Conditions for approval of industrially protected wood in the Nordic Countries

Part 4: Modified wood

NWPC Document No. 2 Part 4:2017

Nordic Wood Preservation Council 2017

Part 4: Modified wood
Document valid from 1st of January 2017
The original language of this Document is English.

Contents

1 Introduction

NWPC Document No. 2 part 4 introduces modified wood within the NTR classification system.

The official language of this Document is English.

2 Scope

This document comprises the Nordic Wood Preservation Council's (NWPC) conditions for approval of modified wood for the production of quality certified protected wood according to NWPC Document No. 1- Part 4.

The conditions are in principle based on EN 599 introducing additional requirements with respect to the mode of action of the modified wood. The standard is applicable to industrial treatment of any wood species suitable for the treatment as long as the requirements are fulfilled.

The approval of modified wood treatments according to this document is restricted to:

- Modification of wood involving a chemical, biological or physical treatment of the wood material, resulting in an improvement of biological durability in service. The method used must not involve a product that is listed as an active ingredient (biocide) in the Biocidal Products Regulation (BPR). No emission of toxic substances from the wood listed in Annex A is allowed in use, at disposal or when recycled.
- At present the modification methods can be subdivided into thermal, chemical, biological and enzymatic treatments. This document covers thermal and chemical treatments.

The approval scheme is operated by the NWPC and a certificate, see Annex 1, confirms the approval of the modified wood product. The approval is valid in Denmark, Finland, Norway, Iceland and Sweden.

3 References

For undated references, the latest edition of the referenced document applies.

EN 599-1	Durability of wood and wood-based products – Efficacy of preventive wood preservatives as determined by biological tests – Part 1: Specification according to use class
EN 73	Wood preservatives – Accelerated aging tests of treated wood prior to biological testing – Evaporative ageing procedure
EN 84	Wood preservatives - Accelerated ageing of treated wood prior to biological testing - Leaching procedure
EN/TS 15083-1	Durability of wood and wood-based products – Determination of the natural durability of solid wood against wood-destroying fungi, test methods – Part 1: Basidiomycetes
EN 350-1	Durability of wood and wood-based products - Natural durability of solid wood – Part 1: Guide to the principles of testing and classification of the natural durability of wood.
EN 351:	Durability of wood and wood-based products - Preservative-treated solid wood. Part 1: Classification of preservative penetration and retention. Part 2: Guidance on sampling for the analysis of preservative-treated wood.

DS/CEN/TS 15083-2	Durability of wood and wood-based products –Determination of the natural durability of solid wood against wood-destroying fungi, test methods – Part 2: Soft rotting micro-fungi
EN 252	Field test method for determining the relative protective effectiveness of a wood preservative in ground contact
EN 275	Wood preservatives - Determination of the protective effectiveness against marine borers
EN 330	Wood preservatives - Field test method for determining the relative protective effectiveness of a wood preservative for use under a coating and exposed out of ground contact: L-joint method
EN 335	Durability of wood and wood- based products - Definition of use classes - Part 1: General
NWPC Document No. 1	Nordic Wood Preservation Classes for industrially protected wood. Part 4. Modified wood
NWPC Document No. 3	Nordic requirements for quality control of industrially protected wood. Part 4. Modified wood
CEN/TS 12037	Field test method for determining the relative protective effectiveness of a wood preservative exposed out of ground contact - Horizontal lap-joint method
BPR	Biocidal Products Regulative, regulation (EU) no 528/2012 of the European parliament and of the council of 22 may 2012

4 Definitions

Modifying agent(s): The individual chemical compound or compounds included in the modification system to modify specific wood properties. In this document to give protection against biological decay.
analytical zone: That part of the treated wood which is analysed for assessing the modification requirement'.
NOTE: The analytical zone is taken from the lateral surfaces of the modified wood. The depth to which sampling is required will depend upon the species of wood being analysed and the modification level concerned.
MC: Moisture content
MC = (mass of moist wood – dry mass of wood)/dry mass of wood
MEE: Moisture exclusion efficiency.
MEE = (MC for untreated wood – (1 + WPG/100) * MC for modified wood)/MC for untreated wood.
The moisture content is determined at a specific relative humidity (RH).
MLP: Mass loss percentage after exposure to biological attack.
WPG: The weight percent gain after the modification treatment of the wood.
performance: Behaviour of the modified wood in terms of its effectiveness in test.
NOTE: The term 'performance' applies also to its behaviour in terms of its effectiveness in practice against the individual or collective effects of particular biological agents of deterioration.

5 Symbols and abbreviations

CAS number: Chemical Abstracts Service registry number.
EINECS number: European Inventory of Existing Chemical Substances number.

6 Requirements and application

6.1 General

The approval is applicable to modified wood only. It is not applicable to single modifying agents. The application for approval of the modified wood for the production of quality controlled modified wood

must be completed on a special form and submitted to the NWPC Technical Expert Group's Secretariat, cf. Annex 2.

6.2 Applicant

The applicant shall be the producer of the modified wood or shall have all rights needed to seek approval. Where the applicant is not the data holder for the dossier associated with the required documentation, a letter of access will be required for each document in the dossier.

6.3 Trade name of the product

The trade name of the product must be unambiguous. The NWPC can accept that a particular product is marketed with different trade names in the Nordic countries, provided all trade names are stated in the application and thus can be stated in the NWPC Certificate of approval.

6.4 Wood protection classes

The application for approval can refer to one or more Nordic wood protection classes see NWPC Document no. 1 Part 4.

6.5 Characterization of the modification method

Wood Modification involves in this document the mode of action of a chemical agent or physical treatment on a wood species resulting in an improved durability against biological degradation of the material.
No other properties than durability are considered, however, in Annex 2, a list of properties relevant for practical purposes which must be taken into account when using modified wood is presented. Other properties may also be considered. Basically, two types of non-biocidal modifications are considered:

Physical treatments: e.g. thermally modified wood, steam treated wood and densified wood.
Chemical treatments: Chemical agents that are either filling the lumen and/or cell wall or even reacting with the cell wall components. The agent must not have any biocidal effect on the wood. This means e.g. if a biocide is listed in the Biocidal Products Regulative (BPR) the chemical cannot be a modifying agent.
The modification procedure, i.e. both possible agents and the process of modification, must be described in full detail as well as the possible mode of action when applying for an approval. In case of chemical modification with penetrating processes, the following applies:
The state of delivery, e.g. paste, granulate, liquid, etc. and the complete formulation of the modifying agent shall be given. The ingredients shall be stated by empirical formula, CAS and EINECS number if applicable and percentage m/m. If additives are used, these shall be stated by type,
The various components shall be grouped, where applicable, into

- modifying agents with CAS and EINECS No. or other identification,
- solvents,
- co-solvents,
- pH stabilizers,
- anti-foaming agents,
- catalysing agents
- etc.
- modifying agents and other components (without mentioning individual substances) will be stated in the certificate of approval. In case of e.g. heat treatment, the temperature range (without mentioning the specific temperature history) will be stated in the certificate of approval.

The product's content of the various components shall be stated where relevant with the following tolerances:

Nominal content of modifying agent					Tolerance, percentage of nominal content
0 %	<	active ingredient	≤	1,0 % m/m	± 20.0 %
1.0 %	<	active ingredient	≤	2.5 % m/m	± 15.0 %
2.5 %	<	active ingredient	≤	10.0 % m/m	± 10.0 %
10.0 %	<	active ingredient	≤	25.0 % m/m	± 6.0 %
25.0 %	<	active ingredient	≤	50.0 % m/m	± 5.0 %
50.0 %	<	active ingredient	≤	100.0 % m/m	± 2.5 %

For modifying agents and co-components the following physical properties shall be stated:

- Density (g/cm³ at 20 °C)
- Kinematic viscosity (mm²/s at 20 °C)
- Flashpoint (°C, minimum)
- Water content (% v/v, maximum)
- Distillation range (°C); when 90 % has been distilled off
- For both chemical and physical modifications, the process used shall be stated in terms of:
  - Treatment/curing conditions if applicable (e.g. temperature, pressure, atmosphere)
  - Post-treatment

6.6 Biological tests

6.6.1 General

Mandatory tests for each protection class are stated in Annex 3. All classes require testing according to EN 15083-1 and when in ground contact also EN 15083-2 including ageing after EN 73 and EN 84 separately. The MLP (mass loss percentage) is determined and requirements for MLP are included. The evaluation can also be done based on the x-value comparing the weight loss with the weight loss of the reference samples. Furthermore, efficacy testing in field (EN 330, EN 252, CEN/TS 12037 and EN 275) is included depending on the preservation class.
The moisture exclusion efficiency, MEE, is used to quantify the effectiveness of a modification method. The mode of action for modified wood is most often based on moisture exclusion or in other words, a reduced moisture content in the modified wood compared to untreated wood. MEE is calculated as the relationship between the difference in equilibrium moisture content, (EMC), between untreated and modified wood and the moisture content of the untreated wood. The range of RH must include 85% and contain at least four measuring points on the sorption isotherm.
MEE at 85%RH = (MC (at 85% RH) for untreated wood – (1 + WPG/100) * MC (at 85% RH) for modified wood)/MC (at 85% RH) for untreated wood. MEE must be above 40%.
Reference specimens should preferably be *Pinus sylvestris* sapwood for testing modified wood based on softwood and *Fagus sylvatica* for testing material based on hardwood.
Back to back approval (analogical approval/parallel approval) will only be granted for identical formulations of modifying agent or modification process and require a letter of access from the original approval holder also at the time of renewal.
Reports from biological testing must contain information and confirmation of the tested product's chemical composition, e.g. by a report on analysis of the chemical ingredients of the product. Independent institutes accredited for the method shall carry out the efficacy test as well as the physical test. The chemical analyses must be done at an independent institute.

6.6.2 Wood preservation class B mod – test requirements

Commodities, such as external joinery, intended for use in conjunction with paint or other coating or with some other form of protective covering applied prior to exposure in use, which protects the modifying agent from leaching.

- Wood destroying basidiomycetes fungi in accordance with EN 15083-1 after EN 73 and EN 84 separately, but excluding *Coriolus versicolor*.
- Field test in accordance with EN 330 (L-joint) of the modified wood. The test shall be carried out until the untreated control samples of Scots pine sapwood have reached the mean rating 3 (severe decay).
- MEE according to the enclosed annex 3. MEE must be above 40%.
- Changing of modifying treatment may require new tests.
- The test shall be continued and reported when applying for renewal.

6.6.3 Wood preservation class AB mod – test requirements

- Commodities for use above ground other than in "Class B mod".
- Wood destroying basidiomycetes fungi in accordance with EN 15083-1 after EN 73 and EN 84 separately, but excluding *Coriolus versicolor*.
- A field test according to L-joint (EN 330) (optionally full sapwood penetration) for surface coated treatments or Lap-joint (CEN/TS 12037. The test shall be carried out until the un-treated control samples of Scots pine sapwood have reached the median rating 3 (severe decay).
- The test shall be continued and reported when applying for renewal.
- If the modified wood is tested and approved according to class A mod, a field test above ground is not required. However, a suitable level of treatment must be verified.
- MEE according to the enclosed annex 3. MEE must be above 40%.

NOTE: If surface coating before exposure is recommended by the producer, the test samples must be surface coated with the recommended product before field testing.

6.6.4 Wood preservation class A mod – test requirements

Modifying treatment to be used for NWPC wood protection class A mod shall be tested according to Annex 3, Use class 4.

The minimum biological testing requirements are:
- Wood destroying basidiomycetes fungi in accordance with EN 15083-1 and EN 15083-2 after EN 73 and EN 84 separately and including *Coriolus versicolor.*
- Field test in accordance with EN 252 after a minimum period of five years at three test sites - at least two of them in the Nordic area.
- MEE according to the enclosed annex. MEE must be above 40%.

6.6.5 Wood preservation class M mod – test requirements

Modifying treatment to be used for NWPC wood preservation class M mod shall be tested according to Annex 3, Use class 5. The minimum biological testing requirements are:
- Wood destroying basidiomycetes fungi in accordance with EN 15083-1 and 15083-2 after EN 73 and EN 84 separately and including *Coriolus versicolor.*
- Marine organisms in accordance with EN 275 after a minimum period of five years at one test site in the Nordic area.
- MEE according to the enclosed annex. MEE must be above 40%

6.7 Methods for checking compliance of the modified wood

The application shall contain documented results of the treatability properties and stability in use and storage of the modifying agent for chemical treatments.

The applicant shall advise methods for:
- Determination of adequate intensity of modification in the modified wood, e.g. moisture exclusion measurements, colour changes etc. It must be a validated control method.

6.8 Treatability properties – all classes

The uptake and penetration into a suitable wood species for the wood protection class in question shall, when applicable, for new modification agents be demonstrated according to the following procedure at an independent institute:

20 cladding boards, (thickness 19-25 mm and minimum width 95 mm) and 20 planks (planed, minimum thickness 45 mm and minimum width 95 mm) of Scots pine shall be modified in a pilot or commercial plant according to a typical process to be used in practice. The treatment must be done or supervised by an independent accredited institute. Minimum 50 % of the cross sections of the test samples must consist of sapwood when applicable (e.g. not the case for heat treated wood). Test samples less than 1 m length must be end-sealed if impregnated with chemical systems. After modification, the samples are cut in the middle and the following requirements apply:

- Maximum three (3) samples of each type may have untreated sapwood zones.
- All other samples must be modified in the entire sapwood region.
- If the modification does not colour the wood, the intensity of modification must be documented by chemical analysis or moisture exclusion measurements in various depths from the surface.

If certain additives are recommended, e.g. for certain periods of the year, such as:
- pH stabilisers
- Colour stabilisers
- Water-repellents

the treatability properties must be demonstrated with relevant amounts of these additives.

6.9 Technical data sheets

The application must contain draft technical data sheets for:
- The wood modifying agent if applicable
- Additives, if applicable
- The treated wood

See Annex 4 for guidance to prepare the technical data sheets.

7 Procedure

7.1 Application (both new and renewal)

The application form, see Annex 2, properly filled out and relevant annexes, such as test reports, methods of analysis and draft technical data sheets shall be submitted at least one month before the NWPC-TEG (NWPC Technical Expert Group) meeting by email to the Chairman of NWPC-TEG**. For address and date, see** www.ntr-nwpc.com or contact the secretary.

The NWPC TEG secretariat will acknowledge the receipt of the application and arrange for an invoice of the application's general or renewal fee from the NWPC secretariat. The class fee per year will be invoiced after the approval.

Information about current fees can be obtained from the NWPC secretariat.

Normally the NWPC TEG will not process the application before it is complete according to this document and the general or renewal fee is paid.

7.2 Confidentiality

The NWPC TEG and the NWPC TEG secretariat will process all applications with confidentiality.

7.3 Approval

Normally the NWPC TEG has two annual meetings. Approval or refusal of the modification is reported to the applicant within one months after the meeting. NWPC TEG decisions are final. Only the reasons for refusal are explained.

7.4 Certificate of approval

The approval is reported in the form of a certificate, which is signed by the Chairman of the NWPC TEG, see Annex 1. The certificate of approval only refers to protection against the relevant biological agencies and does not consider physical, chemical or environmental properties of the modification. The approval is valid in Denmark, Finland, Iceland, Norway and Sweden.

7.5 List of approved modifying systems

The NWPC will issue, normally twice per year, an updated list of approved modifying systems.

7.6 Communication

All communication with the NWPC TEG has to be through the Chairman of NWPC TEG. The address for NWPC TEG Secretariat, see www.ntr-nwpc.com.

8 Evaluation

The NWPC TEG will evaluate the application and in this process particular pay attention to mass loss percentage, moisture exclusion efficient and field data as well as all other relevant information about the performance of the modified wood in addition to the NWPC TEG-members experience, before the product is approved.

9 Approval certificate

A NWPC-approval is reported in the form of a certificate, which is normally valid for 5 years. This is submitted to the applicant. The NWPC TEG Secretariat and members of the NWPC TEG hold confidential copies. The national Nordic quality control bodies, see NWPC Document No. 1, may request copies of the certificates from the certificate holders.

10 Renewal

An approval is normally valid for five years. It can be renewed following a written application, payment of a renewal fee and consideration by the NWPC TEG. The NWPC TEG Secretariat will remind certificate holders at least two months before the expiry date.

Application for renewal shall contain updated field test results.

11 Changing of the modification agent formulation, system or thermal process

The owner of the approval certificate is responsible to inform NWPC TEG if any changes are done to the process or the solution. NWPC TEG will then consider accordingly if the changes will require a re-testing of the modification system.

12 Withdrawal of the approval

The NWPC TEG can withdraw an approval immediately, after consulting the producer, if the modification's biological efficacy fails in practical use.

13 Revision and withdrawal of this document

This document can be revised by the NWPC. It can be withdrawn with one year's notice.

Annex 1 (normative)

CERTIFICATE

Modification

Acetylation OR: "Acetylated wood" if the certificate covers the modified product rather than the modification agent+process.

Requested by

XXXX

Description of modification agent and process

Modification agent formulation

Chemical	CAS no.	EINECS no.
Acetic anhydride	xxxxx	zzzzz
XXX	xxxxx	zzzzz

Process
Curing at temperatures 180- 220 °C
Wood material (Only for certificate covering the modified product)
Radiata pine (*Pinus radiata*)

Conditions of approval

The modification is approved for use in the following Nordic Wood Preservation Classes according to NWPC Document No. 1 which is the Nordic interpretation document of EN 351 and EN 599.

Nordic Wood Preservation Class	**M mod**	**A mod**	**AB mod**	**B mod**
European Use Class	5	4	3	3 coated

Retention, sapwood XX% weight percent gain (WPG)

This approval is valid for Radiata pine (Only relevant if the certificate covers modification agent+process).

Remarks and Reservations

This approval only refers to protection against biological agents and does not consider physical or chemical properties of the modified wood.

This approval only refers to the modification agent and process (OR "modified product"). Wood modified to the classes M mod, A mod, AB mod, and B mod is exclusively supplied by modification plants affiliated to the Nordic Quality Control Scheme for Preservative-treated Wood according to NWPC Document No. 3.

This certificate must only be reproduced in its complete form.

Validity

This approval is valid until December 20XX. However, it can be withdrawn earlier if it is considered necessary following new test results etc. For validity, see the latest issue of the NWPC list of approved products.

Signature name

Chairperson of NWPC – Technical Expert Group

Annex 2 (normative)

Application for Approval of Modified Wood
☐ New product ☐ Renewal of product with certificate no._____

1 Applicant

Name: _____

Address: _____

Telephone: _____ Telefax: _____

E-mail: _____ Internet: _____

2 Name of product:

_____

3 Wood preservation class

Approval is applied for the following Nordic wood preservation class(es) according to NWPC Document No. 1 Expected retentions are expressed as % WPG (Weight Percent Gain) sapwood.

Wood species		Classes applied for; please tick in appropriate box(es)			
Trade name	*Botanical name*	M mod	A mod	AB mod	B mod
European redwood	*Pinus sylvestris*				

4 Data of the modification agent and/or process

State when delivered (paste, powder, granulate liquid etc.)
and packaging: Appendix No. _____
Chemical composition [1)] incl. possible additives: Appendix No. _____
Physical data [2)]: Appendix No. _____
Documentation re chemical analysis of ingredient(s): Appendix No. _____

Description and documentation of modification and
modifying system Appendix No. _____

[1)] Biological test results
See also Annex 3

Laboratory tests:

- Basidiomycetes:
  EN 73 + EN 15083-1+ or - *Coriolus versicolor:* Appendix No. _____

  EN 84 + EN 15083-1 + or - *Coriolus versicolor*: Appendix No. _____
- Soft rot: EN 15083-2 Appendix No. _____
- MEE (sorption isotherms) Appendix No. _____

Field-tests above ground:

- EN 330 L-joint: Appendix No. _____

- CEN/TS 12037 Lap-joint or other: Appendix No. _____

Field tests in ground contact: EN 252: Appendix No. _____
Marine test in seawater: EN 275: Appendix No. _____
Moisture Exclusion Efficiency Appendix No._____
Chemical analysis of tested product for each test above: Appendix No. _____

5 Treating properties and stability

Tested according to paragraph 6.8: Appendix No. _____

6 Methods of analysis and quality control

Method(s) of analysis for determination of the modification agent (s) in the treated wood: Appendix No. _____
Method(s) of analysis for determination of the retention of the modification agent(s) in the treated wood: Appendix No. _____
Method(s) for determination of the concentration of the modification agent solution at the treating plant in those instances where the solution is prepared by diluting a concentrate or prepared from a powder etc: Appendix No. _____

8 Other information

Records of the durability of the modified wood under service conditions: Appendix No. _____

Draft technical data sheet for the modifying system: Appendix No. _____

Draft technical data sheet for the treated wood: Appendix No. _____

The undersigned understands that:

- the application will be treated confidentially as soon as the application fee, after invoicing, has been paid to the NWPC
- only the efficacy of the modification against biological degradation is considered by the NWPC
- any approval that may result will be communicated in the form of a certificate with a validity of five years but the approval can be withdrawn immediately if considered necessary on account of new evidence
- copy of the approval will be distributed to the national bodies responsible for the quality control and certification of modified wood

_____ _____

Place and date Name in capital letter

_____ *Signature*

Annex 3 (informative)

Minimum requirements for fungal tests

Table (informative): Minimum requirements for testing

Test Methods:	**NWPC Wood Preservation class**			
	B mod	AB mod	A mod	M mod
EN 73 + EN 15083-1 without *Coriolus versicolor*	MLP<10%	MLP<10%		
EN 73 + EN 15083-1 with *Coriolus versicolor*			MLP<5%	MLP<5%
EN 84 + EN 15083-1 without *Coriolus versicolor*	MLP<10%	MLP<10%		
EN 84 + EN 15083-1 with *Coriolus versicolor*			MLP<5%	MLP<5%
EN 330 (the untreated reference samples shall have reached the mean rating 2 of severe decay)	+	+		
CEN/TS 12037 (the untreated reference samples of Scots pine sapwood shall have reached the median rating 3 of severe decay)		+		
ENV 807, Part 2 (optional)		(+)	+	+
EN 252 (≥ 5 years)*			+	
EN 275 (≥ 5 years, one Nordic test site)				+
MEE (85% RH) after ageing according to EN 73	>40%	>40%		
MEE (85% RH) after ageing according to EN 84			>40%	>40%

**At least three relevant test sites including two in Nordic countries*

Annex 4 (informative)

Guidelines for Technical Data Sheets

1 Introduction

A technical data sheet for the modification agent and/or process and the modified wood must be enclosed in the application as complete as possible.
During modification, one or more properties of the wood are changed. Primarily the resistance to biological degradation is increased. However, the modification can cause other important changes. The aim of the data sheet is to supply as much information as possible about the products to ensure that the modified wood will be correctly used.
This appendix is intended to help the applicant to prepare good technical data sheets. The list below includes properties and facts of importance - in certain instances of decisive importance - for an appropriate use of the modification agents and modified wood. Evidently, information on parts of Section 3 below is required only when relevant to the applications envisaged. Information presented in the data sheets can preferably be used in instructions etc.
Properties not investigated should be marked as ”not investigated” or ”investigation in hand”. If possible, references should be given for all information.
The approval will not include the contents of the technical data sheet. If obviously incorrect or misleading information is given, the NWPC TEG reserves the right to comment on it. The approval procedure may be delayed until corrections have been made and accepted by the NWPC TEG.

2 Technical data sheet for the modifying system

General description

- Condition on delivery (liquid, powder, paste etc.)
- Colour
- Odour
- Type of container.

Physical and chemical data

- Complete chemical composition and information on suitable methods for analysis of adequate modification
- Physical data important for the user to know; for instance, pH and corrosivity of modified wood.

Instructions for the use of the modification agent

- Information about which wood preservation classes the modified wood is approved for and retention requirements (these data will be obtained from the NWPC when the modified wood is approved).
- Recommended modification procedures.
- Preparation of solution; recommended concentration with regard to the modification procedure method and preservation class
- Additives; recommended concentration.

Environmental and occupational safety

- Toxicity (LD_{50}-value, toxic limit etc.)
- Safety regulations
- Disposal of spillage, sludge
- Registration with product control authorities.

3 Technical data sheet for the modified wood General

- Colour, colour fastness
- Other information on appearance, e.g. if the wood may become sticky after the impregnation
- Odour

Conditioning, fixation of the modifying system, solvent evaporation

- Conditioning and fixation properties regarding temperature, atmospheric humidity etc.
- Information about the suitability of forced evaporation of solvent and recommended procedure (for wood modified using organic solvents)

Influence of water

- Water repellent properties
- Dimensional stability, split formation, fibre swelling
- Equilibrium moisture content
- Moisture exclusion efficiency
- Leachability of active ingredients.

Strength properties

- Impact, bending, compression, cleavage and shearing strength
- Nail and screw-holding properties.

Electrical properties

- Conductivity

Fire-resistant properties

- Inflammability
- Glowing properties.

Machining properties

- Notify if treated wood has any blunting effect on tools such as saws and planes.

Compatibility with other materials

- Paints and other products for surface treatment
- Adhesives
- Metals (corrosion)
- Plastics and rubbers
- Stone, bricks, concrete
- Bituminous materials
- Putty and other sealing compounds

Treatment after modification, maintenance

- Need for surface treatment after modification
- Treatment after wood-working
- Recommended ways of maintenance, e.g. for external cladding, garden furniture etc.

Examples of suitable paints, stains etc. should to be mentioned.

Environmental and occupational safety

- Toxicity to humans and animals
- Phytotoxicity
- Disposal of waste (waste wood, discarded wood)

Restrictions concerning handling and use cf. 3.10

- Influence on food, potable water and fodder
- Indoor use.

Quality control

- Methods for checking adequate modification intensity in the modified wood.
- Other