

Related document



Type-approval certificate 0263-08

For other certificate numbers, please refer to the table of contents

WOODSAFE® EXTERIOR WFX Industrial fire-impregnated wood products

Woodsafe Timber Protection AB
www.woodsafes.com | kundtjanst@woodsafes.com

Version: 1.2 | Date: 2024-05-30
latest version published on the website

Dear customer

Thank you for choosing to use Woodsafe fire-retardant wood. In this collection of documents you will find important general facts and guidance for WOODSAFE® Exterior WFX™ impregnated wood.

Before delving into this collection of documents, we want to tell you a little more about fire-retardant wood and why it is important to understand the whole picture of fire-retardant impregnation, how it works, how you should think, how you should value sustainable product properties and sustainable production of the final product.

In principle, there is no difference between fire impregnation and flame retardant impregnation, it is more of a concept where flame retardant may sound a bit more simplified than fire impregnation, but this is not the case as long as you look at the fact that the impregnation process is industrial and is carried out by vacuum pressure impregnation process with associated manufacturing control. *Thus, there is no room to claim that spraying, dipping, brushing or applying fire retardants via a paint box is equivalent to industrial vacuum pressure process impregnation.* Fire-retardant impregnation involves the application of fire retardants under vacuum pressure during the processing stage, resulting in deep fire protection in the cellular structure of the wood, always covering all six sides of the product. After impregnation, the fire retardant is dried and fixed in the cell structure where it passively awaits activation by heat, i.e. fire action. In case of fire, the active substance (the fire retardant) is affected, contributing to the development of water and carbon dioxide, which actively contribute to the imbalance of the three important elements of the fire triangle,

-heat, fuel, oxygen. As a result, the wood product with its improved fire resistance properties contributes much less to fire spread and heat generation. Parameters required to meet fire classes such as SP-Fire 105 and Euroclass are thus fully achievable.

But is that enough? The answer is no. You have to look at the whole of the wood species, installation conditions, air gaps, insulation, substrates and surface treatment where all sub-components and conditions affect the result. This means that if you need facade cladding that complies with SP-Fire 105, then a fire test is not enough, even if the result is approved, but not in the way you intend to use the facade cladding.

As the responsible fire consultant and building owner, the whole must be valued, not parts of the whole:

- Is it the right type of wood?
- Is air gap approved?
- Does the product meet the installation condition intended for use?
- Is the combination of wood species, air gap, insulation, substrate met?
- Is the fire protection resistant in the outdoor environment and approved by third parties according to EN16755 EXT?
- And more

Woodsafe Timber Protection AB is Europe's largest manufacturer of fire-retardant wood with over 30 years of practical experience. The plant and production is located in Västerås and the production is certified as follows:

- CE certified since 2009 (CPD 89/106) according to the Construction Products Regulation 2013, CPR 305/2011, system 1
- Type approval certificate in accordance with the National Board of Housing, Building and Planning Act (SFS 2010:900)
- ISO 9001:2015 (quality and management systems)
- ISO 14001:2015 (environmental management system)

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- ISO 45001:2018 (occupational health and safety)

As a customer of Woodsafe or as a customer of Woodsafe partners, you can feel confident in objective advice and support backed by expertise and third-party documentation.



A warm welcome to Woodsafe. We are here for you and your project.

A handwritten signature in black ink, appearing to read "Thomas Bengtsson".

Thomas Bengtsson, CEO Woodsafe Timber Protection AB

WOODSAFE EXTERIOR WFX

Table of contents

In PDF - click on the title

1. Certification	8
1.1 Possession of CE certificate	8
1.2 Holding of type-approval certificate	8
1.3 Construction Products Regulation CPR 305/2011	8
1.4 Declaration of performance (DoP) according to the Construction Products Regulation CPR 305/2011	8
1.5 Type approval certificate according to the Planning and Building Act (PBL 2010:900)	8
1.6 Quality and management system according to international standard ISO 9001:2015	8
1.7 Environmental management system according to international standard ISO 14001:2015	9
1.8 Latest issue of Woodsafe certificates	9
2. Receiving and checking goods	9
2.1 Initial control on arrival	9
3. Storage and safekeeping	9
3.1 Storage and safekeeping	9
4. Personal security and health	10
4.1 Personal protection	10
4.2 Dust and odor from untreated wood (not fire-retardant)	10
4.3 Dust and air from WOODSAFE® Exterior WFX™	10
4.4 WOODSAFE® Exterior WFX™ fire retardant on wood surface	10
4.5 Natural properties of wood	10
4.6 In the event of an incident	10
5. Processing	11

5.1	Specific modifications such as heat treatment	11
5.2	Cedar wood scent, Heat treated, Acetylation	11
5.3	Planing	11
5.4	Drilling, perforating	11
5.5	Punching	11
5.6	Surface brushing	11
5.7	Glue	11
5.8	Pressing of veneer and wood layers	12
5.9	Moisture content	12
5.10	Tools	12
6.	<i>Installation - general recommendations</i>	12
6.1	Aeration	12
6.2	Dewatering, splashing and bouncing rainwater	12
6.3	Low pH value	13
6.4	Capillary properties of wood	13
7.	<i>Fixing in wood materials</i>	13
7.1	Exterior fastening	13
7.2	Clothing materials that are not recommended	13
7.3	Corrosion	13
7.4	Fixing	14
8.	<i>Assembly</i>	14
8.1	The natural color of wood can discolor other materials	14
8.2	Panel	14
9.	<i>Maintenance & Surface Treatment</i>	15
9.1	Oiling of end grain	15

9.2	Maintenance and persistent fire protection	15
9.3	WOODSAFE® Exterior WFX™ surface treatment	15
10.	<i>Facade cladding (SP-Fire 105)</i>	15
10.1	Installation instructions for SP Fire 105 or other fire class	15
10.2	Service class (EN16755 EXT)	15
10.3	Maintenance	15
10.4	Damaged cladding	16
10.5	Surface treatment	16
10.6	End grain and cut surfaces	16
10.7	Mold growth and cleaning	16
10.8	Visual inspection	16
10.9	Resin and natural substances in wood	16
11.	<i>Recycling, waste management and environmental aspects</i>	16
11.1	Waste code	16
11.2	Incineration of residues	16
11.3	Environmental aspect	17
11.4	EPD	17
11.5	REACH (Registration, Evaluation, Authorization and restriction of Chemicals)	17
12.	<i>Quality and performance of fire-retardant wood products</i>	17
12.1	Wood material sorted to a product grade has a natural variation	17
12.2	General results of Woodsafe fireproofing process on a wood product	17
12.2.1	The natural results of the wood preservation process	18
12.2.2	Moisture content after the impregnation process before delivery from Woodsafe	18
12.3	Quality of a specific fire-retardant wood product	18
13.	<i>Complaint case</i>	18



13.1 My claim volume limit _____ 18

13.2 Responsibility for decision and action _____ 18

13.3 Prerequisite for a complaint _____ 19

WOODSAFE EXTERIOR WFX

1. Certification

1.1 Possession of CE certificate

Woodsafe Timber Protection's CE certificate for WOODSAFE® Exterior WFX™ is issued by notified body, RISE (0402), certificate no: 0402-CPR-SC0260-15

1.2 Holding a type-approval certificate

Woodsafe Timber Protection's type approval certificate is issued by the notified body, RISE (0402), certificate no: 0263-08

1.3 Construction Products Regulation CPR 305/2011

Woodsafe Timber Protection and Woodsafe dealers are holders of CE certificates according to harmonized product standards. Woodsafe dealers' CE certificates are formally linked to Woodsafe's CE certificate and/or production and third party control:

- EN14915 (solid wood), system 1.
- EN13986 (wood-based panels), system 1.

1.4 Declaration of performance (DoP) according to the Construction Products Regulation CPR 305/2011

Woodsafe Timber Protection's or Woodsafe's dealer's CE certificate is the basis for the Declaration of Performance (DoP). For the current project and material delivery, the dealer of wood products shall normally provide the Declaration of Performance (DoP), Woodsafe's or their own, exceptions are under the CPR rules.

1.5 Type approval certificate according to the Planning and Building Act (PBL 2010:900)

Woodsafe Timber Protection holds a type approval certificate for our lego fire impregnation services, which means that the business is subject to continuous third-party control by a notified body (RISE). Type approval is a very complex control scheme, including quality management system, self-inspection, competence, control of equipment, sampling from production. Crucial difference between type approval certificate in relation to CE certification is that facade requirements and resistance cannot be CE certified, however, facade requirements (SP-Fire 105) and resistance (EN16755 EXT) can be certified according to type approval certificate. The technical properties that type approval certificates confirm Woodsafe fire properties are:

- Facade cladding (SP-Fire 105)
- Fire resistance (K_{210/B-s1,d0}), (K_{110/B-s1,d0})
- Use class INT1, INT2, EXT (EN16755)

It is important to know that the prerequisite for type approval certificate according to BBR and the Planning and Building Act (PBL) regarding the facade fire requirement SP-Fire 105 is that the fireproofing agent has approved properties according to the use class standard EN16755 for all properties INT1, INT2 and EXT.

1.6 Quality and management system according to international standard ISO 9001:2015

Woodsafe Timber Protection's internal quality system (WQS) is ISO 9001:2015 certified by RISE (No. 0402). Reference 5859

1.7 Environmental management system according to international standard ISO 14001:2015

Woodsafe Timber Protection systematic environmental management system is 14001:2015 certified by RISE (No. 0402). Reference 5859M

1.8 Latest issue of Woodsafe certificate

Woodsafe Timber Protection product range is under constant development and certificates with associated performance declarations and type approvals are continuously updated. For current documents, we refer to our website and document library, or dealer, for the relevant product (Woodsafe PRO or WOODSAFE® Exterior WFX™). [Certifying documents can be found here.](#)

2. Receiving and checking goods

2.1 Initial check on arrival

Woodsafe fire-retardant wood products should be handled with care during unloading, storage and loading. Depending on the type of wood and modification, the density and sensitivity to movement varies, with increased risk of permanent damage or marks from, for example, truck forks and unbalanced weight distribution.

On receipt, check the following:

- Check that the packaging of the material is complete and intact.
- Check that the wood product is clean from dirt, soil and or other contamination.
- Is the number of packages correct? Make a rough estimate of the quantity.
- Check that the product dimensions match the order and delivery note.
- Check the delivery and document any visible damage. Reconcile wood species and labeling with the order and delivery note.

In the event of deviations or damage, the transport company must be notified and the supplier contacted for a decision on action.

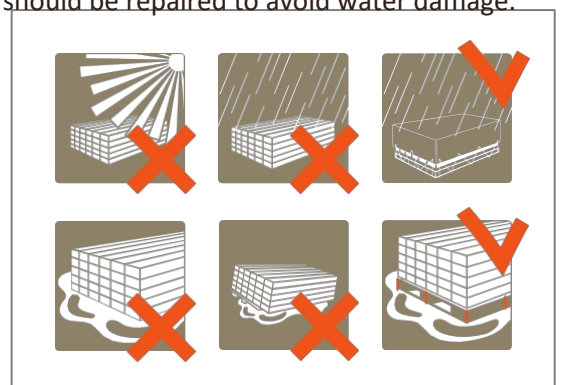
3. Storage and safekeeping

3.1 Storage and safekeeping

Woodsafe fire-retardant wood should generally be stored with protective plastic with UV protection, on a dry surface. In case of damage to the packaging, the damage should be repaired to avoid water damage.

Checklist for storage and safekeeping:

- Raised from dry indoor surface >100 mm
- Raised from external damp surface >300 mm
- Ensure that packages are not stored at an angle
- Keep packaging until use
- Cover the remaining unassembled material
- Avoid contaminated water when handling
- Avoid storage in direct sunlight
- Use 1 coaster per meter, evenly distributed





4. Personal security and health

4.1 Personal protection

It is recommended to use industry-specific protective equipment such as safety glasses (in case of risk of splinters, dust splashes), protective gloves (in case of prolonged direct contact, sensitive skin, dehydration), and respiratory protection (in case of risk of dust, for example when grinding, cutting). When grinding and polishing, use extraction and ensure good ventilation and air exchange. Use safety glasses, gloves and a breathing mask.

4.2 Dust and odor from untreated wood (not fire-retardant)

Odors and dust occur naturally from all types of wood to a greater or lesser extent. Some types of wood, such as cedar, Thermowood of various types of wood, heat-treated wood have strong odors and where, for example, heat treatment contributes to very fine dust that can irritate the respiratory tract, skin, eyes. When working with cedar, heat-treated or modified wood, a breathing mask should always be used. People who are sensitive to allergies, odors and the like or who experience symptoms should avoid working with such wood types/products regardless of whether the product is fire-impregnated or not. Always ensure good ventilation in case of discomfort and risk of dust development. Also take note of the wood supplier's instructions.

4.3 Dust and air from WOODSAFE® Exterior WFX™

WOODSAFE® Exterior WFX™ does not generate increased risk related to P 4.2. WOODSAFE® Exterior WFX™ is handled with the same care as P 4.2.

4.4 WOODSAFE® Exterior WFX™ fire retardant on the wood surface

Excess fire retardant may normally be present on the surface of the wood panel on delivery. There is nothing unusual in itself, but depending on the area of use, it is recommended that excess fire retardant is brushed off in connection with surface treatment or sanded off regardless of the area of use. Ensure good ventilation and use a breathing mask. Read more in chapter 12.

4.5 Natural properties of wood

Wood is an organic material containing substances such as resin, lignin, hemicellulose and other substances such as fat, starch that can dissolve and stain the surface. This is a phenomenon of the wood's own properties that can occur in connection with impregnation and drying from knots, resin pockets and resin pockets between annual rings. Read more in Chapter 12.

4.6 In the event of an incident

Or emergency situation arises such as ingestion, dirt in the eyes, wound injury or shortness of breath, it is recommended to immediately contact **SOS 112**. In all cases of incidents that are beyond normal control, consult a doctor. Bring the safety data sheet for the product. Link to the safety data sheet can be found here: [SDS Woodsafe Exterior WFX](#)

- Eye - Rinse gently with lukewarm water from drinking glass, alternatively use eye wash.
- Ingestion - drink plenty of water. Do not induce vomiting.
- Skin redness, irritation - wash with soap solution, apply skin ointment.
- If problems persist, consult a doctor.
- Scan the QR code for the safety data sheet

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- Not sure? Contact Woodsafe Timber Protection +46 10 206 72 30

5. Processing

Regardless of the type of wood, it is always recommended to minimize exposure and inhalation of wood dust. The formation of very small to normal fine particles may cause irritation. Use industry specific protective equipment according to section 4.1

5.1 Specific modifications such as heat treatment

Sawdust from heat-treated material such as Thermowood is more fine-grained than sawdust from non-heat-treated wood. Therefore, it is of great importance to ensure good ventilation, local exhaust ventilation and use respiratory protection with P3 filters if there is a risk of large amounts of wood shavings, wood dust in the air and the environment.

5.2 Cedar wood scent, Heat treated, Acetylation

Woods such as cedar have a stronger odor than spruce and pine, but even heat-treated pine and spruce can have a stronger odor than untreated spruce and pine. Other modifications such as acetylation (Accoya) have a vinegar odor that can be enhanced by fire impregnation. Odor decreases over time to normal odor within 6 months after installation, but under certain conditions odor can remain longer than 6 months. In exterior environments this is rarely a problem while in interior enclosed spaces discomfort may be experienced. The simplest way is to place the material in the actual environment and see how the scent is experienced.

5.3 Planing

Impregnated wood material can be planed to a limited extent for dimensional adjustment. This applies mainly to wood species such as birch, maple, ash, radiata pine and wood species with similar capillary properties. Always consult Woodsafe support before planing or similar action.

5.4 Drilling, perforating

Wood-based panels (plywood) can be perforated as detailed in the relevant certificate. Ensure the fire performance of the backing substrate is in relation to the notes in the documented fire performance.

5.5 Punching

Fixing for electrical sockets, switches and the like can be carried out.

5.6 Surface brushing

Can be carried out to a limited extent and in relation to the structure and absorption capacity of the wood species. Consult with Woodsafe support before execution.

5.7 Glue

Adhesives with water-resistant 2-component properties (e.g. MUF adhesives, phenolic resin adhesives) are recommended. PU adhesives and EPI adhesives should be avoided, as well as other adhesive types unless they are tested and evaluated first. Also avoid

adhesives that cannot withstand lower PH. Always consult Woodsafe support department before procurement of adhesive wood products.

5.8 Pressing of veneer and wood layers

Data is missing. Please contact Woodsafe customer service for more information. +46 10 206 72 30

5.9 Moisture content

Traditional measuring instruments cannot be used because the fire retardant affects the conductivity of the wood product. The dry weight method must be applied. Note that treated material is shipped to the customer from the manufacturing site with the correct moisture content, but depending on transportation and storage conditions on site or in the factory, the moisture content may change depending on the wood species' efforts to achieve equilibrium moisture content. Reservation of a certain proportion of wood panels with higher moisture content is described in the general conditions Woodsafe Fire Impregnated Wood (GRT 2023).

5.10 Tools

WOODSAFE® Exterior WFX™ does not immediately cause increased wear on tools, however, planing steels, saw blades, drilling tools may become coated due to the reaction of the flame retardant to the heat generated by rotating tools.

6. Installation - general recommendations

Wood products have a long life expectancy without the need to add chemicals for longevity, this is not to be confused with fire preservation which aims to improve the properties of the wood product against the effects of fire. It is important to ensure longevity in the choice of wood species while considering the suitability properties of the fire retardant (service class EN16755) as well as economic values and global sustainability goals.

6.1 Aeration

Wood can withstand moisture from water as long as it has an opportunity to dry with good air exchange. A wooden facade should have a free vertical ventilation (standing batten) regardless of whether vertical (standing) or horizontal (horizontal) mounted panel. Ventilating a vertically mounted panel with a horizontal batten is possible by using a vertical batten (double batten). It is also important to provide ventilation under and above windows. In general, follow the recommendations in AMA hus and träguiden.se

6.2 Dewatering, splashing and bouncing rainwater

Inadequate drainage is a damage risk for wood panels that can cause prolonged high moisture content without the possibility of drying, discoloration and mold growth caused by improper installation and inadequate drainage.

- When finishing against hard ground such as asphalt, stone slabs and the like, a distance of 300 mm between the panel's end grain and the ground is recommended.
- To reduce the risk of bouncing rainwater, a gravel or grass surface is recommended. If grass is used, it is important to keep the grass relatively short in relation to the proximity of the end grain.

6.3 Low pH value

WOODSAFE® Exterior WFX™ fire retardant initially has a low pH (<2) in the wood, which means that water running over the wood can etch materials that do not have the properties to resist etching from low pH values. At the same time, some woods and modified woods also have low pH values which can produce low pH water that can etch other materials. It is therefore of great importance that dewatering and installation of other materials is done in such a way that direct contact and water from dewatering is avoided unless the material can withstand it. Lower PH value from the fire-impregnated wood material is more present when the wood material is newly installed, after a number of rain showers, the surface content of more acidic substances has decreased.

Materials with a higher ph-value (alkaline), such as concrete, can potentially develop run marks if the above is not followed. There is a particular risk when combining WOODSAFE® Exterior WFX™ with extra low ph wood such as cedar. Concrete with an impregnated surface can reduce the risk of water marks.

6.4 Capillary properties of wood

Wood is a natural material with capillary properties. It is worth knowing that end-grain wood absorbs/sucks about 20-25 times more water compared to the rest of the surface, and the gap between the wood panel and the drainage board reduces the risk of the capillary effect.

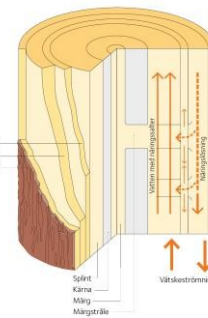


Image source: Wood Guide

7. Fixing in wood materials

7.1 Exterior fastening

The fastening shall be of stainless steel quality.

7.2 Clothing materials that are not recommended

Materials not recommended for direct contact with WOODSAFE® Exterior WFX™ and dewatering are aluminum, copper, untreated black steel and materials with similar properties. Improper selection and use of fastening materials can create dark fields around the fastener and dark etchings in the wood panel and eventually corrosion can occur.

titanium, niobium and tantalum

7.3 Corrosion

Read the *Evaluation Report* at www.woodsafes.com

- A1 - chrome / nickel steel with sulfur
- A2 - chrome / nickel steel plain stainless.
- A3 - chromium / nickel steel stabilized with



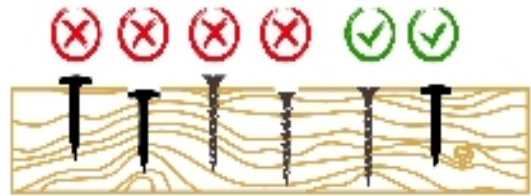
- A4 - chrome / nickel steel with molybdenum
- A5 - chromium / nickel steel with molybdenum stabilized with titanium, niobium and tantalum

In this way, a fastener with the designation A2 can be made from, for example, EN 1.4301 or 1.4306 and a fastener of type A5

can be made of EN 1.4571 or maybe EN 1.4580.

7.4 Fixing

Fixing with screws, nails etc. should be in line with the surface line of the wood to avoid damage caused by fixing.



8. Assembly

WOODSAFE® Exterior WFX™ fire-retardant wood is available in several different types of wood, mainly for exterior use. Some types of wood are more sensitive than others, for example cedar or if modification has been carried out, such as heat treatment that makes the wood extra fragile.

8.1 The natural color of the wood may discolor other materials

The color scale of different types of wood can vary greatly, for example cedar, which has clear shifts in red, yellow and brown. For best results, regardless of the type of wood, it is recommended that panels and wood shavings are installed in a varied color pattern. The natural color of different types of wood is water-soluble and can affect porous and open surfaces such as concrete, plaster and anodized metal under the wood panel. Discoloration occurs mainly on untreated panels, for example when untreated cedar or oak is exposed to moisture, sunlight and rain. If discoloration occurs, it is most obvious the first time and then subsides.

If discoloration is perceived negatively, attempts can be made to wash off the paint with ordinary or with added mild detergent such as green soap or if the discoloration is of a more difficult nature use surface treatment products on the market more specifically designed to remove and prevent wood paint precipitation, discoloration. Be careful never to use high pressure when cleaning wood paneling. Contact your wood supplier or paint retailer for guidance or products.

8.2 Panel

Normally wood panels are installed with 600mm c/c distance. Depending on the type of wood, width, quality and profile, 1 to 2 fixings per panel are recommended. Depending on the installation conditions, end tongue and groove is recommended for continuous splicing, more efficient installation and less waste. Splicing with end tongue and groove does not normally need to be done against nail battens, but avoid multiple splices in the same assembly line to avoid cupping. Depending on the density and modification of the wood species, it is important to take precautions during installation such as but not limited to:

- Heat-treated ash requires pre-drilling
- Cedar and heat-treated wood such as pine, spruce should not be fastened too far out at the edge and end with the risk of cracking

9. Maintenance & Surface Treatment

9.1 Oiling of end grain

In exterior environments, it is recommended that the end grain be oiled as a preventive measure to prevent the capillary properties of the wood from drawing moisture into the end grain.

9.2 Maintenance and persistent fire protection

WOODSAFE® Exterior WFX™ is a unique fire retardant for wood materials based on polymer technology, which means that the fire retardant hardens and forms a waterproof polymer. The result is that wood cladding can be exposed in exterior environments without the need for surface treatment for natural ageing. This can be compared to a traditional fireproofing ("simple salt solution") which must be protected by a film-forming and sufficiently thick paint and at the same time be documented to pass EN16755 EXT.

WOODSAFE® Exterior WFX™ fire retardant is covered by a **type approval certificate** that, among other things, verifies the use class standard **EN16755 EXT**. It is a product classification that includes suitability testing, through several product tests, of the properties of the fire retardant in exposed outdoor environments. Fire-impregnated wood products do not need to be surface treated for fire resistance.

For more information, please contact Woodsafe support +46 10 206 72 30 or email: support@woodsafes.com

9.3 WOODSAFE® Exterior WFX™ surface treatment

WOODSAFE® Exterior WFX™ cannot normally be successfully coated without the coating being tested by a Woodsafe dealer. This is due to the initial lower pH level of the wood surface in combination with the hardened surface can prevent a coating from adhering well and drying.

For more information, please contact your Woodsafe dealer or Woodsafe support +46 10 206 72 30 or email: support@woodsafes.com

Any surface treatment, without following the recommendation of Woodsafe dealer as above, is at your own risk.

10. Facade cladding (SP-Fire 105)

10.1 Installation instructions for SP Fire 105 or other fire class

Read the current installation instructions, which can be downloaded via Document Library, at www.woodsafes.com. If the installation instructions do not correspond to the current facade construction, contact your Woodsafe dealer or Woodsafe support for advice +46 10 2067230.

10.2 Use class (EN16755 EXT)

WOODSAFE® Exterior WFX™ is covered by type approval certificate by RISE (0402) according to EN16755 EXT without the requirement of surface treatment for exterior application and is valid for all wood species.

10.3 Maintenance

WOODSAFE® Exterior WFX™ does not require maintenance treatment.

10.4 Damaged cladding

To be replaced with new WOODSAFE® Exterior WFX™ impregnated product.

10.5 Surface treatment

Read instructions in chapter 9

10.6 End grain and cut surfaces

Read the instructions in Chapter 9.

10.7 Mold growth and cleaning

Black mold and mildew can be caused by air pollution or improper installation. Black mold is a general problem not associated with WOODSAFE® Exterior WFX™ which itself does not contribute to mold or algae growth. Rather, experience shows that panels tend to have less or no surface mold growth. If cleaning is required, wash gently with water and mild detergent developed for facade cleaning.

Never use high pressure when cleaning as it damages the wood and forces water into the wood panel.

10.8 Visual inspection

It is the client's responsibility to visually assess wear and tear and damage annually for optimal service life. Exposed locations such as sunny side, near the coast, etc. can affect.

10.9 Resin and natural substances in the wood

During the drying process, the wood is heated to a temperature that can cause the resin flap to open and the resin to float to the surface. Resin can be sanded off but is not grounds for complaint. Woodsafe recommends the customer to deliver high quality wood material to be impregnated in order to minimize such risks as resin rash etc. Read more P. 4.5

Precipitation of natural substances is not a basis for a complaint.

11. Recycling, waste management and environmental aspects

Waste material from processing must not be used, -processed into bedding regardless of stable bedding, livestock bedding or general animal husbandry. Waste material from processing, such as wood shavings and wood chips, must not be used as raw material for the manufacture of pellets, briquettes or other combustion materials.

11.1 Waste code

WOODSAFE® Exterior WFX™ is sorted with waste code: 17 02 01



11.2 Incineration of residue

WOODSAFE® Exterior WFX™ is not recommended to be burned in private biofuel plants, stoves or wood boilers. This is due to the deterioration of the burning properties, which can lead to the formation of coke in the fireplace and damage the plant. Combustion is recommended to be mixed with ordinary untreated wood in municipal heating plants.

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Subject to typographical and printing errors.

11.3 Environmental aspect

WOODSAFE® Exterior WFX™ is not classified as an environmental or health hazardous product. WOODSAFE® Exterior WFX™ has suitability approved properties according to EN16755 EXT which proves that fire retardant chemicals are not leaching from the treated wood species which means that the risk of environmental impact and impact on human health is minimal. Use class approval (EN16755) is verified in type approval certificate [TG0263-08](#)

11.4 EPD

Woodsafe provides EPD on website www.woodsafes.com. EPD reference: [S-P-05386](#)

11.5 REACH (Registration, Evaluation, Authorization and restriction of Chemicals)

Formally Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals. Regulation relating to substance and preparation where classification is specifically linked to the substance and preparation, not to the treated product.

WOODSAFE® Exterior WFX™ treated wood product is not subject to authorization to use or dispose of as a wood preservative treatment against rot, nor other restrictions to place on the market. As a manufacturer, Woodsafe Timber Protection AB is obliged under REACH (Regulation (EC) No 1907/2006 of the European Parliament and of the Council) to bring information from manufacturers to downstream users. The candidate list will be regularly updated with new chemicals. Woodsafe manages this via ISO 14001:2015 environmental management certification and communicates via website (www.woodsafes.com) and sustainability report.

12. Quality and performance of fire-retardant wood products

12.1 Wood material sorted to a product grade has a natural variation

Wood products have a natural variation in composition and material as they consist of natural raw material. This is true even when the wood product is sorted to a specific quality, which means that the industry practice is that a small proportion of a delivery can be outside the specified quality.

12.2 General results of Woodsafe fireproofing process on a wood product

The result of fire-retardant impregnation is a combination of all the parameters of the wood material (raw material, treatment method, dimension, etc.), impregnation and drying process. The first part of the fireproofing process consists of the fireproofing itself, where the wood product is placed in an impregnation tube filled with fireproofing agent. The impregnation agent in this part of the process consists of a high proportion of water. The second part of the fireproofing process is the drying process where the wood material is dried at around 50+ degrees with the aim of drying the water out of the wood, to a large extent, so that the fire retardant remains and is fixed in the wood.

For WOODSAFE® Exterior WFX™, part of the drying process also involves curing the impregnating agent to form the waterproof polymer, at temperatures well above 50°C.

The impregnation process therefore affects the wood through these process steps.

12.2.1 The natural results of the wood preservation process

- Small swelling, which means that height must be taken into account when dimensioning the wood profile, especially tongue & groove and the like.
- Twisting and cupping. Normally marginal and normally has no impact on subsequent sorting and assembly.
- Cracking can occur but is normally minimal and normally has marginal impact on subsequent sorting.
- Power marks on the back of materials less than 23mm in thickness but on both the front and back of materials over 23mm in thickness.
- Impregnation residues may remain on the surface of the material after completion of the impregnation process but are largely invisible. For WFX impregnation, residues may appear
 - o such as stains and darkening in and on the wood surface.
 - The darker residues need to be brushed or sanded off before surface treatment if they are not accepted. Read more under points 4.4 and 12.3.
 - o As light powder-like substance. It normally disappears after the first rains and can normally be easily brushed off.
- Natural substances in the wood material may have migrated onto the wood surface during the impregnation process and afterwards, normally to a lesser extent. Examples of this are resins and resin. If these are not accepted, they should be removed after the impregnation process.

12.2.2 Moisture content after the impregnation process before delivery from Woodsafe

In the drying process of WOODSAFE® Exterior WFX™, Woodsafe is guided towards the following target moisture contents depending on the wood product and species. Individual pieces of wood may be outside the ranges below due to natural variation:

- Exterior, not heat-treated: 15-18%
- Exterior, heat-treated: 5-8%

12.3 Quality of a specific fire-retardant wood product

If you need to know what specific quality and sorting a certain product should have upon delivery, please contact your wood supplier and Woodsafe dealer. It is the dealer who handles the delivery quality of the wood product.

13. Complaint case

13.1 My claim volume limit

Volume, which can be considered to deviate from normal in terms of results of fire impregnation, below 3% of order volume is considered, according to industry practice, to fall within the normal for naturally varying wood materials.

13.2 Responsibility for decision and action

The client and the subcontractor hired by the client are responsible for decisions and actions. The choice of installation, fastening, connecting materials, maintenance and surface treatment and its effect, impact and suitability for use on WOODSAFE® Exterior WFX™ impregnated wood is always the responsibility of the customer/contractor to ensure.

In the event of a complaint, the builder's and subcontractor's own inspection must always be reported in relation to Woodsafe's associated documents.

13.3 Basic prerequisite for complaints:

1. Complaints must be received from and handled by the Woodsafe dealer and be relevant to Woodsafe's part in the final product.
2. The damage must be reported to the Woodsafe dealer - signed and dated
3. The damage, if relevant, must be reported to the transport company - signed with date
4. The damage, if relevant, must be reported to the painter - signed and dated
5. The damage must be documented in text - signed with date
6. The damage must be documented in pictures - signed with date
7. Relevant information should be provided - signed with date
 - a. Description of workplace, time of receipt of product, storage, acclimatization, weather conditions, time of possible assembly of product
8. If the product has visible and obvious damage or defects, notification must be submitted before installation.
9. Woodsafe order number

WOODSAFE EXTERIOR WFX