

S100:X

Patented Wood Protection

System Fire Protection

Burnblock[®]

Product Data Sheet

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Industrial application of SiOO:X System Fire Protection

Wood Protection: SiOO:X Wood Protection Panel Industry Burnblock®	Surface Protection: SiOO:X Surface Protection Panel Industry Burnblock®	Products: CLEAR LIGHT GREY MID GREY
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Product description

The integrated Burnblock and SiOO:X system has undergone comprehensive fire testing under EN 13501-1, and reaches Euro Class B-s1, d0.

SiOO:X system consists of two products: Wood Protection, potassium silicate-based which is applied twice. Surface Protection, which is applied once and re-applied after a period as a maintenance coat.

SiOO:X Wood and Surface Protection Panel Industry Burnblock® is part of SiOO:X's industrial range and is specially formulated to suit industrial application.

SiOO:X Wood Protection Panel Industry Burnblock® contains potassium silicate, which penetrate the wood structure and undergo a maturation process. The precipitated silica forms within the wood cells and bonds with neighbouring silica deposits in both adjacent cells and on the timber surface, to form a flexible and extremely low soluble silica.

SiOO:X Surface Protection Panel Industry Burnblock® is the second product in the SiOO:X Fire Protection System Burnblock® for industrial applications of wood cladding. The Surface Protection is water based and contains silane and siloxane emulsions that react with the Wood Protection and the wood surface. Surface Protection is specially engineered to bind and work with Wood Protection in synergy, providing protection to the timber surface. The products act with the wood to give it a matt surface. The SiOO:X matures over time, and this may affect the colour. After 2–3 years, the timber is fully cured.

How it works

The components of the Wood Protection react with moisture and carbon dioxide in the air. As the silicate treatment matures it strengthens the wood, which gradually turns grey underneath the pigmented paint or as a complement to it.

The Surface Protection seals the system and inhibits leaching of the Wood Protection. The surface becomes both water-repellent and vapour permeable. It means that water droplets

can't penetrate the surface as easily, while moisture quickly evaporates through the permeable surface. The ability to repel water reduces the moisture content of the wood. A drier wood resists the growth of rot and algae better and it is easier to clean. The water-repellence also means a more uniform moisture content, which leads to less movement of the wood. A vapour-permeable barrier is essential for the system, as it needs moisture, UV light, and carbon dioxide to mature.

Durability

With the correct application, installation, and maintenance, SiOO:X Fire Protection System Burnblock® has a life span of up to 15 years on fine sawn wood surface* or micro structured surfaces. It also depends on the local weather conditions.

SiOO:X Panel Industry Burnblock® are designed to be compatible with a wide range of wood types.

Family 1	
According to Classification:	EN 13501-1:2018 and EN 13501-1:2020
According to Test:	EN 13823 (SBI) and EN 14135:2004

WOOD SPECIES	Density	Thickness	Reaction to fire
	kg/m³	mm	Class
Spruce*	355–536	19–42	B-s1,d0
Pine	355–536	19–42	B-s1,d0
Western Red Cedar	355–536	19–42	B-s1,d0
Western Red Cedar	355–536	19–42	B-s1,d0
Larch	355–536	19–42	B-s1,d0
Ayous	355–536	19–42	B-s1,d0
Ash	355–536	19–42	B-s1,d0
Frake	355–536	19–42	B-s1,d0
Douglas Fir	355–536	19–42	B-s1,d0

With a ventilated or non-ventilated air gap between product and substrate or with no air gap.

Family 2

According to Classification: EN 13501-1:2018 and EN 13501-1:2020
According to Test: EN 13823 (SBI)

WOOD SPECIES	Density	Thickness	Reaction to fire
	kg/m ³	mm	Class
Thermo Spruce	360–550	19–42	B-s1,d0
Thermo Ash	360–550	19–42	B-s1,d0
Thermo D-Pine	360–550	19–42	B-s1,d0
Thermo Ayous	360–550	19–42	B-s1,d0
Thermo Frake	360–550	19–42	B-s1,d0
Thermo Poplar	360–550	19–42	B-s2,d0
Thermo Tulipwood	360–550	19–42	B-s1,d0

With a ventilated or non-ventilated air gap between product and substrate or with no air gap.

It is the responsibility of the applicator, contractor, retailer, and distributor to inform the customer about correct maintenance. For more information, please read the **CLEANING AND MAINTENANCE OF SiOO:X TREATED SURFACES – Cladding**.

Preparations

Read Safety Data Sheets and “APPLICATION PROTOCOL FOR SiOO:X OVER BURNBLOCK TREATED MATERIAL” before use. Make sure that the equipment has been thoroughly cleaned. Remove traces of old paint. This also applies to auxiliary equipment, conveyor belts, etc. Make sure the room is well ventilated, and respirator masks must be worn for spray application (e.g. combination filter A1P2 or equivalent).

The SiOO:X products are ready to use and should not be diluted with water. Stir or shake the contents of the container until the product appears consistent and there is no sediment. Continue to stir the product throughout its use to ensure optimal consistency and performance.

It is recommended that the entire contents of the container are emptied into the application equipment and used at the same occasion.

Application

Please read the “APPLICATION PROTOCOL FOR SiOO:X OVER BURNBLOCK TREATED MATERIAL” for more information before use.

In case of a spill, clean up SiOO:X before it dries. Do not forget to treat the end grains during each stage of treatment. You can use the same products.

Wood Protection, 2 coats

Apply Wood Protection Panel Industry Burnblock® to the dry, clean surface and let the treatment dry for at least two hours. Note that the reaction continuous in the wood also after the

surface is touch dry. Apply a second coat of Wood Protection and leave the treatment to dry for at least four hours. For modern high-volume line application, it is possible to use heater and/or air dryer to speed up drying after applying SiOO:X.

It is important that the Wood Protection is allowed to dry slowly so the product can penetrate into the wood material. Do not use heat above 30°C to speed up drying after applying Wood Protection. Protect the wood from direct sunlight.

Softwood Threshold Wood Protection 225g/m² (+/-10%)
Thermowood Threshold Wood Protection 270g/m² (+/-10%)

Surface Protection, 1 coat

After the second coat of Wood Protection Panel Industry Burnblock® has dried, the wood is ready for Surface Protection Panel Industry Burnblock®. Apply Surface Protection and let the treatment dry at least until the surface feels dry to the touch. The temperature should not exceed 30°C for drying surface protection. For more information, please read “APPLICATION PROTOCOL FOR SiOO:X OVER BURNBLOCK TREATED MATERIAL “.

Softwood Threshold Surface Protection 115g/m² (+/-10%)
Thermo wood Threshold Surface Protection 115g/m² (+/-10%)

After application

Before SiOO:X has time to dry, wash equipment and tools as soon as the application is finished. SiOO:X can be washed off with water. Gather up any waste and dispose according to an approved waste disposal plant in accordance with local, federal, and national regulations Clean and recycle packaging. After treatment the wood should remain uncovered until it is dry and ready for distribution or storage. Store treated wood under roof and free from dust. Once the treated wood is dry it can be stored cold and packed in plastic.

Installation

SiOO:X must be applied to at least three sides (the face and edges), including all end grains and cuts. For the installation of sidings, only stainless-steel or acid-resistant nails should be used.

Responsibility and maintenance

Control samples must be used to measure the liquid uptake after each coat. Length, size, profile, surface texture of the timber, the name of the customer and batch number of the paint must be stored.

It is the responsibility of the applicator, contractor, retailer, and distributor to inform the customer about which SiOO:X treatment that has been applied and how to correctly maintain the SiOO:X surface to ensure the longest lasting results. This includes the need for a maintenance coat of Surface Protection after the recommended period and the need to treat all new end grains and cuts during installation. Please read the cleaning and maintenance of SiOO:X treated surfaces.

Info

- Storage of liquid: +5°C to +30°C
- Stir the paint before and during the use
- Application temperature:
 - SiOO:X Wood Protection Panel Industry Burnblock®: +8°C to +30°C (the recommended temperature is +16°C to +22°C)
 - SiOO:X Surface Protection Panel Industry Burnblock®: +15°C to +30°C (the recommended temperature is +16°C to +22°C)
- Moisture content of wood during application:
 - Wood Protection coat 1: 12–23%, (Thermowood 7–11%)
- Drying temperature: +15°C to +30°C
- Drying times:
 - >2 h between Wood Protection coats 1 and 2
 - >4 h between Wood Protection coat 2 and Surface Protection
- Correct industrial application:
 - 2 coats of Wood Protection
 - 1 coat of Surface Protection
 - End grain sealer
- EPD's are available upon request.
- Recommended spray nozzle size >100 µm
- Water-based products

IMPORTANT!

Do not forget your responsibility to inform the customer which SiOO:X treatment that has been applied and how to correctly maintain the SiOO:X treated surface.

* 'Fine sawn' surface as defined in Sweden. Differences in terminology can exist between countries. For information, see SwedishWood.com, or if you have questions contact info@sioox.se. Information is subject to change without notice. SiOO:X retains the right to update the data sheet as it deems appropriate, and the user is responsible to check for updates at sioox.se before using the product. It is not possible for SiOO:X to warn the user about every possible danger related to use of the product and the user must use common sense and good judgment. **Kindly visit sioox.se to access the latest version of this product data sheet.**