SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006

VACSOL Aqua 6112 RTU

Version 1.1 / EN | Revision Date 12.11.2012 | Print Date 28.05.2015

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name	:	VACSOL Aqua 6112 RTU
Product-specific registration-no.	:	8180

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture	:	Preservative

1.3 Details of the supplier of the safety data sheet

Company	:	Arch Timber Protection Wheldon Road Castleford United Kingdom WF10 2JT
Telephone	:	+44 (0)1977 714000
Telefax	:	+44 (0)1977 714001
Responsible/issuing person E-mail address	:	advice@archchemicals.com

1.4 Emergency telephone number

Emergency telephone number	:	+44 (0)1235 239 670

2. Hazards identification

2.1 Classification of the substance or mixture

Classification (67/548/EEC, 1999/45/EC)

Dangerous for the environment	R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2 Label elements

Labelling according to EC Directives (1999/45/EC)

Hazard pictograms :

		Dangerous for the environment	
R-phrase(s)	:	R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-phrase(s)	:	S 7	Keep container tightly closed.
		S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
		S28	After contact with skin, wash immediately with plenty of water.
		S35	This material and its container must be disposed of in a safe way.
		S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
		S49	Keep only in the original container.
		S57	Use appropriate container to avoid environmental contamination.

2.3 Other hazards

not applicable

3. Composition/information on ingredients

3.2 Mixtures

Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
2-(2-Butoxyethoxy)ethanol	112-34-5 203-961-6	Xi; R36		< 10
hydroxyalkylamine		Xn; R22 C; R34 N; R50-R53		>= 0.25 - < 2.5
permethrin (ISO)	52645-53-1 258-067-9	Xn; R20/22 R43 N; R50-R53		>= 0.025 - < 0.1
Propiconazole	60207-90-1 262-104-4	Xn; R22 R43 N; R50-R53	Acute Tox. 4; H302 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	< 0.1
Tebuconazole	107534-96-3	Repr.Cat.3; R63	Repr. 2; H361d	< 0.1

	4036402	Xn; R22 N; R51-R53	Acute Tox. 4; H302 Aquatic Chronic 2; H411	

For the full text of the R-phrases mentioned in this Section, see Section 16.
For the full text of the H-Statements mentioned in this Section, see Section 16.

4. First aid measures

4.1 Description of first aid measures

General advice : No hazards which require special first aid measures.

If inhaled : Move to fresh air.
Keep patient warm and at rest.

In case of skin contact : Wash off immediately with plenty of water.
If on clothes, remove clothes.
Wash contaminated clothing before re-use.

In case of eye contact : Rinse immediately with plenty of water for at least 15 minutes.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Do NOT induce vomiting.
Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : See chapter
11. Toxicological information

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Carbon dioxide (CO2)
Water spray

Unsuitable extinguishing media : Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : The product is not flammable.
Do not allow run-off from fire fighting to enter drains or water courses.
Burning produces noxious and toxic fumes.

5.3 Advice for firefighters

Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.
Further information	:	Standard procedure for chemical fires.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Ensure adequate ventilation.

6.2 Environmental precautions

Environmental precautions	:	The product should not be allowed to enter drains, water courses or the soil. If the product contaminates rivers and lakes or drains inform respective authorities. Prevent further leakage or spillage if safe to do so.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up	:	Retain and dispose of contaminated wash water.
	:	Soak up with inert absorbent material. Sand Pick up and transfer to properly labelled containers. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

Additional advice	:	See chapter 8. Exposure controls/personal protection 13. Disposal considerations

7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling	:	For personal protection see section 8.
Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	Store in original container. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Use appropriate container to avoid environmental contamination.
Other data	:	Protect from frost.
	:	No decomposition if stored and applied as directed.

7.3 Specific end uses

Specific use(s) : Preservative

8. Exposure controls/personal protection

8.1 Control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis
2-(2-Butoxyethoxy)ethanol	112-34-5	TWA	10 ppm 67.5 mg/m3	2006-02-09	2006/15/EC
Further information	: Indicative				
2-(2-Butoxyethoxy)ethanol	112-34-5	STEL	15 ppm 101.2 mg/m3	2006-02-09	2006/15/EC
Further information	: Indicative				
2-(2-Butoxyethoxy)ethanol	112-34-5	TWA	10 ppm 67.5 mg/m3	2007-08-01	GB EH40
2-(2-Butoxyethoxy)ethanol	112-34-5	STEL	15 ppm 101.2 mg/m3	2007-08-01	GB EH40

8.2 Exposure controls

Engineering measures

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Hand protection : The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other.
The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case.
Gloves must be inspected prior to use.
Replace when worn.
Impervious gloves
Nitrile rubber

Eye protection : Wear protective gloves/ protective clothing/ eye protection/ face protection.

Skin and body protection	:	Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. impervious clothing
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Environmental exposure controls

General advice	:	The product should not be allowed to enter drains, water courses or the soil. If the product contaminates rivers and lakes or drains inform respective authorities. Prevent further leakage or spillage if safe to do so.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	liquid
Colour	:	colourless
Flash point	:	Note: does not flash
Boiling point/boiling range	:	100 °C
Density	:	1 g/cm3
Water solubility	:	Note: completely soluble

9.2 Other information

Oxidising potential	:	Note: Not relevant

10. Stability and reactivity

10.1 Reactivity

None known.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions	:	Note: Stable under recommended storage conditions.

10.4 Conditions to avoid

Conditions to avoid	:	Protect from frost.

10.5 Incompatible materials

Materials to avoid : Oxidizing agents

10.6 Hazardous decomposition products

Thermal decomposition : Note: None known.

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity : LD50
VACSOL Aqua 6112 RTU Species: rat
Dose: estimated > 2,000 mg/kg

Acute oral toxicity

Components	Value	Species	Dose	Method
permethrin (ISO)	Acute toxicity estimate		500 mg/kg	Converted acute toxicity point estimate

Acute dermal toxicity : LD50
VACSOL Aqua 6112 RTU Species: rat
Dose: estimated > 5,000 mg/kg

Skin corrosion/irritation

Skin irritation : Remarks: Not expected to cause irritation.
VACSOL Aqua 6112 RTU

Serious eye damage/eye irritation

Eye irritation : Remarks: Not expected to cause irritation.
VACSOL Aqua 6112 RTU

Respiratory or skin sensitization

Sensitisation : Remarks: Not believed to be sensitising to skin.
VACSOL Aqua 6112 RTU

Further information : no data available
VACSOL Aqua 6112 RTU

12. Ecological information

12.1 Toxicity

permethrin (ISO) : 1,000

12.2 Persistence and degradability

Biodegradability VACSOL Aqua 6112 RTU	:	Remarks: no data available

12.3 Bioaccumulative potential

Bioaccumulation VACSOL Aqua 6112 RTU	:	Remarks: no data available

12.4 Mobility in soil

Mobility VACSOL Aqua 6112 RTU	:	Remarks: no data available

12.5 Results of PBT and vPvB assessment

VACSOL Aqua 6112 RTU	:	This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT)., This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

12.6 Other adverse effects

Additional ecological information VACSOL Aqua 6112 RTU	:	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

13. Disposal considerations

13.1 Waste treatment methods

Product	:	The product should not be allowed to enter drains, water courses or the soil. Dispose of as hazardous waste in compliance with local and national regulations. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.

Contaminated packaging	:	Rinse empty containers with water and use the rinse-water to prepare the working solution. Refer to manufacturer/supplier for information on recovery/recycling.

14. Transport information

Dangerous for Transport

ADR

14.1 UN number	:	3082
14.2 Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (permethrin (ISO))
14.3 Transport hazard class	:	9
14.4 Packing group	:	III
Classification Code	:	M6
Hazard identification No	:	90
Labels	:	9
14.5 Environmentally hazardous	:	yes

IATA_C

14.1 UN number	:	3082
14.2 Proper shipping name	:	Environmentally hazardous substance, liquid n.o.s. (permethrin (ISO))
14.3 Transport hazard class	:	9
14.4 Packing group	:	III
Labels	:	9
14.5 Environmentally hazardous	:	yes

IMDG

14.1 UN number	:	3082
14.2 Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (permethrin (ISO))
14.3 Transport hazard class	:	9
14.4 Packing group	:	III
Labels	:	9
EmS Number 1	:	F-A
EmS Number 2	:	S-F
14.5 Marine pollutant	:	yes permethrin (ISO)

14.6 Special precautions for user

Other information	:	Refer to protective measures listed in sections 7 and 8.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Remarks : Not relevant

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Major Accident Hazard Legislation : 96/82/EC Update: 2003
Dangerous for the environment
9a
Quantity 1: 100 t
Quantity 2: 200 t

Water contaminating class (Germany) : WGK 2 water endangering

15.2 Chemical Safety Assessment

not applicable

16. Other information

Full text of R-phrases referred to under sections 2 and 3

R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Full text of H-Statements referred to under sections 2 and 3.

H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H361d	Suspected of damaging the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Vacsol™ AQUA
TREATED TIMBER

Vacsol Aqua

Definitions

VACSOL Aqua treated timber is timber which has been impregnated with VACSOL Aqua wood preservative under controlled conditions in a double vacuum/low pressure timber impregnation plant (VAC-VAC plant).

VACSOL Aqua is a waterbased wood preservative that contains proven organic active ingredients.

VACSOL Aqua treated timber gives long term protection against fungal and insect attack, for both interior and exterior (above ground contact) construction timber and joinery applications, when treated to the correct end use specification.

VACSOL Aqua treated timber must only be used above the damp proof course level and/or above ground contact. Exterior joinery/woodwork must be subsequently protected with an appropriate and maintained surface coating.

In termite areas, VACSOL Aqua treated timber should be used above the termite shield.

The appearance of VACSOL Aqua treated timber following treatment is virtually unchanged. However, a colourant is often included to facilitate identification of treatment.

Companies operating timber impregnation plants require a permit to operate from the appropriate local/regional approving authorities which are country specific. The size and throughput of the impregnation plant installation will dictate the required level of permissions. Lonza Wood Protection can provide more information, if required.

Vacsol Aqua Wood Preservative

VACSOL Aqua wood preservatives are approved for use by the relevant regulatory authorities in the markets they are used. The biocides contained in VACSOL Aqua wood preservatives are being supported under the Biocidal Products Regulation.

Biocidal Products Regulation - Treated Timber Labelling

As part of the Biocidal Products Regulation it is now the responsibility of suppliers of preservative treated timbers who are first putting the product on the market within the European Union to label the treated timber with information relating to the claimed protection, the active biocidal ingredients the preservative contains and relevant end use phrases for the treated timber. This information should also be in the relevant language for the intended market for the treated timber. Lonza can assist VACSOL Aqua preservative treaters with print ready artwork for these labelling purposes.

CE Marking

As part of the Construction Products Regulation the CE marking of permanently installed preservative treated construction timbers is now required. Contact Lonza Wood Protection directly for further guidance if required.

Treatment Specifications

VACSOL Aqua treatment process parameters can be varied, taking into account timber species, desired service life and to match the end use (Use Class) of the timber. It is therefore extremely important that the end use and species of the timber are clearly stated within the treatment specification. Use Classes are defined in EN 335:2013 but can be summarised as follows:

- Use Class 1 - internal building timbers - no risk of wetting.
- Use Class 2 - internal building timbers - risk of wetting.
- Use Class 3 coated - external timbers used above ground contact and coated.

In accordance with EN 335:2013 Use Class 3 can also be sub-classified as 3.1 and 3.2 respectively. The interpretation of these sub-classes may vary from country to country.

VACSOL Aqua treated timbers can be produced to meet the requirements of Use Classes 1, 2 and 3 coated.

Technical Data Sheets

A technical data sheet for VACSOL Aqua product will be supplied by Lonza Wood Protection prior to commissioning which will give specific information on the use of the product. This technical data sheet will be formulation specific and should be consulted by the treatment company as a working guide.

It is the responsibility of the treatment company to ensure all relevant permits and risk assessments are in place and current when using VACSOL Aqua and associated additives.

Preparation of Timber Prior to Treatment

For VACSOL Aqua treatment timber should be presented to the treatment plant in a dry and clean condition as follows:

- Generally dried to a moisture content less than the fibre saturation point, around 28%.
- All inner or outer bark should be removed.
- Timber should be free from dirt, sawdust, surface coatings, surface water, plastic wrapping, ice and snow.
- Timber should not be frozen, generally temperature greater than 5°C.
- Timber should be free from all signs of attack by bacteria, blue staining fungi, wood destroying fungi or insects.
- As far as possible, all cutting, machining, planing, notching and boring is to be carried out prior to treatment - (see section on post-treatment machining).
- DO NOT attach metal fittings prior to treatment.
- DO NOT excessively tighten any banding around the timber pack.
- If possible tilt the timber packs on the treatment plant bogie.
- Use sticker-stacked pack configurations to optimise post-treatment drying.
- DO NOT treat timber wrapped in polythene.
- Sheet materials, e.g. plywood, should be stickered at least every second layer before treatment.
- Ideally timber and sheet material should be sloped in the treatment vessel to aid preservative run off during final vacuum of the treatment process. This promotes good post-treatment drying.
- Where close tolerance work is involved it is advisable to pre-machine the timber at the 'in-service' equilibrium moisture content. It is then the contractor's responsibility to ensure that the need for re-drying is recognised and allowed for.

Treated Timber Appearance

After the application of VACSOL Aqua wood preservative by the VAC-VAC process, the appearance of the timber is virtually unchanged. However, a colourant is often included to facilitate identification of treatment.

Experience has shown to date that there is no particular problem with grain raising. However, as with all water based products, there is potential for this to take place.

Colour variations may occur due to the natural variability of the relative proportions of heartwood and sapwood and darkening of some hardwoods may occur.

Trials should be carried out on decorative timber species (particularly hardwood species) to check any shade changes prior to treatment of the full commercial batch. Further information can be obtained from the Lonza Wood Protection Advisory Service.

Confirmation of Treatment

End customers may require a Certificate of Treatment covering their treated timber orders. Electronic Certificates of Treatment are available from Lonza Wood Protection for treatment companies to utilise, if required.

Please note that the treatment process parameters are varied according to the timber species and end use of the treated timber commodity, taking into account the potential for biological degradation.

Post-Treatment Storage and Collection of Treated Timber

Following treatment, VACSOL aqua treated timber must be stored at the treatment plant site until dry, before it can be despatched and used. This storage should be in a designated drip dry area, protected from rainfall and direct sunlight. The drying time will depend upon weather conditions, species, specification, timber dimensions, pack size, stickering and whether the timber is sawn or planed. Local regulations may also apply.

Treated packs should be tilted to promote preservative drainage and prevent surface ponding. It is advisable to stack packs evenly to prevent dripping onto lower packs as this could cause temporary but unsightly tide marking on the timbers below.

Flat items such as sheets of plywood should be separated and either stickered horizontally or stacked more or less vertically, with air space between them to promote drying.

Liaison between the customer and the supplier is necessary to determine when the timber will be ready for collection.

Post-Treatment Drying

Where close tolerance work is involved it is advisable to pre-machine the timber at the in-service equilibrium moisture content. It is then the contractor's responsibility to ensure that the need for re-drying is recognised and allowed for.

Timber for air drying should be open stacked under ventilated conditions and protected from rain and snow to promote post-treatment drying.

DO NOT wrap wet treated timber in polythene or other such materials as this will significantly extend the drying period.

Post-Treatment Machining

As far as possible all cutting, machining, notching and boring is to be carried out prior to treatment.

Some cross-cutting on-site is unavoidable. This will expose an untreated core and it is imperative that cross-cuts, notches and bored holes be liberally swabbed with an approved end grain preservative to maintain the integrity of the preservative protection.

Rip sawing, grooving, planing and heavy sanding is not permitted unless the timber is returned for re-treatment to maintain the integrity of the preservative protection.

For more information on end grain preservatives contact the Lonza Wood Protection Advisory Service.

Treatment of Pre-Glued Assemblies

Assemblies which are to be treated with VACSOL Aqua wood preservative may first be glued using a suitable waterproof adhesive. Consult the glue manufacturer on the suitability and use of their particular product and follow the directions of the appropriate regional standards.

Melamine urea formaldehyde, emulsion polymer isocyanate, melamine formaldehyde and phenol resorcinol formaldehyde types are generally used.

Polyvinyl acetate, Casein, or urea formaldehyde types are NOT recommended.

It is important that the glue lines should be fully cured as required by the glue manufacturer, usually several days before the assembly is sent for treatment.

Where enclosed cavities are involved, access holes must be drilled to permit the entry and exit of preservative solutions.

Plywood may be treated provided it is of an appropriate grade - see section on Treatment of Plywoods.

Timber which is to be bonded prior to treatment with VACSOL Aqua should be glued using a suitable waterproof adhesive e.g. Resorcinol Formaldehyde, Phenol Formaldehyde, Kascanite and exterior PVA glue. The glue manufacturer's recommendations should be followed at all times and sufficient time allowed for glues to cure properly before treatment.

Treatment of Plywoods

Under previous systems WBP (weather and boil-proof) grade plywood was classified under Standards which have now been withdrawn.

Plywood grades are based on EN 636 (Dry, Humid and Exterior classifications), which themselves are based on bonding classes 1, 2 and 3 from EN 314 Part 2. Plywood that is either WBP or EN 636 Exterior grade (EN 314 Part 2 bonding class 3) should now be specified. Humid grade (bonding class 2) might be acceptable, but the board manufacturer or supplier should be asked to confirm that Humid grade board can be put through a double vacuum (VAC-VAC) treatment process.

Typical Applications

If in doubt about any particular area of application or compliance with other relevant standards or specifications, it is advisable to consult with Lonza Wood Protection using the contact details given in this document.

This list, which is not totally exhaustive, gives an indication of the range of timbers and timber based products which can be treated with VACSOL Aqua wood preservative. The treatment process parameters are varied to match the end use of the timber and its species. It is therefore extremely important that you make sure that the timber has been treated to the correct specification.

Hardwood Exterior Joinery
Hardwood window frames and casings, exterior doors and frames.

Plywoods
See Treatment of Plywoods section for more details.

Internal And External Building Timbers
Structural elements and general timbers in domestic, commercial and public buildings, such as wall frames, sole plates, beams, joists, sub-floors, roof timbers, battens, cladding, roof shingles.

Softwood External Joinery
Softwood window frames and casings, soffits, barge and fascia boards, cladding, load bearing joinery and doors.

Health, Safety, Handling And Disposal

All relevant health and safety information for working with VACSOL Aqua wood preservative, including a product safety data sheet, a Be Safe Poster and an Emergency Procedures Poster will be supplied by Lonza Wood Protection on commissioning of the product.

Please ensure that you have read and understood the associated Safety Data Sheets supplied by Lonza Wood Protection prior to using this product and associated additives.

Waste Disposal

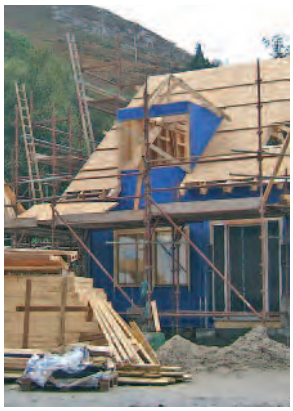
Empty containers/IBCs should be washed clean (washings may be used to dilute solution concentrate) and disposed of by a method approved by the local waste disposal authority. In many EU countries a return service is in operation by the IBC supplier.

VACSOL Aqua treatment process wastes e.g. redundant solution and contaminated sludges are potentially hazardous waste depending on the product concentration in the waste. They should be consigned through registered waste handlers. The safety data sheet for the product should be shown to the handler together with an estimate of the concentration of product concentrate in the waste to enable the correct disposal route to be identified.

As with all biocide containing products, care should be taken to ensure that the product does not enter the environment through soil or water courses.

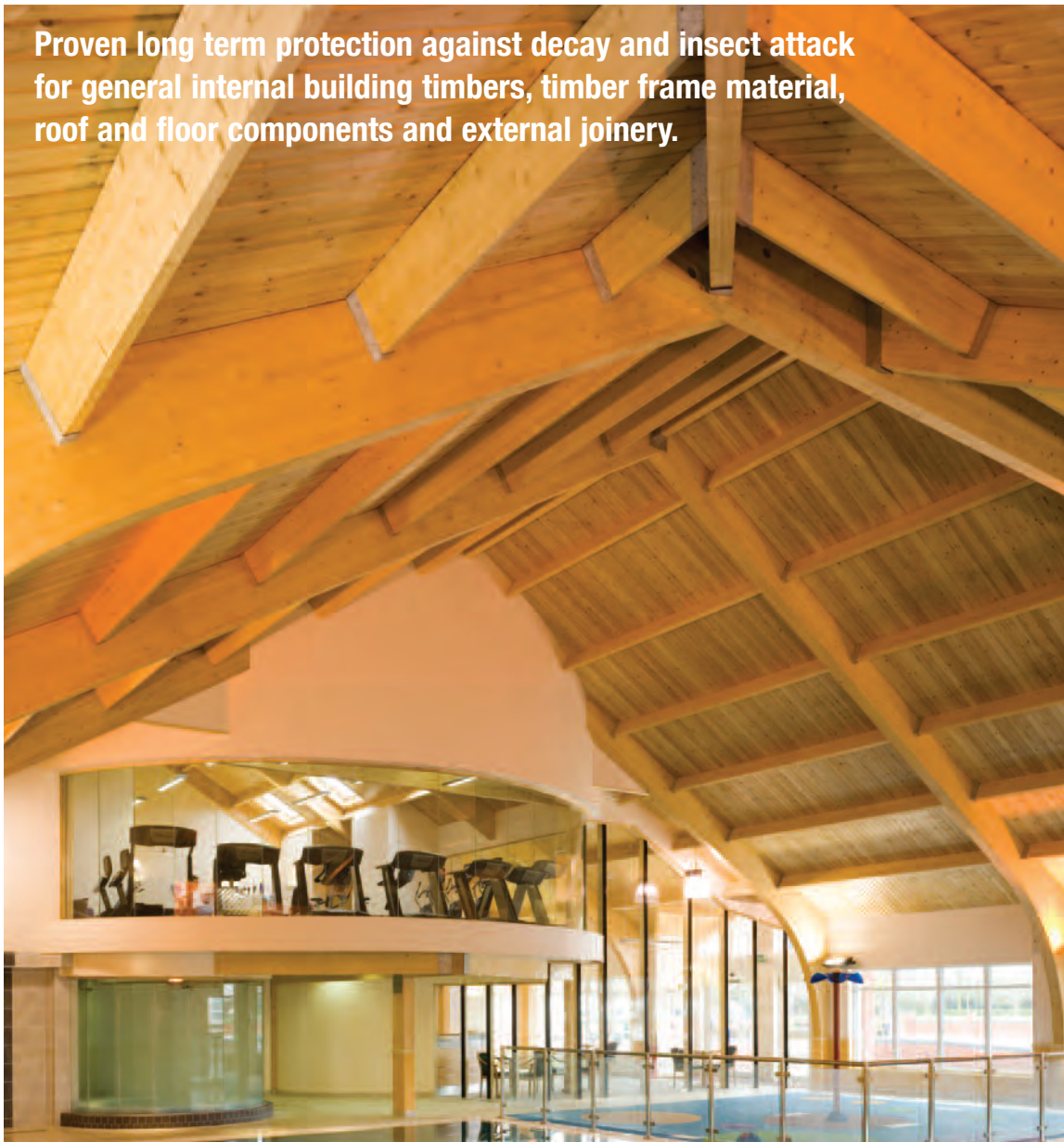
Vacsol™ AQUA
TREATED TIMBER

Vacsol™ AQUA-LINE
TREATED I-STUDS



VACSOL family

Proven long term protection against decay and insect attack for general internal building timbers, timber frame material, roof and floor components and external joinery.



Lonza
Lonza Wood Protection

TREATED TIMBER

TREATED I-STUDS

VACSOL Aqua treated timber

TREATED TIMBER

- VACSOL Aqua treated timber is protected with VACSOL Aqua waterbased preservative, containing biodegradable fungicides.
- Proven performance against fungal decay and insect attack.
- The appearance of the timber is virtually unchanged.
- For use in internal and external building applications above dpc level where there is a low to medium risk of fungal decay or insect attack - e.g. timber frame components, external joinery, construction, roofing and flooring timbers. VACSOL Aqua treated exterior woodwork should be subsequently protected with a maintained and appropriate surface coating.

TREATED I-STUDS

SPECIALLY DEVELOPED FOR THE TREATMENT OF I-STUDS/I-BEAMS IN TIMBER FRAME CONSTRUCTION.

VACSOL Aqualine has been specifically developed to allow the use of I-Studs/I-Beams in external walls where preservative protection is required to meet the latest standards.
The in-line application system provides a fast, efficient and effective method of protecting I-Studs/I-Beams.

TO SPECIFY, the following wording is recommended . . . (UK only)

- **The timber as detailed . . . (insert quantity, dimensions, species and its end use/description of component) . . . is to be vacuum/pressure treated with VACSOL Aqua preservative to comply with the Treatment Code . . . (insert "VA" Code from the chart opposite).**
- **For the specification of VACSOL Aqualine contact Lonza Wood Protection directly.**
- **Following treatment, any areas of treated timber revealed by cross cuts, holes, notches, shall be brushed with VACSELE end-grain preservative.**
- **Timber which is rip sawn, equalised, planed or heavily sanded must be returned to the treatment plant for re-treatment.**
- **Specification clauses are available to download from the Lonza website - www.lonzawood.com**

Effective long-term protection against fungal and insect attack.

Designed for use in internal and external building applications above dpc level.

Specification chart for VACSOL Aqua treated timber

COMPONENT GROUP	USE CLASS	COMPONENT DETAILS (This list is not exhaustive. If your timber component is not listed, please contact Lonza for further advice.)	UK TREATMENT CODE	DESIRED SERVICE LIFE
Internal building timbers	1	Roof timbers (dry): pitched roofs, rafters, purlins, joists, sarking, wall plates.	VA1	60 years
	1 or 2	Roof timbers (Hylotrupes areas): Where there is a risk of House Longhorn Beetle (Hylotrupes bajulus L) according to the Building Regulations [5] (applicable to England and Wales), the Building Standards Scotland [6] and the Building Regulations (Northern Ireland) [7]: pitched roofs, rafters, purlins, joists, sarking, wall plates.	VA1	60 years
	2	Roof timbers (risk of wetting): Where components are exposed to risk of wetting due to, for example, condensation: rafters, purlins, joists, sarking, wall plates, flat roofs (cold), enclosed beams, valley gutter timbers, flat roofs (warm inverted), exposed beams.	VA1	60 years
	2	Tiling battens.	VA1	60 years
	2	Sole plates.	VA3	60 years
	2	Timber frame material: external walls/ground floor joists.	VA1	60 years
	2	Specific treatment for I-Studs and I-Beams.	VAL	60 years
External building timbers/ softwood external joinery	3C†*	Softwood window frames & casings, soffits, barge and fascia boards, cladding, doors.	VA3	30 years
Hardwood exterior joinery§	3C†*	Hardwood window frames and casings, exterior doors and frames.	VA5	30 years
Termite proofed timber	1 or 2	Internal timbers above dpc and termite shield and easily inspected.	VA2	60 years
	3C†*	External timbers above dpc and termite shield and easily inspected.	VA2	30 years
Plywood#	1 or 2	EN 636 Humid Grade (BS EN 314 Part 2 bonding class 2).	VA3	60 years
	3C†*	EN 636 Exterior Grade (BS EN 314 Part 2 bonding class 3) or WBP (weather and boil proof).	VA3	30 years

VACSOL Aqua treated timber must only be used above damp proof course level and not in ground contact.

Useful documents

The VACSOL Aqua Treated Timber User Guide provides full details on the properties and handling of VACSOL Aqua treated timber.

Cutting of VACSOL Aqua Treated Timbers

Any treated timber surface exposed by cross-cutting, drilling, notching or boring must be brushed with VACSELE end-grain preservative to maintain the integrity of the treatment. The VACSELE Technical Data Sheet provides full information on this product.

Vacsele™
END GRAIN PRESERVATIVE

SPECIFICATIONS AND STANDARDS

VACSOL Aqua preservative is tested in accordance with the requirements of EN 599, including extended field trial testing. VACSOL Aqua treated timber is treated in accordance with the penetration and retention requirements given in BS 8417. Care should be taken when specifying timber species to ensure that they can be treated in accordance with these penetration and retention requirements. Use Classes are defined in EN 335.

VACSOL Aqua treated timber meets NBS (Z12), NHBC and WPA National Specifications.

Lonza advises specifiers/users to ask for a confirmation of treatment from the supplier as part of the specification/purchase process.

DESIRED SERVICE LIFE

The desired service life does not provide a guarantee of performance but an indication of the expectation against which the recommendations for timber treatment are drawn up, assuming good design and normal conditions of use.

§ Contact Lonza Wood Protection to confirm suitability of particular hardwoods for treatment, due to potential colour variation.

† Vacsol Aqua treated exterior woodwork should be subsequently protected with a maintained and appropriate surface coating.

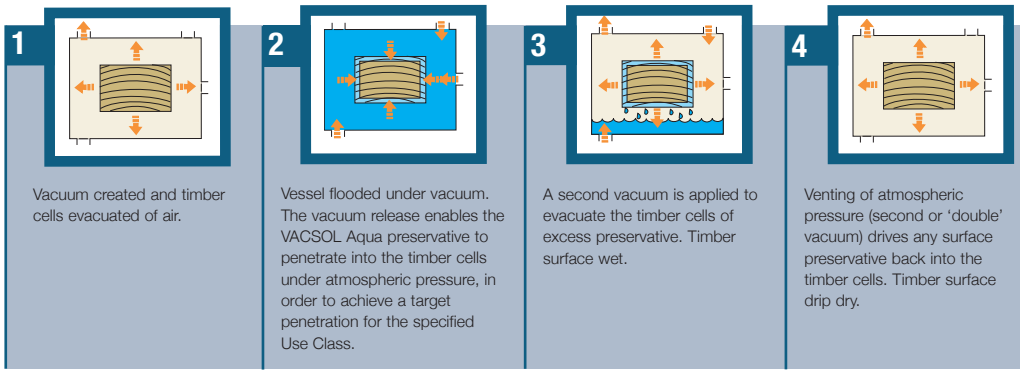
* In accordance with EN 335: 2013 Use Class 3 can also be sub-classified as 3.1 and 3.2 respectively.

Always check suitability for treatment with the plywood supplier.

Low Pressure Treated Timber

Low pressure preservative treatment process

VACSOL Aqua treated timber is impregnated with VACSOL Aqua timber preservative under controlled conditions by double vacuum/low pressure (VAC-VAC) technology in an enclosed system.



VACSOL Aqualine treatment for I-Studs/I-Beams involves an in-line, vacuumatic coating system.

Availability of treated timber/specific treatments

VACSOL Aqua and VACSOL Aqualine treated timber requirements are usually processed to order. Specific treatments are available through a wide network of timber companies and treaters throughout Europe. For details on your nearest supplier, please contact Lonza at the address below.

VACSOL family

Vacsol AQUA ™ TREATED TIMBER

Vacsol AQUA-LINE ™ TREATED I-STUDS

Lonza

Lonza Wood Protection

Wheldon Road, Castleford, West Yorkshire, WF10 2JT.

Tel: +44 (0)1977 714000 Fax: +44 (0)1977 714001

E-Mail: timberprotectionadvice.ukca@lonza.com www.lonzawood.com

In the event of an Emergency

A 24 hour emergency line is in operation in support to Lonza customers and should be contacted in the event of an accident or environmental emergency.

In case of emergency telephone +44 (0) 1235 239670 (24 hours)

Use biocides safely. Always read the label and product information before use.

Further Information

VACSOL Aqua Treated Timber User Guide.

For further information please contact Lonza Wood Protection Customer Services at the address below.

Lonza

Lonza Wood Protection

Wheldon Road, Castleford, West Yorkshire,WF10 2JT.

Tel: +44 (0)1977 714000 Fax: +44 (0)1977 714001

email: timberprotectionadvice.ukca@lonza.com www.lonzawood.com

Arch Timber Protection

CODE OF PRACTICE

REF: COP 30 Issued November 2008

VACSOL® AQUA

TREATED TIMBER & PLYWOOD CODE OF PRACTICE

Helping you make the most of timber

DEFINITION

Vacsol® Aqua treated timber is timber which has been impregnated with Vacsol® Aqua water based wood preservative under controlled conditions in a double vacuum/low pressure timber impregnation plant (Vac-Vac® plant). This results in a highly effective envelope of treatment.

Vacsol® Aqua is a water based wood preservative that contains organic active ingredients (triazole fungicides and an insecticide). It conforms to European Standards for the treatment of construction and joinery timbers and provides long term protection for both internal and external (above ground contact) timbers.

Vacsol® Aqua treated timber must only be used above the dpc level and/or above ground contact. Exterior joinery/woodwork must be subsequently protected with a maintained surface coating.

In termite areas, Vacsol® Aqua treated timber should be used above the termite shield.

This document provides guidance on using Vacsol® Aqua treated timber within the UK. For other geographic markets, additional relevant regulations and requirements may need to be considered.

VACSOL® AQUA WOOD PRESERVATIVES

Vacsol® Aqua wood preservatives are approved for use as directed under the Control of Pesticides Regulations (COPR) by the UK Health & Safety Executive. The biocides contained in Vacsol® Aqua wood preservatives are being supported under the Biocidal Products Directive.

SPECIFICATION

Consult the Arch Timber Protection Specifier's Guide to Vacsol® treated timber.

It should be noted that the treatment process parameters are varied, taking into account timber species, desired service life and to match the end use (Use Class) of the timber. It is therefore extremely important that the end use and species of the timber are clearly stated within the specification. Use Classes are defined in BS EN 335-1 but can be summarised as follows:

- Use Class 1 - internal building timbers - no risk of wetting.
- Use Class 2 - internal building timbers - risk of wetting.
- Use Class 3.1 - external timbers used above ground contact and coated.
- Use Class 3.2 - external timbers used above ground contact and uncoated.
- Use Class 4 - external timbers used in ground or fresh water contact.

APPEARANCE

After the application of Vacsol® Aqua wood preservative by the Vac-Vac® process, the appearance of the timber is virtually unchanged. However, a colourant is often included to facilitate identification of treatment.

Experience has shown to date that there is no particular problem with grain raising. However, as with all water based products, there is potential for this to take place.

Colour variations may occur due to the natural variability of the relative proportions of heartwood and sapwood and darkening of some hardwoods may occur.

UniQue timber protection

APPEARANCE (continued)

Trials should be carried out on decorative timber species (particularly hardwood species) to check any shade changes prior to treatment of the full commercial batch. Further information can be obtained from the Arch Timber Protection Advisory Service.

CONFIRMATION OF TREATMENT

Customers are recommended to obtain a Certificate of Treatment covering their orders. These are available from the processor.

Please note that the treatment process parameters are varied according to the timber species and end use of the treated timber commodity, taking into account the potential for biological degradation.

PREPARATION OF TIMBER FOR TREATMENT

Present the timber to the treatment plant in a dry and clean condition as follows:

- Dried to a moisture content of 28% or less.
- All inner or outer bark should be removed.
- Free from dirt, sawdust, surface coatings, surface water, plastic wrapping, ice and snow.
- Free from all signs of attack by bacteria, blue staining fungi, wood destroying fungi or insects.
- As far as possible, all cutting, machining, planing, notching and boring is to be carried out prior to treatment - (see section on post-treatment machining).
- DO NOT attach metal fittings prior to treatment.
- DO NOT excessively tighten any banding around the timber pack.
- Use sticker-stacked pack configurations to optimise post-treatment drying.
- DO NOT treat timber wrapped in polythene.
- DO NOT treat frozen timber.
- Sheet materials, e.g. plywood, should be stickered at least every second layer before treatment.
- Ideally timber and sheet material should be sloped in the treatment vessel to aid preservative run off during final vacuum of the treatment process. This promotes good post-treatment drying.
- Excessive tight banding on timber packs, on bogie strapping and on planed dressed material, should be avoided.
- Where close tolerance work is involved it is advisable to pre-machine the timber at the 'in-service' equilibrium moisture content. It is then the contractor's responsibility to ensure that the need for re-drying is recognised and allowed for.

POST-TREATMENT STORAGE AND ON-SITE PROTECTION

When received, Vacsol® Aqua treated timber should be free from surface liquid. Drying will be accelerated when stored in a well ventilated, weather protected area.

Impregnation of timber with Vacsol® Aqua imparts a low moisture uptake. This may cause slight swelling across the end grain surfaces. If this occurs treated material should be stored, open stacked, to provide sufficient ventilation for moisture to evaporate. The timber will re-dry to its original dimensions when placed in the same temperature and humidity conditions in which it was machined and profiled prior to treatment.

Flat items such as sheets of plywood should be separated and either stickered horizontally or stacked more or less vertically, with air space between them to promote drying.

Building components stored on a building site should be clear of the ground and stacked and protected so that they are not distorted or saturated by rainwater.

POST-TREATMENT MACHINING

Some cross-cutting on-site is unavoidable. This will expose an untreated core and it is imperative that cross-cuts, notches and bored holes be liberally swabbed with Vacsele® end grain preservative to maintain the integrity of the preservative protection.

Rip sawing, grooving, planing and heavy sanding are not permitted unless the timber is returned for re-treatment to maintain the integrity of the preservative protection.

GLUING

PRE-TREATMENT

Assemblies which are to be treated with Vacsol® Aqua wood preservative may first be glued using a suitable waterproof adhesive. Consult the glue manufacturer on the suitability and use of their particular product and follow the directions of the appropriate regional standards.

Melamine urea formaldehyde, emulsion polymer isocyanate, melamine formaldehyde and phenol resorcinol formaldehyde types are generally used.

Polyvinyl acetate, Casein, or urea formaldehyde types are NOT recommended.

It is important that the glue lines should be fully cured as required by the glue manufacturer, usually several days before the assembly is sent for treatment.

Where enclosed cavities are involved, access holes must be drilled to permit the entry and exit of preservative solutions.

Plywood may be treated provided it is of an appropriate grade - see section on typical applications.

Timber which is to be bonded prior to treatment with Vacsol® Aqua should be glued using a suitable waterproof adhesive e.g. Resorcinol Formaldehyde, Phenol Formaldehyde, Kascanite and exterior PVA glue. The glue manufacturer's recommendations should be followed at all times and sufficient time allowed for glues to cure properly before treatment.

POST-TREATMENT

Vacsol® Aqua treated timber may be bonded with a range of adhesives, including the following:
Resorcinol Formaldehyde or Phenol Formaldehyde
Urea Formaldehyde
PVA emulsion

When bonding preservative treated timber, care should be taken to prepare the surfaces prior to application of the adhesive.

The glue manufacturer's instructions should be followed at all times.

Where impact adhesives are to be used or highly stressed glue joints are to be made (e.g. 'Glulam' beams) using Vacsol® Aqua treated timber, advice should be sought from the Arch Timber Protection Advisory Service.

PUTTIES, MASTICS & SEALANTS

Reference should be made to BS6262, Code of Practice Glazing for Buildings.

The choice of putties, mastics and sealants is dictated by the characteristics of the primer/basecoat used. It is not influenced by the fact that the timber has been Vacsol® Aqua treated.

Where any doubt exists advice should be sought from the manufacturer of the putty, mastic or sealant in the first instance and then from Arch Timber Protection.

SURFACE COATINGS

Over absorbent timber may adversely affect decoration. Care should be taken to ensure adequate drying of timbers suspected of over absorbency or thin timbers, e.g. cladding and beading, before any surface coating is applied.

Arch Coatings UK (Tel 01977 673363) supplies a range of solvent and waterbased primers and basecoats which are compatible with Vacsol® Aqua treated timber. These are recommended for use when factory finishing is envisaged. When other coatings are to be used the advice of Arch Timber Protection and the coating manufacturer should be sought.

The following notes apply to common painting practice.

SOLVENT BASED DECORATIVE COATINGS

i) Vacsol® Aqua treated timber

Freshly treated Vacsol® Aqua timber should be allowed to dry for 48 hours, open-stacked in an under cover, well ventilated area, prior to application of primer or basecoat e.g. Hickson Predec (see section on over absorbency). For this air drying time, the timber should be open-stacked and in a well ventilated area.

a) Where acrylic primers are to be used, it is advisable to carry out a simple test to establish compatibility.

b) When using aluminium leafing primer, longer periods of drying may be necessary after Vacsol® Aqua treatment due to the sealing characteristics of this type of coating.

c) A further 7 days should elapse before the final paint or stain finishes are applied, allowing normal drying time before applying each coat.

ii) Vacsol® Aqua treated plywood

The time allowed between treatment and priming depends upon drying conditions, the types and thickness of plywood used and the amount of preservative absorbed during treatment. Before applying a basecoat, it is recommended that at least 72 hours be allowed from the time that the sheets of treated plywood are separated for drying under favourable conditions, and that a further 7 days elapse before final paint/stains are applied.

WATER BASED DECORATIVE COATINGS

i) Vacsol® Aqua treated timber

Freshly treated Vacsol® Aqua timber should be allowed to dry for 48 hours, open-stacked in a well ventilated area, prior to application of a primer or basecoat. A further 7 days should elapse before the final paint or stain finishes are applied, allowing normal drying time before applying each coat.

ii) Vacsol® Aqua treated plywood

The time allowed between treatment and priming depends upon drying conditions, the types and thickness of plywood used and the amount of preservative absorbed during treatment. Before applying a basecoat, it is recommended that at least 72 hours be allowed from the time that the sheets of treated plywood are separated for drying under favourable conditions and that a further 7 days elapse before final paint/stains are applied.

METAL FIXINGS & FITTINGS

i) Vacsol® Aqua treatment has no corrosive effect on mild steel fittings and fixtures.

The timber must be at a moisture content below 20% before mild steel fixings and fittings are applied and must remain below 20% in service.

ii) Where higher moisture contents (above 20%) are expected in service, galvanised steel, stainless steel, copper, aluminium or brass fixings and fittings should be used. At least 24 hours should elapse after treatment before these fixings are applied.

iii) For trussed rafter manufacture, the provisions of BS 5268: Part 3 should be followed. Trussed rafters should be stored on-site and out of ground contact. Rafters should be protected in accordance with Section 7 of BS 5268, if the storage time exceeds two weeks.

iv) Zinc sheeting can be applied to Vacsol® Aqua treated timber so long as the timber is completely dried - less than 28% moisture content.

FLOOR COVERINGS AND PLASTERBOARD/ABSORBENT COMPOSITE BOARD MATERIALS

Where Vacsol® Aqua treated timber is to be in contact with floor coverings, plasterboard or other absorbent material, care should be taken to ensure adequate moisture evaporation has taken place prior to fixing, otherwise the substrate may absorb excess Vacsol® Aqua solution (see section on over absorbency).

If necessary, the moisture content of the timber should be checked. However it should be noted that moisture meters may be affected by preservative treatment. Moisture meters with insulated probes should therefore be used.

TYPICAL APPLICATIONS

If in doubt about any particular area of application or compliance with other relevant standards or specifications, it is advisable to consult with Arch Timber Protection using the contact details given in this document.

This list, which is not totally exhaustive, gives an indication of the range of timbers and timber based products which can be treated with Vacsol® Aqua wood preservative. The treatment process parameters are varied to match the end use of the timber and its species. It is therefore extremely important that you make sure that the timber has been treated to the correct specification.

HARDWOOD EXTERIOR JOINERY
Hardwood window frames and casings, exterior doors and frames.

PLYWOOD
Under previous systems WBP (weather and boil-proof) grade plywood was classified under BS1204. This standard has now been withdrawn.

Now plywood grades are based on BS EN 636 (Dry, Humid and Exterior classifications), which themselves are based on bonding classes 1, 2 and 3 from BS EN 314 Part 2. Plywood that is either WBP or BS EN 636 Exterior grade (BS EN 314 Part 2 bonding class 3) should now be specified. Humid grade (bonding class 2) might be acceptable, but the board manufacturer or supplier should be asked to confirm that Humid grade board can be put through a double vacuum (Vac-Vac®) treatment process.

EXTERNAL BUILDING TIMBERS
Structural elements and general timbers in domestic, commercial and public buildings, such as wall frames, sole plates, beams, joists, sub-floors, roof timbers, battens, cladding, roof shingles.

SOFTWOOD EXTERNAL JOINERY
Softwood window frames and casings, soffits, barge and fascia boards, cladding, load bearing joinery and doors.

MISUSE

DO NOT USE VACSOL® AQUA TREATED TIMBER IN THE FOLLOWING SITUATIONS:

1. Below dpc and/or in ground contact.
2. In termite areas below the termite shield.
3. In direct contact with foodstuffs.
4. In an exterior situation without a protective coating.

Note: In the situation where Vacsol® Aqua treated timber is exposed to high humidity and condensation (e.g. swimming pool roofs), it is recommended that the timber is coated with an appropriate coating containing an effective anti-blue stain biocide.

OVER ABSORBENCY

Occasionally, a parcel of timber will contain some pieces which have an abnormally permeable sapwood. Such pieces should be placed on one side for prolonged drying before overpainting/staining or the fixing of porous materials which may absorb the excess solution and adversely affect subsequent decoration.

HEALTH, SAFETY, HANDLING AND DISPOSAL

Reference should be made to the Consumer Information Sheet for Vacsol® treated timber and plywood. This is available from the Arch Timber Protection Advisory Service. The Consumer Information Sheet is also relevant for COSHH purposes.

FURTHER INFORMATION

Consumer Information Sheet for Vacsol® treated timber.

Specifier's Guide for Vacsol® treated timber.

For further information, please contact the Arch Timber Protection Advisory Service at the address below.

Arch Timber Protection Limited has produced this Code of Practice for information only. Whilst every attempt has been made to ensure the accuracy and reliability of the information contained in this document, Arch Timber Protection Limited gives no undertaking, warranty or promise that the information is correct and customers should take all reasonable precautions to ensure the use and application of Vacsol® Aqua treated timber, as the case may be, is fit for the customers or end users' particular purpose. Arch Timber Protection Limited expressly disclaims and excludes all warranties, conditions, representations and terms, whether expressed or implied by statute, common law or otherwise with respect to the information contained in this document or the subject matter thereof. Arch Timber Protection Limited reserves the right, at its sole discretion, to amend or withdraw any information contained in this document but does not undertake any duty to update such information.

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This Code of Practice has been written for businesses purchasing Vacsol® Aqua products from Arch Timber Protection Limited. The customer is advised to read the Code of Practice in full as it contains important information, but the customer needs to decide for itself whether or not the product is suitable for its or the end users' particular purposes and should ensure that its employees, contractors and others working for it and who will use the products do so in a safe manner. This document is intended for use by businesses only and is not intended to be used by retail consumers.

ARCH Arch Timber Protection

Wheldon Road, Castleford, West Yorkshire, WF10 2JT.
Tel: (01977) 714000 Fax: (01977) 714001
E-Mail: advice@archchemicals.com www.archtp.com

IN CASE OF EMERGENCY TELEPHONE (0208) 762 8322 (24 hours).

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Responsible Care

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