timber species from Canada is controversial and there are claims that it has good "sustainable management" and conversely that it's over logging is "trashing the natural environment". One way towards 'sustainable development' of timber is through the procedure of independent, credible audit and certification. Predominantly, this species is supplied from managed forests; in which controlled harvests, natural regeneration and re-forestation programmes ensure a sustainable resource.

Natural Durability

Western red cedar has inherent durability, containing natural wood extractives that act as 'preservatives' to help the timber resist decay fungi and insect attack. In order to reduce the discolouration of white or pastel finishes, coating materials with 'stain locking' properties (that reduce the migration of these extractives) should be selected.

Classifications

- Imported timber can be used for exterior cladding out of ground contact to achieve a desired service life of 60 years (if sapwood is excluded) according to BS 5589: 1989 Code of practice for preservation of timber.
- Its dimensional stability is designated as 'small' (<3.0%) according to BS EN 942: 1996 Timber in joinery. General classification of timber quality.

Appearance

In its natural state it is prized for its lack of surface defects and straight grain. When converted into timber, its appearance can vary from 'light amber' through to a 'reddish brown' or 'chocolate' colour.
On exposure to the weather, it will gradually take on a 'silver grey' appearance as it loses its water-soluble extractives, which produce these natural colours.

Versatility

Easy to work – may be cut, shaped, planed, sanded, nailed and glued easily.

Availability

It is available in a range of grades and it is advisable to seek the advice of a specialist importer to ensure correct selection for any particular requirement.

Finishing Options

Experience has shown that the most appropriate finishes for use on western red cedar are either semi-transparent (wood stains) or opaque finishes used in conjunction with suitable 'stain locking' base stains or primers.

DESIGN AND SPECIFICATION FOR CLADDING

Basic Principals

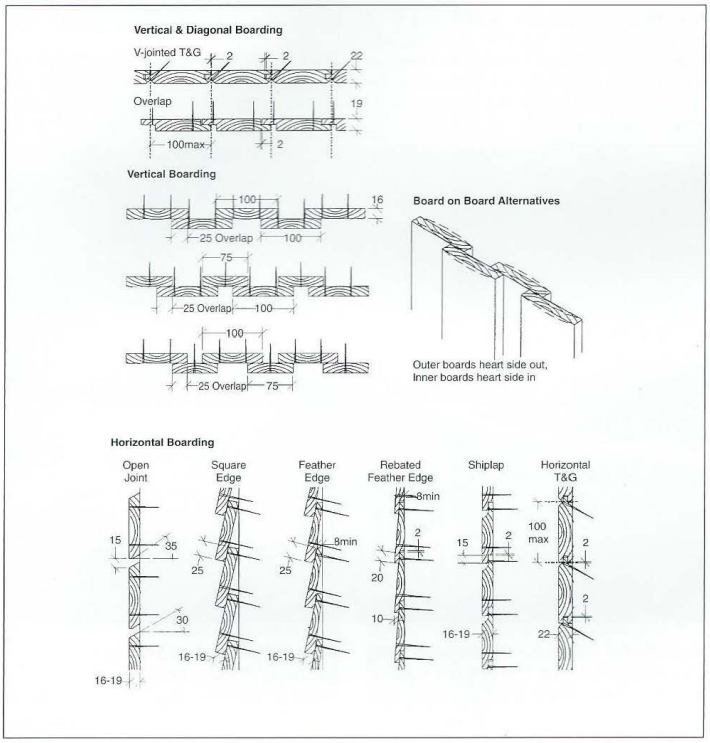
- The cladding should always be 'rain screened' in principle, with a separate protective membrane to the warm side of the wall construction.
- A cavity with a minimum 19mm depth is required behind the cladding to
  - Allow for the drainage of any moisture that permeates the cladding
  - Dissipate any internally generated moisture vapour
  - Maintain similar moisture content in both concealed and visible faces of the cladding to prevent distortion.
- If vertical cladding boards are tight-jointed, vertical counter battens (behind horizontal battens) will be required to maintain drainage and vertical circulation of air. In this case a ventilation gap at eaves level and a ventilation gap at the base will be required.
- Battens should be placed at 600mm centres (maximum) for horizontal or vertical boards. For diagonal boards, battens should be at 400mm centres (maximum).
- Timber for cladding must be sawn, dried, graded and machined in

accordance with all the relevant British and European Standards.

Profile and Configurations

A number of cladding profiles are available. The most common are square edged, feather-edged, rebated shiplap or combinations of square-edged battens and boards.

Examples of timber cladding profiles



Fixing and Nailing

- Round head stainless steel, brass or aluminium fixings should be used. Annular ring shank nails are preferred for their improved holding power.
- Where boards are to be left without a coating system, use stainless steel nails in order to avoid long term rust and iron stains.
- Nails should generally be 2.5 times thickness of the board (two times in case of annular ring shank nails). They should be driven marginally below the surface to compensate for possible shrinkage of the timber.

Note: Thin dimensions of this timber species may cleave or splinter. Consider pre-drilling, particularly when fixing close to the ends or edges of boards.

Moisture Protection Principles

Good construction practices must be adhered to. A ventilated cavity, as shown, is essential to prevent build-up of moisture within the timber.

In addition:

- Use either damp proof membrane or flashing, or leave sufficient gap, to prevent cladding coming into direct contact with porous surfaces or wetted non-porous surfaces. This is particularly important if the 'end grain' of the timber is exposed.
- Vertical boards should always be kept clear of any flashings below, by at least 10mm. The top edges should also be well protected.
- In all cases allow a minimum of 150mm, preferably 200mm clearance between the bottom of the cladding and ground level.
- Provision should be made for suitable 'paintable' gaps at both the head and bottom detailing, as well as at corners and junctions. This will allow for easier access for these difficult to finish areas.

Allowing for Moisture Movement

Ensure that the moisture content of the boards when erected is as close to possible to the likely 'in-situ' moisture content. In the UK a mean average of 18% should be aimed for.

Projecting Roofs and Overhangs

These provide protection to cladding and joinery in-service. However, experience has shown that when this timber species is only partly exposed to the weather its appearance can become very uneven in colour and often unsightly if not treated with a decorative finish.

Coating western red cedar

New Timber

This timber contains a high proportion of natural, water-soluble extractives, which will leach out if left exposed to the weather. It is these extractives, which give natural protection against wood destroying fungi.

It is advisable to apply one coat of base stain (or opaque primer) all round prior to delivery to site in order to retain the natural appearance and durability before final fixing and finishing.

Weathered Timber

Once this timber has been weathered and has taken on a 'silver-grey' appearance it must be properly prepared before treatment with decorative coating systems.

Prepare surfaces by brushing down vigorously first across, then along the 'grain' to remove any loose surface fibres. Sometimes it may be possible to remove surface debris using high-pressure water guns, but specialist advice should be sought in these instances.

Due to the natural weathering characteristics of this timber, removal of any loose fibres from the surface may result in a 'corrugated' appearance to the timber surface. Ensure any decorative finish applied is worked well into the surface to achieve a good, uniform absorption and protection.

Important: Do not use wire brushes or wire wool for surface preparation.

Maintenance

Timber should be the subject of a planned maintenance programme, with regular inspections and checks at intervals according to the expected life of the coating system applied.

Always maintain the finished substrate while in sound condition.

Selection of Decorative Finishes

Performance Standards

Current certification schemes for coating systems for timber offers a service life between maintenance periods. The higher standard is set by the requirements of the latest performance standard, BS EN 927.

Consideration should be given to coating systems for timber that have been independently assessed for performance and have been classified in accordance with this specification standard.

Appearance

To achieve a natural or weathered look on this timber species a number of options are available.
Namely:

Natural

Once converted into timber, its appearance can vary from 'light amber' through to a 'reddish brown' or 'chocolate colour'. For that reason, a 'Light Cedar' or a 'Dark Cedar' has been formulated to 'match' and provide the end user with a suitable colour choice.

Weathered

On exposure to the weather, it will gradually take on a 'silver grey' appearance as it loses its water-soluble extractives. Consequently, a suitable 'weathered cedar' colour choice is provided.

The final appearance of any colour shade for western red cedar will depend on the:

- Previous treatments
- Spreading rate of the coating system
- Method of application of the coating system
- Initial base stain (or opaque primer) colour

It is strongly recommended that test applications be undertaken if the western red cedar has been allowed to weather, to ensure that meaningful surface preparation has been carried out and that the correct choice of colours has been selected.

This paper incorporates 'partnering' advice and guidance provided by:

Peter Kaczmar – Coatings & Treatments Specialist – TRADA Technology Limited & george Sykes Ltd, Atherstone.

FLEXIBILITY OF CHOICE IS THE KEY

In the field of wood preservation, chromated copper arsenate (CCA) has dominated the landscape throughout the 20th century. In the last decade, however, timber treatment suppliers have been responding to changing technologies and market requirements.

On a worldwide basis, pressures against CCA are now increasing and it is important that the timber industry is fully aware of activities regarding any product it supplies. If we are informed and understand what is happening, we can be proactive in protecting our business and ready to react, when necessary.

Arch Timber Protection began developing alternatives to CCA in the early 1980's. Whilst a crystal ball would have been very useful then, the decision to develop an effective alternative has certainly proven to be timely. In Europe, pressures against CCA began in Holland during the early 1990's. Sweden adopted the approach of allowing the continued use of CCA for high hazard, ground contact end use situations, but discontinued its use for lower hazard, out of ground situations. In Denmark, the Trade Association together with the Environment Agency agreed a phased implementation programme aimed at reducing the level of heavy metals and terminating the use of chromium and arsenic containing formulations. On January 1st 1997, the Danish market converted to chrome- and arsenic-free preservatives. Further a field, in Japan, CCA is now restricted to an industrial market only and in Australia and New Zealand, certain market segments, such as nature reserves, are demanding the use of alternatives to CCA.

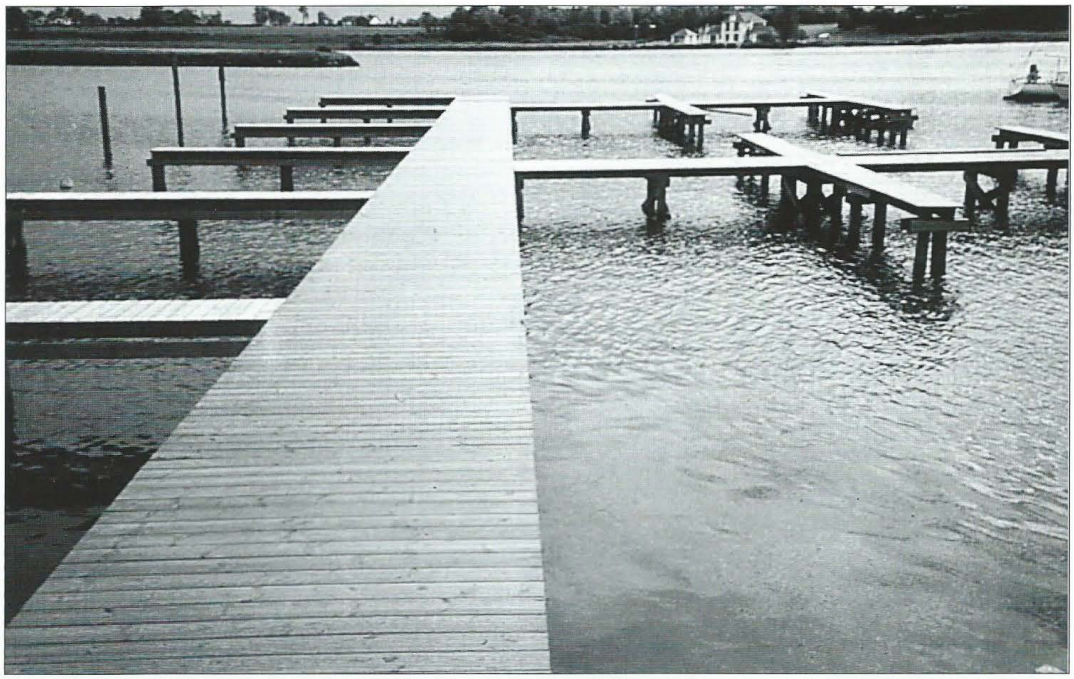
More recently, there has been both legal activity and significant media attention in the USA with regard to CCA. The legal actions claim that CCA-treated timber is unsafe and the industry has been misleading about its potential dangers. Other parties are raising concerns about leaching and the long-term fate and safety of large amounts of CCA-treated timber in landfills. Media attention has been growing and this recently resulted in international coverage with an article in Time magazine, entitled 'Toxic Playgrounds'.

Arch Timber Protection is committed to providing its customers and communities with accurate, balanced information on the safe use and handling of CCA-treated timber in order to counter misinformation contained in many of the media accounts. There is overwhelming scientific evidence that CCA-treated timber is safe to use and presents little, if any, risk to the environment, provided it is used as authorised.

For the most part, the guidelines for handling CCA-treated timber are similar to the common sense guidelines for handling untreated timber – wear gloves when working with wood; sawing, sanding and machining should be done outdoors wherever possible and while wearing a dust mask. Wood dust, whether from treated or untreated timber, has the potential to pose a health risk.

In disposing of treated timber, large quantities should be disposed of by landfill and small quantities can be burnt in a municipal waste incinerator, both arranged through a competent waste disposal organisation.

All of us in the timber treatment industry bear a responsibility to make sure that our products are compliant with all relevant



regulations regarding the operation of our facilities. We also need to foster a relationship of open dialogue with all our customers and audiences, so that we are recognised as a responsible industry and in a position to negotiate from strength, when required.

Of particular interest in the UK, the European Commission has decided not to proceed with its voluntary approach to regulate the use of arsenic containing wood preservatives in Europe. Instead it intends to propose legislation prohibiting the use of arsenic containing products for the treatment of wood in ground contact, within children's playgrounds. The Western European Institute for Wood Preservation has been acting on behalf of the timber industry in these negotiations and will continue to do so.

Within Europe, Arch Timber Protection, along with other suppliers, is also participating as a task force member in an effort to gain authorisation for the continued use of copper, chromium and arsenic, within the framework of the Biocidal Products Directive. This is another legislative area that is very demanding on preservative and chemical suppliers in general.

CCA remains a proven product with an excellent history of performance and usage. Timber preserved with CCA has a 65 year track record of safety and effectiveness. Used in decks, fences and landscaping projects, playground equipment, piers, docks, seawalls and utility poles, to name but a few, CCA treatment extends the service life of wood, thereby conserving timber resources. Treatment with CCA provides an economical way to protect wood against the costly damage to untreated wood from decay and insect attack. Arch Timber Protection is committed to supplying such a useful product, which extends the natural service life of timber.

However, where the market demands, Arch Timber Protection's alternative to CCA, Tanalith® E, is also available. In many markets, Tanalith® E pressure treated timber is the preferred choice and the product is now requested and specified. It is now used and approved in more than 15 countries worldwide. In the last two years, companies in the UK have also adopted this new technology and begun selling Tanalith® E pressure treated timber. The introduction is proving very successful with research in the UK showing that there is a demand for alternative products to CCA treated timber.

Testing and, more importantly, extensive commercial experience have highlighted the ease of conversion and use of Tanalith® E. Major plant modifications are not required. Process times are virtually the same as for CCA and the ancillary properties, such as corrosivity and strength, are very similar to untreated or CCA-treated timber.

Prior to its introduction, Tanalith® E treated timber underwent an extensive and stringent testing regime to ensure optimised performance, so that users could be assured of its durability. Field exposure tests were initiated in more than 20 sites throughout the world. These clearly established the long-term performance characteristics of the new product under a wide range of biological hazards and conditions.

During the introduction of Tanalith® E into the Nordic countries, it became clear that the colour, appearance and colour performance of treated wood was a major factor in consumer acceptance. Following treatment, Tanalith® E treated timber rapidly takes on an even, appealing, light green colour. Colour performance is similar to CCA treated timber and this has been confirmed through tests conducted by the Finnish Technological Research Centre for various items such as garden swing chairs. Tanalith® E treated timber was, in fact, one of the best performing of any of the CCA alternatives evaluated.

As we have seen in many areas of commerce, consumers demand choice. Technically, the pressures on CCA remain unsubstantiated. The market is, however, responding with demands for alternatives and the wood preservation industry must be seen to be responding in a responsible manner to these demands. It must provide treated timber in which the consumer has full confidence; if not there are competitive materials ready to take market share from timber.

As the title of this article suggests, the key is flexibility of choice.

Arch Timber Protection

TRAINING MATTERS

The Foundation Course on Timber
First past the post to enrole students on the new course was Morgan (Timber and Boards) Ltd of Kidderminster. Their Sales Director Derek McCluskey AIWSc will be the mentor for the group of five students.

David Woodbridge IWSc, Keith May, Jacqui Nicholls, Stewart Newton, Lisa Butler, Derek McCluskey. (The fifth student, Louise Burgess was not available to join the group photo)

IWSc Certificate and Associates Examination Dates for 2002:

March 22nd

September 20th

Following closely behind Morgans of Kidderminster was Morgan and Co (Strood) Ltd. This company has no connection with the above, the similarity of name is purely a coincidence. Here the groups mentor will be Juhn Gurr AIWSc.

John Gurr, Paul Arther, Jamie Langdrideg, Lorna Kermeen, George Morgan (Chairman of Morgan Timber) (Nigel Major, the fourth member of the group ws on holiday when the picture was taken)

Both groups expect to take their Timber Studies Award examination in November. Since these initial registrations we have had a brisk flow of enquiries and enrolements from the timber trade.

List of tuition centers for the Institute's courses

BCT, Morecambe
Glenn Sharples (Tel: 01524 832052)

Buckinghamshire Chilterns University College, High Wycombe
Dr Hugh Mansfield-Williams
(Tel: 01494 522141)

Enterprise Ireland, Dublin
Dr Jos Evertsen FIWSc
(Tel: 00353 1 808 2635)

Isle of Wight College
Martin Wall AIWSc (Tel: 01983 526631)

Liverpool Community College
Greg Prescott (Tel 0151 252 4885)

East Antrim Institute
Tom McFadden (Tel: 028 90855000)

TRADA Technology Ltd., High Wycombe & Rotherham
Susan Farrow AIWSc
(Tel: 01709 720215)

Technology for Timber, Ripon
Jim Coulson AIWSc
(Tel: 01765 601010)

Warwickshire College & Moreton Morrell College
Tom Shaw FIWSc & Erle Smith FIWSc
(Tel: 01926 318235)

N.B. It is hoped that a tuition centre in the Republic of Ireland will be re-established in the near future

BRANCH NEWS

Scottish Branch

On Wed 14 Mar Susan Johnston of the Health & Safety Executive spoke about Health & Safety issues relating to the timber and wood using industries at Glasgow University,

We held our AGM on Wed 4 July 2001 in Stirling. The speaker was Mr. MacFarlane of the Timber Frame Industry Association.

Following the success of our seminar at Scotbuild in Glasgow last November we have arranged to do a presentation at Buildex this November.
Buildex will be held at Ingliston near Edinburgh on Wed 21st to Fri 23rd November 2001.

The rest of the 200 I / 2002 programme will consist of two or three meetings between Jan and Jul 2002.

Andrew Gibson AIWSc, Branch Chairman

Southern Branch

We are very pleased to announce the re-launch of the Southern Branch. We have a full programme of events throughout the coming year beginning with a visit to Covers - Timber importers - at Chichester on Saturday 6th October. We hope this will be the start of a well supported and progressive future for the Southern Branch.

Other diary dates are:-

November 8th:
The Hope Inn, Chichester - A quiz night on timber (identification).

April 13th 2002:
Visit to the Weald and Downland Open Air Museum at Singleton.

June 6th:
AGM and guest speaker, Mr W. Shaw (the Southern Branch Secretary, Mr P.J. Gilbert MIWSc can be contacted by E mail-

Patrick@treadsandrisersltd.sagehost.co.uk)

Stuart Faulkner AIWSc Branch Chairman

REGIONAL CONTACTS

For information on branch and/or regional and overseas activities, the contacts are:

Bath and the South West - Dr. Martin Ansell FIWSc (01225 826432)
Chilterns and Thames Valley - Dr. Vic Kearley AIWSc (01494 563091)
East Midlands - Tom Shaw FIWSc (01789 840605)
Ireland - Dr. Jos Evertsen FIWSc (00 3531 8082635)
Liverpool and the North West - Geoff Bagnall CMIWSc (0151 724 1206)
London - John Park AIWSc (01252 522545)
Scotland - Andrew Gibson AIWSc (01416 321299)
South Coast - Patrick Gilbert MIWSc (023 9259 2715)
North East - Jim Coulson AIWSc (01765 601010)
Yorkshire - Neil Ryan AIWSc (01977 671771)

Overseas

Australia - Dr. Harry Greaves (+61 3 9889 0764)
South Africa - Don Priest (013 7642352)

For details of individual and corporate membership, contact the Institute direct.

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