HOMOLOGATION OF WOOD PRESERVATION PRODUCTS

NATIONAL APPLICATION DOCUMENT
Technical information

2022

Approved by the Board on 27/01/2022

Technical Information

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Informative note for the attention of producers/importers

The procedure for access to the Belgian market for a wood preservative product is a three-stage one; each stage covers an essential aspect of the matter:

1 AUTHORISATION FOR PLACING ON THE MARKET

A sales authorisation is legally required in order to place a wood preservative product on the market. A technical file must be submitted covering toxicology, ecotoxicology, labelling, restrictions on use and basic efficacy.

Applications must be sent to the Risk Management Office of the Federal Public Service Health, Food Chain Safety and Environment:

Service public fédéral Santé publique, Sécurité de la Chaîne alimentaire et Environnement
Directorat général pour la Protection de la Santé publique : Environnement
Service Maîtrise des Risques - Section Pesticides
Eurostation II
Place Victor Horta, 40 box 10 Tel : +32 (0)2 524 96 76
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2 HOMOLOGATION

An homologation is issued by the BAWP for a preservative which has been authorised and which satisfies the requirements laid down in the Belgian national implementing document for European standard **NBN EN 599-1** for the use class and method of application concerned.

The product homologation certificate specifies the minimum quantity of product required for effectiveness according to the biological tests carried out (known as the critical value) for each use class in which the product can be used.

An application for homologation is admissible only if the application procedure for an authorisation has been started.

The technical file must include the evidence of the product's effectiveness. That evidence is provided by test reports carried out by one or more approved independent laboratories in accordance with the relevant standardised tests. An application file for an homologation can be found in the administrative part of this brochure.

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To the attention of the General Secretary

3 TECHNICAL APPROVAL OF THE PROCESS

Technical Approval covers the industrial use of an homologated product. This document details the *penetration and retention requirements* laid down in the Belgian

national implementing document for standard **NBN EN 351-1**, according to the biological use class, the critical value prescribed in the approval and other factors such as the type of wood used, form and sizes of the components, envisaged use and conditions of use…. The *retention requirement* sets the amount (loading) of product that must be found in the analytical zone for its *penetration class.*

Technical Approval is essential for access to public procurement contracts and most of the private building market.

The application for a Technical Approval is admissible only if the product homologation procedure has been started.

The technical file must include the particulars of use to be complied with for the applicant's proposed application process (UBAtc offers a standard file after the application has been submitted).

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Homologation of wood preservative products
Belgian national application document

Pursuant to Standard **NBN EN 599-1**, wood preservative products can be accepted in one or more of the use classes of biological attack specified in European Standard **NBN EN 335.** The Belgian scheme for homologation of wood preservative products according to these use classes is summarised in tables 1, 2 and 3.

To qualify for homologation, a product must prove that its performances satisfy the requirements formulated in European Standard **NBN EN 599-1** for each of the biological use classes for which effectiveness is claimed. The requirements formulated cover the method of application of the product (superficial application or penetrating treatment) and the particular resistance of the type of wood to which the product will be applied (softwoods or hardwoods).

The following tables summarise the criteria applied by BAWP-homologation to determine the performances of a formulated product. These criteria incorporate the basic tests required by Standard NBN EN 599-1 **as well as the particular tests necessitated by the local biological attack hazard circumstances peculiar to our geographical region**.

The tests presented in support of the application may be carried out:

- in the applicant's laboratory, or
- in a third party laboratory, accepted by the BAWP.

The test laboratory must have the necessary qualities of impartiality and competence and must have the necessary means to carry out the tests entrusted to it.

In all cases, the test activity must be conducted in accordance with the ISO 17025 standard.

Standard NBN EN 599-1 requires the tests to be carried out on the formulated product. That notwithstanding, the BAWP approval rules allow for a limited number of these tests to be carried out on the active ingredient or a pre-formulation of it.

The results of all these tests allow the **critical value,** representing the minimum amount of product required to provide complete protection of the reference wood used in the laboratory biological tests, to be calculated for each use class considered. The homologation certificate specifies the minimum requirements of the wood preservative for each use class claimed and the granted homologation categories.

The critical values must then be translated into quantities of product to be industrially injected into the structural timber zone to be protected. These minimum **retention values** are fixed by the Technical Approval of the wood preservation process, by reference to the product penetration characteristics, the industrial treatment technique used, intended purposes, particular characteristics and sizes of the timber.

Belgian scheme for homologation of wood preservatives according to use class of biological attack

Table 1a: Preventive protection of structural timber in service

USE CLASS (NBN EN 335)	SERVICE SITUATIONS	TYPICAL EXAMPLES	LEACHING RISK
1	Wood used in building internals in permanently dry environments (relative humidity below 70 %)	Internal fittings (furniture, wood panelling, parquet flooring) where the moisture content of the wood is permanently below 20 %	nil
2	Wood not in ground contact and not normally exposed to weathering or leaching. Occasional risk of wetting.	Structural timber, roof structures, … where the moisture content of the wood may occasionally exceed 20 % Glue laminated timber components where the moisture content of the wood occasionally exceeds 20 %	low
3	Wood not in ground contact but exposed to weathering or condensation.	Solid wood or glue laminated timber components exposed to weathering or condensation	nil
4	Wood in permanent ground contact	Piles, poles, stakes, solid wood or glue laminated timber components in ground contact	very high
	Wood in permanent contact with fresh water	Wood immersed in fresh water Cooling towers	
5	Wood immersed in salt water	Port structures, wharves, breakwaters	very high

Table 1b: Preventive protection of structural timber in service – Minimal performances

USE CLASS (NBN EN 335)	RISKS				MINIMUM PERFORMANCE REQUIREMENTS (NBN EN 599)	BAWP HOMOLOGATION CODE	PROCESS APPROVAL CODES
	INSECTS[1]	ROT	BLUE STAIN	Marine borers			
1	high	__	__	__	Ip	A1	O1-Tx-O3-O5-O6
2	significant	low	low	__	Ip + Pp	A2.1	Tx-O3-(O5)-O6 S1-S2-S3-S4
					Ip + Pp + Bl	A2.2	O1-O2-O3-(O5)-O6 S1-S2-S3-S4
3	variable	significant	variable[2]	__	Ip + Pp +(Bl) + W	A3	T3-O3-(O5)-O6 S2-S4
4	variable	high	high	__	Ip + Pp + (Bl) + E	A4.1	S2-S4 CR1
						A4.2	S2-S4 CR1
5	variable	high	high	high	Ip + Pp + E + M	A5	S2-S4 CR1

[1] the presence of sapwood increases the risk of insect attack

[2] high where finishing is present

KEY TO CODES

PRODUCT PERFORMANCE REQUIREMEMENTS

- I_p = preventive action against wood-destroying insects
- P_p = preventive action against wood rotting fungi
- Bl = preventive action against blue stain fungi
- E = resistant to leaching in ground contact and preventive action against soft rot
- M = preventive action against marine borers
- W = resistant to leaching by weathering

PRODUCT TYPES

- O = organic product in organic solution or in emulsion (water dilutable)
- S = mineral salts in water solution
- CR = creosotes

PROCESSES

- O1 = spraying in tunnel or booth
- Tx = dipping/immersion (=T2/T3)
- O3 = double vacuum (autoclave)
- O5 = brushing
- (O5) = brushing - treatment of cut-offs
- O6 = vacuum-pressure (autoclave)
- S1 = prolonged immersion (steeping)
- S2 = vacuum-pressure (autoclave)
- S3 = diffusion treatment
- S4 = oscillating/alternating pressure (autoclave)
- CR1 = vacuum-pressure (autoclave)

Table 2: Preventive protection of joinery timber in service

USE CLASS (NBN EN 335)	SERVICE SITUATIONS	TYPICAL EXAMPLES	LEACHING RISK
1	Wood used in building internals in permanently dry environments (relative humidity below 70 %)	Internal joinery timber where the moisture content of the wood is permanently below 20 %	nil
3	Wood not in ground contact but exposed to weathering or condensation	Exterior joinery timber; solid wood or glue laminated timber components exposed to severe hygrothermal conditions (damp rooms, cold flat roofs,…)	significant

USE CLASS (NBN EN 335)	HAZARDS				MINIMUM PERFORMANCE REQUIREMENTS (NBN EN 599)	BAWP HOMOLOGATION CODE	PROCESS APPROVAL CODES
	INSECTS[1]	ROT	BLUE STAIN	Marine borers			
1	high	—	—	—	Ip	B	O1-Tx-O3-O5-O6
3	variable	significant	variable[2]	—	Ip + Pp + Bl + W	C1	O1-T3-O3-(O5)-O6
					Pp + Bl + W + V	C2	O1-Tx-O5
					Bl + W + V	C3	O1-Tx-O5
					Bl + W + V	CTOP	O1-O5

[1] the presence of sapwood increases the risk of insect attack

[2] high where finishing is present

KEY TO CODES

PRODUCT PERFORMANCE REQUIREMEMENTS
- Ip = preventive action against wood-destroying insects
- Pp = preventive action against wood rotting fungi
- Bl = preventive action against blue stain fungi
- W = resistant to leaching by weathering
- V = resistant to ageing

PRODUCT TYPES
- O = organic product in organic solution or in emulsion (water dilutable)
- S = mineral salts in water solution

PROCESSES
- O1 = spraying in tunnel or booth
- Tx = dipping/immersion (=T2/T3)
- O3 = double vacuum (autoclave)
- O5 = brushing
- (O5) = brushing - treatment of cut-offs

Table 3: Remedial treatment of wood and masonry

SERVICE SITUATIONS	TYPICAL EXAMPLESLDEN
Wood not in ground contact and not normally exposed to weathering or leaching	Structural timber, roof structures, secondary joisting, glue laminated timber components, bathroom -, kitchen-, cellar walls, …

ACTION	MINIMUM PERFORMANCE REQUIREMENTS	BAWP HOMOLOGATION CODE	KEY PROCESSES APPROVAL CODES
Control of insect	Ic-H Ic-A Ic-L	D1-H D1-A D1-L	O1-O5-O7
Control of fungal attack and protection of masonry components against further infestation	X	D2	O1-O5-O7

KEY TO CODES

PRODUCT PERFORMANCE REQUIREMEMENTS

Ic = curative effectiveness against wood-destroying insects

Ip = preventive action against wood-destroying insects

Pp = preventive action against wood rotting fungi

X = curative and preventive effectiveness against dry rot fungus *(Serpula lacrymans)* or other fungi

H = Hylotrupes

A = Anobium

L = Lyctus

PRODUCT TYPES

O = organic product in organic solution or in emulsion (water dilutable)

PROCESSES

O1 = spraying in tunnel or booth

O5 = brushing)

O7 = injection

Table 4: Summary tables of biological tests to be carried out on the formulated product

a) Preventive efficacy

Use class	Homolog. code	Fungicidal activity tests								Insecticidal activity tests							Treatment
		EN 113-1 (1)	NBN EN 839	NBN EN 152 ('4)		NBN EN 330	CEN/TS 12037	NBN ENV 807	NBN EN 252 (5)	NBN EN 46	NBN EN 47	NBN EN 49		NBN EN 20		NBN EN 275	
				brushing	dipping							Part 1	Part 2	Part 1	part 2		
1	A1 / B	-	-	-	-	-	-	-	-	✓73	-	(✓73)	-	✓73	-	-	S
		-	-	-	-	-	-	-	-	-	✓73	-	(✓73)	-	✓73	-	P
2	A2.1	-	✓73	-	-	-	-	-	-	✓73	-	(✓73)	-	-	-	-	S
		✓73	-	-	-	-	-	-	-	-	✓73	-	(✓73)	-	-	-	P
	A2.2	-	✓73	✓73	-	-	-	-	-	✓73	-	(✓73)	-	-	-	-	S
		✓73	-	-	✓73	-	-	-	-	-	✓73	-	(✓73)	-	-	-	P
3	C1	-	✓(CV)73 ✓(CV)84	✓	-	(✓)	(✓)	-	-	✓73 ✓84	-	(✓73) (✓84)	-	(✓73) (✓84)	-	-	S
		✓(CV)73 ✓(CV)84	-	-	✓	(✓)	(✓)	-	-	-	✓73 ✓84	-	(✓73) (✓84)	-	(✓73) (✓84)	-	P
	C2	✓73 (3) ✓84 (3)	✓(CV)73 ✓(CV)84	✓	-	(✓)	-	-	-	-	-	-	-	-	-	-	S
	C3	-	-	✓	-	-	-	-	-	-	-	-	-	-	-	-	S
	CTOP	-	-	✓	-	-	-	-	-	-	-	-	-	-	-	-	S
	A3	✓(CV)73 ✓(CV)84	-	-	(✓)	-	(✓)	-	-	-	✓73 ✓84	-	(✓73) (✓84)	-	-	-	P
4	A4.1	✓CV73 ✓CV84	-	-	(✓)	-	-	✓	✓(3)	-	✓73 ✓84	-	(✓73) (✓84)	-	-	-	P
	A4.2	✓CV73 ✓CV84	-	-	(✓)	-	-	✓	✓(3)	-	✓73 ✓84	-	(✓73) (✓84)	-	-	-	P
5	A5	✓CV73 ✓CV84	-	-	(✓)	-	-	✓	✓	-	✓73 ✓84	-	(✓73) (✓84)	-	-	✓	P

✓= compulsory test (✓) = optional test - = no test required ✓73 = EN 73 test ✓84 = EN 84 test CV = Coriolus versicolor S = superficial P = penetrating

(1) EN 113-1 ► for use class 2, test on the formulated product are required only with the two brown rot fungi which have demonstrated most resistance to the active fungicidal ingredient used (on presentation of the test report)
► for use classes 3, 4 & 5, an additional test is required with *Coriolus versicolor*, performed either on pine, beech or both, at choice.

(3) Test on active ingredients only

(4) Test according to EN 152 (brushing) is not required if EN 152 (dipping) is requested

(5) Or similar « Fungus Cellar » test (i.e..: Schwammkellertest - BAM)

b) Remedial efficacy

	Homologation code	ENV 12404	NBN EN 22 / NBN EN 1390	NBN EN 48 / NBN EN 370	NBN EN 273
REMEDIAL PRODUCTS	**D1-H**	-	✓	-	-
	D1-A	-	-	✓	-
	D1-L	-	-	-	✓
	D2	✓	-	-	-

✓ Compulsory test H = *Hylotrupes* A = *Anobium* L = *Lyctus*

List of standards for wood preservatives (referred to) [20.01.2021]

Standard	Date	Title
NBN EN 20-1	1992	Wood preservatives - Determination of the preventive action against *Lyctus brunneus (Stephens)* - Part 1: Application by surface treatment (laboratory method)
NBN EN 20-2	1993	Wood preservatives - Determination of the preventive action against *Lyctus brunneus (Stephens)* - Part 2: Application by impregnation (laboratory method)
NBN EN 46-1	2016	Wood preservatives - Determination of the preventive action against Hylotrupes bajulus (Linnaeus) - Part 1: Larvicidial effect (Laboratory method)
NBN EN 46-2	2016	Wood preservatives - Determination of the preventive action against Hylotrupes bajulus (Linnaeus) - Part 2: Ovicidal effect (laboratory method)
NBN EN 47	2016	Wood preservatives - Determination of the toxic values against larvae of Hylotrupes bajulus (Linnaeus) - (Laboratory method)
NBN EN 48	2005	Wood preservatives - Determination of eradicant action against larvae of Anobium punctatum (De Geer) (laboratory method)
NBN EN 49-1	2016	Wood preservatives - Determination of the protective effectiveness against Anobium punctatum (De Geer) by egg-laying and larval survival - Part 1: Application by surface treatment (Laboratory method)
NBN EN 49-2	2015	Wood preservatives - Determination of the protective effectiveness against Anobium punctatum (De Geer) by egg-laying and larval survival - Part 2: Application by impregnation (Laboratory method)
NBN EN 73	2020	Wood preservatives - Accelerated ageing tests of treated wood prior to biological testing - Evaporative ageing procedure
NBN EN 84	2020	Wood preservatives - Accelerated ageing tests of treated wood prior to biological testing - Leaching procedure
EN 113-1	2020	Durability of wood and wood-based products - Test method against wood destroying basidiomycetes - Part 1: Assessment of biocidal efficacy of wood preservatives
EN 113-2	2020	Durability of wood and wood-based products - Test method against wood destroying basidiomycetes - Part 2: Assessment of inherent or enhanced durability
NBN EN 117	2012	Wood preservatives - Determination of toxic values against Reticulitermes species (European termites) (Laboratory method)
NBN EN 118	2013	Wood preservatives - Determination of preventive action against Reticulitermes species (European termites) (Laboratory method)

Standard	Date	Title
NBN EN 152	2012	Wood preservatives - Determination of the preventive effectiveness of a preservative treatment against blue stain in service - Laboratory method
NBN EN 212	2003	Wood preservatives - Guide to sampling and preparation of wood preservatives and treated timber for analysis
NBN EN 252	2014	Field test method for determining the relative protective effectiveness of a wood preservative in ground contact
NBN EN 275	1992	Wood preservatives - Determination of the protective effectiveness against marine borers
NBN EN 330	2014	Wood preservative - Field test method for determining the relative protective effectiveness of a WP for use under a coating and not in contact with the ground: L joint test
NBN EN 335	2013	Durability of wood and wood-based products - Use classes: definitions, application to solid wood and wood-based products
NBN EN 350	2016	Durability of wood and wood-based products - Testing and classification of the durability to biological agents of wood and wood-based materials
NBN EN 351-1	2007	Durability of wood and wood based products - Preservative treated solid wood - Part 1: Classification of preservative penetration and retention
NBN EN 351-2	2007	Durability of wood and wood based products - Preservative treated solid wood - Part 2: Guidance on sampling for the analysis of preservative treated wood
NBN EN 370	1993	Wood preservatives - Determination of eradicant efficiency in preventing emergence of *Anobium punctatum (De Geer)*
NBN EN 460	1994	Durability of wood and wood-based products - Natural durability of solid wood - Guide to the durability requirements for wood to be used in hazard classes
NBN EN 599-1+A1	2014	Durability of wood and derived material - Performances of wood preservative as determined by biological tests - Part 1: Specification according to hazard classes
NBN EN 599-2	2016	Durability of wood and derived material - Performances of wood preservative as determined by biological tests - Part 2: Classification and labelling
NBN ENV 807	2001	Wood preservatives - Method of test for determining the toxic efficacy against sot rotting microfungi and other soil inhabiting micro-organisms
NBN EN 839	2014	Wood preservatives - Determination of the preventive efficacy against wood destroying basydiomycete fungi
NBN EN 1014-1	2010	Wood Preservative - Creosote & creosoted timber - Methods of sampling & analysis – Part 1: Procedures for sampling creosote
NBN EN 1014-2	2010	Wood Preservative - Creosote & creosoted timber - Methods of sampling & analysis – Part 2: Proc. For sampling creosoted timber and the extraction of the creosote from the sample

Standard	Date	Title
NBN EN 1014-3	2010	Wood Preservative - Creosote & creosoted timber - Methods of sampling & analysis – Part 3: Method for the determination of the Benzo[a]pyrene content of creosote
NBN EN 1014-4	2010	Wood Preservative - Creosote & creosoted timber - Methods of sampling & analysis - Part 4: Method for the determination of the water extractable phenols content of creosote
EN 1390	2020	Wood preservatives - determination of the eradicant action against *Hylotrupes bajulus (Linnaeus)* larvae (Laboratory method)
NBN CEN/TS 12037	2004	Wood preservatives - Field test method for determining the relative protective effectiveness of a wood preservative exposed out of ground contact - Horizontal lap-joint method
NBN ENV 12038	2002	Durability of wood and wood-based products - Wood-based panels - Method of test for determining the resistance against wood-destroying basidiomycetes
NBN EN 12404	2020	Durability of wood and wood-based products - Assessment of the effectiveness of a masonry fungicide to prevent growth into wood of Dry Rot (Schumacher ex Fries) S.F. Gray- Laboratory method
NBN EN 12490	2010	Durability of wood and wood-based products - Preservative-treated solid wood - Determination of the penetration and retention of creosote in treated wood
NBN EN 14128	2020	Durability of wood and wood-based products - Efficacy criteria for curative wood preservatives as determined by biological tests

Homologation of preservatives for preventive wood protection

Current situation

Since first being brought into operation, the BAWP homologation scheme for preventive wood protection has undergone many changes, both in structure (names) and content (requirements), in order to accommodate recent developments in wood protection and to fall into line with the compulsory European requirements which have gradually been brought in.

This document aims to detail the structure of the current homologation scheme, by clarifying what each category covers and the minimum performance requirements that products must meet.

Characterisation and designation

The preventive products group contains **two sub-groups**, distinguished by their field of application:

- Products designed to protect **structural timber** placed in the various use classes:

  A1[1] use class 1: products with preventive action against insects (I_p).

  A2.1[2] use class 2: products with preventive action against insects (I_p) and basidiomycete fungi (P_p).

  A2.2[3] use class 2: products with preventive action against insects (I_p), basidiomycete fungi (P_p) and blue stain fungi (Bl).

  A3 use class 3: products with preventive action against insects (I_p) and basidiomycete fungi (P_p), which are also resistant to leaching (W); they may also have a preventive action against blue stain fungi (Bl).

  A4.1/A4.2 use class 4: products with preventive action against insects (I_p), basidiomycete fungi (P_p) and against soft rot fungi (E); they may also have a preventive action against blue stain fungi (Bl).

  A5 use class 5: products with preventive action against insects (I_p), basidiomycete fungi (P_p), soft rot fungi (E) and marine borers (X).

- Products designed to protect **joinery timber**:

  B use class 1: products with preventive action against insects (I_p).

  C1 use class 3: products with preventive action against insects (I_p), basidiomycete fungi (P_p), and blue stain fungi (Bl); they will also be resistant to leaching (W). These products are normally applied by a single impregnation treatment.

  C2 use class 3: preservative wood finish (low build type) with preventive action against basidiomycete fungi (P_p) and blue stain fungi (Bl); they will also be resistant to leaching (W) and ageing (V). These products are applied in three coats, or one or two coats in addition to a C1 or

[1] Category previously amalgamated with category B
[2] Previously category A1
[3] Previously category A2

A3 penetrating treatment.

C3 use class 3: preservative wood finish with preventive action against blue stain fungi (Bl); they will also be resistant to leaching (W) and ageing (V). These products are applied in three coats (on durable wood species) or in one or two coats in addition to a C1 or A3 penetrating treatment.

CTOP use class 3: wood finish (high build type) with a preventive action against blue stain fungi (Bl); they will also be resistant to leaching (W) and ageing (V). These products are applied in three coats, or one or two coats in addition to a C1 or A3 penetrating treatment.

Product characteristics

To be homologated in one or more **A categories**, the product must be:

- capable of protecting structural timber against biological attack for a significant length of time (at least 20 years);
- in the form of a powder, a paste, a ready-for-use/concentrated water-based emulsion/solution, or a ready-for-use organic solution;
- applicable in an industrial facility;
- penetrating.

To be homologated in **category B**, the product must be:

- capable of protecting internal joinery timber against biological attack from the larvae of wood-boring insects for a significant length of time (at least 20 years);
- in the form of a ready-for-use/concentrated water-based emulsion/solution, or a ready-for-use organic solution;
- applicable in an industrial facility;
- penetrating.

To be homologated in **category C1**, the product must be:

- capable of protecting exterior joinery timber against biological attack for a significant length of time (at least 10 years);
- in the form of a ready-for-use or dilutable water-based emulsion, or a ready-for-use organic solution;
- have a penetrating capacity; this requires a binder content less than 15%.

To be homologated in **category C2, C3 or CTOP**, the product must be:

- capable - alone or in combination (system) - of protecting exterior joinery timber against physical and biological degradation for an economically and significantly reasonable length of time (at least 2 years);
- in the form of a ready-for-use solution;
- pigmented or shall contain a protecting UV-filter;
- have a binder content above 18% (C2, C3) or 30% (CTOP).

Minimum requirements (NBN EN 599-1:2014)

Certification of activity against larvae of wood boring insects (Ip):

Use class 1:

Superficial treatment:	European standards NBN EN 46, NBN EN 20-1 and NBN EN 49-1 (optional), with NBN EN 73 evaporation test.
Penetrating treatment:	European standards NBN EN 47, NBN EN 20-2 and NBN EN 49-2 (optional), with NBN EN 73 evaporation test.

Use class 2:

Superficial treatment:	European standards NBN EN 46 and NBN EN 49-1 (optional), with NBN EN 73 evaporation test.
Penetrating treatment:	European standards NBN EN 47 and NBN EN 49-2 (optional), with NBN EN 73 evaporation test.

Use class 3:

Superficial treatment: (joinery)	European standards NBN EN 46, 49-1 (optional) and NBN EN 20-1 (optional), with NBN EN 73 evaporation and NBN EN 84 leaching tests.
Penetrating treatment: (carpentry)	European standards NBN EN 47, 49-2 (optional) and NBN EN 20-2 (optional), with NBN EN 73 evaporation and NBN EN 84 leaching tests.

Use classes 4 and 5:

Penetrating treatment:	European standards NBN EN 47 and NBN EN 49-2 (optional), with NBN EN 73 evaporation and NBN EN 84 leaching tests.

Certification of activity against basidiomycete fungi (Pp):

Use class 2:

Superficial treatment:	European technical specification NBN EN 839 with NBN EN 73 evaporation test.
Penetrating treatment:	European standard EN 113-1 with NBN EN 73 evaporation test, on the two brown rot fungi most resistant to the active ingredient.

Use class 3:

Categories C1 and A3:	European standard EN 113-1 with NBN EN 73 evaporation and NBN EN 84 leaching tests; for “hardwood” certification, the same standards with *Coriolus versicolor*.
Category C2:	European standard EN 113-1 and/or European technical specification NBN EN 839 with NBN EN 73 evaporation and NBN EN 84 leaching tests; for “hardwood” certification, European technical specification NBN EN 839 using *Coriolus versicolor*, with NBN EN 73 evaporation and NBN EN 84

leaching tests.

Use classes 4 and 5: European standard EN 113-1 with NBN EN 73 evaporation and NBN EN 84 leaching tests; for "hardwood" certification, the same standards with *Coriolus versicolor*.

Certification of activity against blue stain fungi (Bl):

Use classes 2, 3, 4 and 5:

Superficial treatment: European standard NBN EN 152 on pine sapwood (optionally on meranti for exterior joinery).
This standard with evaporation test NBN EN 73 for use class 2.

Penetrating treatment: European standard NBN EN 152 on pine sapwood (optionally on meranti for exterior joinery).
This standard with evaporation test NBN EN 73 for use class 2.

Certification of activity against soft rot fungi (E):

Use classes 4 and 5:

Penetrating treatment: European standard NBN EN 252 and/or ENV 807 and/or similar Fungus Cellar test (i.e. Schwammkellertest)

Certification of activity against marine borers (M):

Use class 5:

Penetrating treatment: European standard NBN EN 275

Additional requirements

Certification of weather resistance (V):

Use class 3:

Exterior joinery: (C2, C3, CTOP types) artificial ageing test (10 week Xenon test on meranti (CTOP type) and accelerated natural ageing test (18 months SW exposure at a 45° angle on meranti and spruce).

Certification of maintainability:

Use class 3: exterior joinery: Certification of aptitude to undergo maintenance and/or (types C2, CTOP) restoration treatment, which restores the original physical state in an acceptable manner.

Optional tests

Certification of immersion treatment efficiency (emulsions):

Use class 1, 2 and 3: laboratory absorption and penetration test

Construction timber:

Use class 3: (type A3)
- European standard EN 330 (« L-joint »)
- European standard EN 12037 (« Lap Joint »)

Long term field tests:

Use class 4: (type A4)
- European standard EN 252 for more than 10 years
- similar Fungus Cellar test for more than 7 years

Procedures

Wood preservatives

A, B and C1 Homologation

- Final homologation (3 years) is awarded on submission of a complete file which satisfactorily meets all the stipulated requirements.

Wood finishes

C2, C3 and CTOP Homologation

- Provisional homologation (1 year) is awarded after acceptance of a provisional technical file evidencing satisfactory results on:
  - resistance to blue stain (NBN EN 152-1);
  - the artificial weathering test (10 week Xenon test exposure);
  - the accelerated natural weathering test (intermediate results after 9 months outdoor exposure).
- Final homologation (3 years) is awarded on submission of a complete file which satisfactorily meets all the stipulated requirements.

Application of homologated products

The correct application of such products is described in the corresponding ATG technical approvals.

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Homologation of preservatives for remedial treatment of wood and masonry

Current situation

The BAWP homologation scheme was extended to remedial wood and masonry treatments in 1998.

This document aims to detail the mechanics of the current homologation scheme, by clarifying what each category covers and the minimum performance requirements that products must meet.

Characterisation and designation

The curative products group contains **two sub-groups**, distinguished by their applicability:

- Products designed to treat **wood infested by insects**

  D1: products with preventive action (I_p) and curative action (I_c) against insects. The designation D1 denotes an insecticidal activity against one or more of the three main attacking insects, namely *Hylotrupes* (H), *Anobium* (A) and *Lyctus* (L). The product is awarded the homologation code for the relevant activities, e.g., **D1-H/A/L**.

- Products designed to treat **masonry infected by fungi**

  D2: products with a curative action against fungi (X) for which only remedial treatment of masonry is to be considered (structural wood components attacked by fungi should preferably be removed). The product is awarded a **D2** homologation code.

Product characteristics

To be homologated in **category D1**, the product must be capable of halting the spread of active insect attack (I_c) and capable of protecting wood against biological damage by the larvae of wood-destroying insects (I_p) for a significant length of time (at least 10 years). For that, the product will contain an insecticide.

To be homologated in **category D2**, the product must be capable of halting the spread of a developing fungus attack and protect the masonry against renewed fungal attack (X) for a significant length of time (at least 10 years). For that, the product will contain a fungicide.

Minimum requirements (NBN EN 599)

Certification of activity against the larvae of wood-destroying insects (Ic):

Certification of the remedial efficacy of the formulated product against various insects. The tests are carried out in accordance with prevailing NBN EN standards:

Hylotrupes: EN 1390 or NBN EN 22;

Anobium: NBN EN 370 or 48;

Lyctus1[(1)]: NBN EN 273.

Certification of activity against basidiomycete fungi (X):

Certification of the remedial efficacy of the formulated product against *Serpula lacrymans* (dry rot fungus). The tests are carried out in accordance with standard ENV 12404

Procedures

Temporary homologation (1 year) is awarded on submission of a complete file containing the evidence of the product's efficacy demonstrated by laboratory tests, and proposed conditions of application (concentrations to be used and quantities to be applied).

Final homologation (3 years) is awarded on submission of a complete file containing the evidence of the product's efficacy demonstrated by practical treatment of a building site, monitored by an independent laboratory.

Application of homologated products

The correct application of such products is described in the corresponding ATG technical approvals.

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(1) The formulated product need not be tested on *Lyctus* if the NBN EN 273 test results on the active ingredient(s) demonstrate that its efficacy is highest against *Lyctus*