

# Associated document



Type approval certificate 0263-08  
Other certificate numbers refer to table of contents

## **WOODSAFE® EXTERIOR WFX** Industrially fire-impregnated wood products

Woodsafe Timber Protection AB  
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## Dear customer

Thank you for choosing to use Woodsafe fire impregnated wood. In this document collection you will find important overall facts and guidance for WOODSAFE® Exterior WFX™ impregnated wood.

Before delving into this collection of documents, we would like to tell you a bit more about fire impregnated wood and why it is important to understand the whole picture of fire protection impregnation, how it works, how to think, how to evaluate sustainable product properties and sustainable production of the final product.

In principle, there is no difference between fire impregnation or flame retardant impregnation, it is more a concept where flame retardant may sound a little 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 retardant via paint box is equivalent to industrial vacuum pressure process impregnation.* Fire impregnation means that in the refinement process, fire impregnation agents are added under vacuum pressure that results in a deep fire protection in the cell structure of the wood and always covers all six sides of the product. After impregnation, the fire retardant is dried and fixed in the cell structure and lies there passively waiting to be activated by heat, i.e. fire exposure. In case of fire, the active substance (the fire retardant) is affected and contributes 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 must look at the totality of wood species, installation conditions, air gap, insulation, substrate and surface treatment where all sub-components and conditions affect the result. This means that if you need facade cladding that meets SP-Fire 105, then a fire test is not enough, even if the result is approved, but not the way you intend to use the facade cladding.

As a responsible fire consultant and developer, 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 to be used?
- Is the combination of wood species, air gap, insulation, substrate fulfilled?
- Is the fire protection resistant in the outdoor environment and approved by a third party according to EN16755 EXT?
- And more

Woodsafe Timber Protection AB is Europe's largest manufacturer of fire impregnated 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 Boverket's BBR and the Planning and Construction Act (SFS 2010:900).
- ISO 9001:2015 (quality and management system)
- ISO 14001:2015 (environmental management system)
- ISO 45001:2018 (health and safety)



As a client of Woodsafe or as a client of Woodsafe partners, you can be assured of objective advice and support backed by expertise and third-party documentation.



Welcome to Woodsafe. We are here for you and your project.

Thomas Bengtsson, CEO Woodsafe Timber Protection AB

WOODSAFE EXTERIOR WFX

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WOODSAFE EXTERIOR WFX



## 1. Certification

### 1.1 Possession of a CE certificate

Woodsafe Timber Protection's CE certificate for WOODSAFE® Exterior WFX™ is issued by the Notified Body, RISE (0402), Certificate No: 0402-CPR-SC0260-15.

### 1.2 Possession of a type-approval certificate

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

### 1.3 Construction Products Regulation CPR 305/2011

Woodsafe Timber Protection and Woodsafe dealers are CE certificate holders according to harmonized product standard. 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 project and material delivery in question, the dealer of wood products shall normally provide the Declaration of Performance (DoP), Woodsafe's or their own, exceptions are made under the CPR rules.

### 1.5 Type approval certificate according to the Planning and Construction 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-check, competence, control of equipment, sampling from production. The crucial difference between type approval certificates in relation to CE certification is that facade requirements and resistance cannot be CE certified, but facade requirements (SP-Fire 105) and resistance (EN16755 EXT) can be certified according to type approval certificates. The technical properties that type approval certificates confirm Woodsafe fire technical properties are:

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

*It is important to know that the prerequisite for the type approval certificate according to BBR and the Planning and Construction Act (PBL) regarding the facade fire requirement SP-Fire 105 is that the fire impregnation agent has approved properties according to the utility 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 internal quality system (WQS) is ISO 9001:2015 certified by RISE (No. 0402).

Woodsafe Timber Protection AB 2023, associated document WOODSAFE EXTERIOR WFX 2023 version 1.0.

Subject to typographical and printing errors.



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 edition of Woodsafe certificates

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™). [Certification documents can be found here.](#)

# 2. Reception and control of goods

## 2.1 Initial check on arrival

Woodsafe fire impregnated wood products should be handled with care when unloading, storing and loading. Depending on the wood species and modification, the density and sensitivity to movement varies with an increased risk of permanent damage or marks from, for example, forklift forks and unbalanced weight distribution.

Upon 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 are consistent with the order and delivery note.
- Check the delivery and document any visible damage. Reconcile the wood species and markings with the order and delivery note.

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

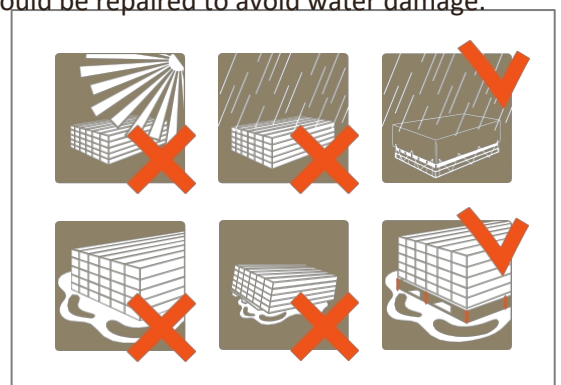
# 3. Warehousing and storage

## 3.1 Warehousing and storage

Woodsafe fire-impregnated wood should generally be stored with protective plastic with UV protection, on a dry surface. If the packaging is damaged, the damage should be repaired to avoid water damage.

### Checklist for storage and preservation:

- Raised from dry ground indoors >100 mm
- Raised from external damp ground >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 protection 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, splashing dust), protective gloves (in case of prolonged direct contact, sensitive skin, dehydration), and respiratory protection (in case of risk of dust, e.g. when grinding, cutting). When grinding and polishing, use an extractor and ensure good ventilation and air exchange. Use safety glasses, gloves, and a respirator.

### 4.2 Dust and odor from untreated wood (not fire impregnated)

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 a strong odor and where, for example, heat treatment contributes to very fine dust that can irritate the respiratory tract, skin and eyes. When working with cedar, heat-treated or modified wood, a respirator must always be worn. People who are sensitive to allergies, odors and the like or who experience symptoms should avoid working with such woods/products 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 Fire retardant WOODSAFE® Exterior WFX™ on the surface of the wood

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 be brushed off in connection with surface treatment or sanded off regardless of the area of use. Ensure good ventilation and wear a breathing mask. Read more under chapter 12.

### 4.5 The 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 intrinsic properties of wood that can occur during impregnation and drying from knots, resin flaps and resin pockets between growth rings. Read more under chapter 12.

### 4.6 In case of incidents

Or an emergency situation arises such as ingestion, eye contamination, wound injury or shortness of breath, it is recommended to immediately contact **SOS 112**. In all cases of incidents 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 a drinking glass, or use an 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 safety data sheets



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

## 5. Processing

Regardless of wood type, it is always recommended to minimize exposure and inhalation of wood dust. 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 extraction and use respiratory protection with P3 filters at the risk of large amounts of wood chips, wood dust in the air and the environment.

### 5.2 Cedar wood fragrance, Heat treated, Acetylation

Wood species such as cedar have a clearer smell than spruce and pine, but even heat-treated treated pine and spruce can have a stronger smell than untreated spruce and pine. Other modifications such as acetylation (Accoya) have an odor of vinegar 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 easiest way is to place the material in the current environment and see how the scent is perceived.

### 5.3 Planing

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

### 5.4 Drilling, perforation

Wood-based board (plywood) can be perforated according to details in the relevant certificate. Ensure the fire performance of the backing substrate in relation to the entries in the fire performance document.

### 5.5 Hole making

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

### 5.6 Surface brushing

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

### 5.7 Filing

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 types of adhesives if they are not tested and evaluated first. Always consult the Woodsafe support department before



procuring adhesive wood products.



## 5.8 Pressing of veneer and wood layers

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

## 5.9 Moisture content

Traditional measuring instruments cannot be used due to the effect of the fire retardant on the conductivity of the wood product. The dry weight method must be applied. Please 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 the equilibrium moisture content. Reservation of 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 cause immediate increased wear on tools, however planing steel, saw blades, drilling tools may become coated due to the reaction of the fire retardant from the heat generated by rotating tools.

# 6. Installation - general recommendations

Wood products have an expected long lifespan without the need to add chemicals for longevity, this should not be confused with fire impregnation 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 of the fire retardant (service class EN16755) as well as economic values and global sustainability goals.

## 6.1 Aeration

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

## 6.2 Drainage, splashing and bouncing rainwater

Lack of dewatering is a risk of damage to wood panels that can cause prolonged high moisture content without the possibility of drying, discoloration and mold growth caused by improper installation and lack of dewatering.

- When terminating on hard ground such as asphalt, stone slabs and the like, a distance of 300 mm between the end wood of the panel 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 wood.

## 6.3 Low pH value



The fire retardant WOODSAFE® Exterior WFX™ initially has a low pH value (<2) in the wood, which means that water, such as driving rain, can etch materials that do not have the properties to resist etching from low pH values. Some wood species and modified wood species also have a low pH value, which can

etching other materials. It is 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.

## 6.4 Capillary properties of wood

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

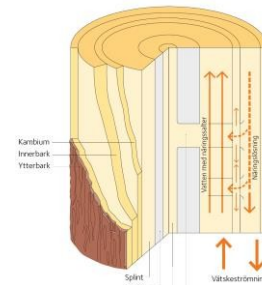


Image source: Wood Guide

## 7. Fixing in wooden materials

### 7.1 Exterior fastening

The fixing 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 drainage 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.

### 7.3 Corrosion

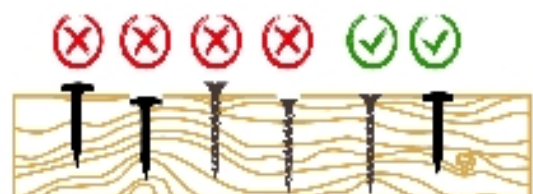
Read the *Evaluation Report* at [www.woodsafes.com](http://www.woodsafes.com)

- A1 - chrome / nickel steel with sulphur
- A2 - chrome / nickel steel plain stainless.
- A3 - chrome/nickel steel stabilized with titanium, niobium and tantalum
- A4 - chrome / nickel steel with molybdenum
- A5 - chrome/nickel steel with molybdenum stabilized with titanium, niobium and tantalum

In this way, a fastener with the designation A2 can be made of, for example, EN 1.4301 or 1.4306 and a fastener of type A5 can be made of EN 1.4571 or perhaps EN 1.4580.

### 7.4 Attachment

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



## 8. Installation

WOODSAFE® Exterior WFX™ fire-impregnated wood is available in several different types of wood mainly for exterior use. Some wood types are more sensitive than others, such as cedar, or if modifications have been made, such as heat treatment that makes the wood extra brittle.

### 8.1 The natural color of the wood may discolor other materials.

The color scale of different types of wood can vary greatly, such as cedar, which has distinct shades of red, yellow and brown. For best results regardless of wood type, 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. The discoloration mainly occurs 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 decreases.

If discoloration is perceived negatively, an attempt 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 color precipitation, discoloration. Be sure to never use high pressure when cleaning wood panels. Contact your wood supplier or your 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, it is recommended, among other things, to use end grain for continuous splicing, more efficient installation and less waste. Splicing with end grain 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 when assembling such as but not limited to:

- Heat-treated ash requires pre-drilling
- Cedar and heat-treated wood such as pine and 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 wood

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

### 9.2 Maintenance and durable fire protection

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

The fire impregnation, WOODSAFE® Exterior WFX™ 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 an exposed outdoor environment. Fire-impregnated wood products do not need to be surface treated for fire resistance.

For more information, contact Woodsafe support +46 10 206 72 30 or email: [support@woodsafes.com](mailto:support@woodsafes.com)

### 9.3 Surface treatment WOODSAFE® Exterior WFX™.

WOODSAFE® Exterior WFX™ cannot normally be coated with good results without the coating being tested for the purpose by a Woodsafe dealer. This is because the initially lower pH level of the wood surface combined with the hardened surface can prevent a finish from adhering well and drying.

For more information, contact your Woodsafe dealer or Woodsafe support +46 10 206 72 30 or email: [support@woodsafes.com](mailto:support@woodsafes.com)

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

## 10. Facade cladding (SP-Fire 105)

### 10.1 Assembly instructions for SP Fire 105 or other fire class

Read the current installation instructions, which can be downloaded from the Document Library at [www.woodsafes.com](http://www.woodsafes.com). If the installation instructions do not match the current facade structure, contact your Woodsafe Dealer or Woodsafe support for advice +46 10 2067230.

### 10.2 Use class (EN16755 EXT)

WOODSAFE® Exterior WFX™ is covered by a type approval certificate by RISE (0402) according to EN16755 EXT with no requirement for surface treatment in exterior applications 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 wood and cut surfaces

See instructions in chapter 9.

### 10.7 Mould growth and cleaning

Black mold and the like can be caused by air pollution or improper installation. Black mold is a general problem not associated with WOODSAFE® Exterior WFX™, which in 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 a mild detergent developed for facade cleaning.

Never use high pressure when cleaning as this will damage the wood and push water into the wood panel.

## 10.8 Visual inspection

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

## 10.9 Resin and natural substances in 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. The resin can be sanded away but is not a basis for complaints. Woodsafe recommends the customer to deliver high quality wood material to be impregnated to minimize such risks as the appearance of resin 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 shall not be used, -processed into bedding regardless of stable bedding, pet bedding or general animal husbandry. Waste material from processing, such as wood shavings and wood chips, shall not be used as raw material for the production of pellets, briquettes or other combustion material.

## 11.1 Waste code

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

## 11.2 Incineration of residual product

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

## 11.3 Environmental aspects

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

[TG0263-08.](#)

## 11.4 EPD

Woodsafe provides the EPD on the website [www.woodsafes.com](http://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 decay, nor any other restrictions on placing 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.woodsafetreated.com](http://www.woodsafetreated.com)) and sustainability report.

## 12. Quality and performance of fire-impregnated wood products

### 12.1 Wood material sorted into a product grade has a natural variation

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

### 12.2 General results of the Woodsafe fire impregnation process on a wood product

The result of fire impregnation comes from 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 fire impregnation process consists of the fire impregnation itself, where the wood product is placed in an impregnation tube that is filled with fire impregnation agent. The impregnation agent consists largely of water in this part of the process. The second part of the fire impregnation 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, largely, 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 impregnation process for the wood material

- Small swelling, which means that height must be taken into account when designing wooden profiles, especially tongue & groove and the like.
- Twisting and cupping. Normally marginal and does not normally affect subsequent grading and assembly.
- Cracking may occur but is normally minimal and usually has a marginal impact on subsequent grading.
- Power marks on the back of materials less than 23mm thick but on both the front and back of materials over 23mm thick.
- 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 as stains and darkened areas in and on the wood surface.
    - The darker residues need to be brushed or sanded away before surface treatment if they are not accepted. Read more under points 4.4 and 12.3.
  - o As a 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 during the impregnation process and afterwards, normally to a lesser extent, have moved onto the wood surface. Examples of this are resins and resins. 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 aims for the following target moisture ratios depending on the wood product and species. Individual pieces of wood may be outside the ranges listed below due to natural variation:

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

#### 12.3 Quality of a specific fire impregnated wood product

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

### 13. Complaints procedure

#### 13.1 My volume limit for complaints

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

#### 13.2 Responsibility for decision and action

The client and the subcontractor hired by the client are responsible for the decision and action. The choice of installation, fixing, connecting materials, maintenance and surface treatment and its effect, influence and suitability for use on WOODSAFE® Exterior WFX™ impregnated wood is always the responsibility of the customer/contractor.

In the case of complaints, the builder's and subcontractor's self-inspection must always be reported in relation to Woodsafe's associated documents.

#### 13.3 Basic prerequisite for complaints:

1. Complaints must come from and be 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 and dated.
4. The damage, if relevant, must be reported to the paint shop - signed and dated.
5. The damage must be documented in text - signed and dated.
6. The damage must be documented in a picture - signed with date
7. Relevant information to be provided - signed with date
  - a. Description of the workplace, time of reception of the product, storage, acclimatization, weather conditions, time of possible assembly of the product.
8. If the product is visibly and obviously damaged or defective, notification must be made before installation.
9. Woodsafe order number