



SiOO:X

WOOD PROTECTION

Product Sheet

For fire protected wood with Burnblock

Product Data Sheet

SiOO:X Wood Protection System – For Fire Protected Wood with Burnblock

<p>WOOD PROTECTION: FOR FIRE PROTECTED WOOD WITH BURNBLOCK</p>	<p>SURFACE PROTECTION: FOR FIRE PROTECTED WOOD WITH BURNBLOCK</p>	<p>COLOURS: CLEAR-COAT LIGHT-GREY MID-GREY</p>
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PRODUCT DESCRIPTION

The integrated Burnblock® and SiOO:X system has undergone comprehensive fire testing under EN 13501-1, and reaches Euroclass B-s1, d0. The system has also undergone a regulated EN preaging procedure and a new Fire testing resulting in B-s1, d0.

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

SiOO:X Wood and Surface Protection- for fire Protected wood with Burnblock is part of Sioo's industrial range and is specially formulated to suit industrial application.

SiOO:X Wood Protection - For Fire Protected wood with Burnblock contains silicon and potassium, 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 insoluble silica.

It has been shown that the combination of Burn block and SiOO:X technologies give synergy effects as:

- faster and better bonding to the wood, with better durability
- more esthetical pleasant natural and clean wood surface
- an environmentally pleasant fire-retardant system, with EPD.
- third party certificates proofing the result for the full system

SiOO:X Surface Protection - For Fire protected wood with Burnblock is the second product in SiOO:X Wood and Surface Protection - For Fire protected wood with Burnblock system for industrial application 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 a matt surface that is beautiful right after treatment. The SiOO:X system matures over

time, which may make the colour a little brighter. After 2-3 years, the timber is fully cured, and a final colour is reached. The result is a consistent weathered tone, achieved years faster than with natural weathering.

HOW IT WORKS

The components of the Wood Protection react with moisture in the outdoor environment, mineralize the wood, and binds together the surface fibres of the wood. As the silicon treatment matures it strengthens the wood, which gradually turns grey underneath the pigmented paint, or as a complement to it, depending on treatment.

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 is easier to clean. The water-repellency also means a more uniform moisture content, which leads to less movement of the wood and thereby less maintenance. 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 Wood and Surface Protection- for fire Protected wood with Burnblock has a life span of up to 12 years on fine sawn wood surfaces* or on micro-structured/grooved surfaces. It is the responsibility of the applicator, contractor, retailer and distributor to inform the customer about correct maintenance.

APPLICATION AND INSTALLATION SIDES

SiOO:X is applied to at least three sides (face and edges), and to end grains and cuts.

The choice of main side that is treated and installed facing out is very important, as correct application ensures a durable product and an attractive appearance long term. The side that SiOO:X is applied to must have a surface that is suitable for SiOO:X and this side should be installed facing out.

WOOD AND SURFACE

SiOO:X Wood and Surface Protection- for fire Protected wood with Burnblock should only be applied to micro-structured/grooved surfaces, or fine swan surfaces. Please read the Micro-structured/grooved surface sheet.

COVERAGE

See the coverage table for SiOO:X on Burnblock.

PREPARATIONS

Read Safety Data Sheets and labels before use. Removal of old paint may generate dust or fumes that contain lead or titanium dioxide. All types of sawing and sanding generate wood dust and particles. For these reasons, use a well fitted respiratory mask (e.g. combination filter A1P1 or equivalent).

** The temperature of the liquid, room and wood should be between +15°C and +30°C during application and drying. SiOO:X should only be applied to clean and dry wood surfaces. Wear gloves and eye protection. 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 system is based on two coats of Wood Protection and one coat of Surface Protection. This also applies to end grains and cuts.

*** Make sure the moisture content of the wood is between 12-23% before applying the first coat of Wood Protection. The wood should be dry before applying the second coat of Wood Protection and before application of Surface Protection. The Surface Protection must be applied within a few days after Wood Protection to achieve best results.

Stir or shake the contents of the container until the product appears consistent and there is no sediment. The SiOO:X products are ready to use and should not be diluted with water. It is recommended that the entire contents of the container are emptied into the application equipment and used at the same occasion.

Before starting SiOO:X treatment, make sure that the equipment has been thoroughly cleaned. Remove traces of old paint. This also applies to auxiliary equipment, conveyor belts, etc.

APPLICATION

In the event of spills, wipe up SiOO:X with a damp rag.

Do not forget to treat the end grains during each stage of treatment. It can be done with the same products but can also be done with a separate end grain sealer product – see information for SiOO:X End Grain Sealer.

Wood Protection, 2 coats

Apply Wood Protection to the dry, clean surface and let the treatment dry for at least two hours until the surface is dry to the touch.

Apply a second coat of Wood Protection and leave the treatment to dry fully for at least four hours.

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

Surface Protection, 1 coat

After the second coat of Wood Protection has dried, the wood is ready for application with Surface Protection. Apply Surface Protection and let the treatment dry until the surface feels dry to the touch.

The temperature should not exceed 30° C for drying the Wood Protection or the surface protection. To high temperature can lead to a patchy and shiny surface. Airflow should be unevenly distributed.

For more information about drying, please read “Application Guidelines”.

AFTER APPLICATION

Return leftover liquid to the original container. Wash equipment and tools as soon as the application is finished, before SiOO:X has time to dry. 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 ready for distribution or storage. This will help distribute the moisture in the wood.

Store treated wood under roof and free from dust. Once the treated wood is dry it can be stored cold. Surfaces that recently have been treated with Surface Protection must be handled with care when damp as they are initially vulnerable to mechanical wear.

RESPONSIBILITY AND MAINTENANCE

Results for this painting should be stored. Control samples must be used to measure the application rate and liquid uptake after each coat. Length, size, profile, surface texture of the timber must be stored. The name of the customer and batch number of paints should also be stored. Please read Application protocol for SiOO:X over Burnblock treated materials.

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, and thereby the most sustainable 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. See the cleaning and maintenance of SiOO:X treated surfaces.

INFO

- Storage of liquid: +5°C to +30°C
- Stir before use
- ** Application temperature:
 - SiOO:X Wood Protection - For Fire Protected wood with Burnblock: +8°C to +30°C (the preferred application temperature is +16°C to +22°C)
 - SiOO:X Surface Protection - For Fire protected wood with Burnblock: +15°C to +30°C (the preferred application 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

For more information about drying, for ex. with air/heat read "Application Guidelines".
- 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 that are water soluble.
- 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.

Information is subject to change without notice. Sioo retains the right to update the data sheet as it deems appropriate, and the user is responsible to check for updates at sioox.com before using the product. It is not possible for Sioo to warn the user about every possible danger related to use of the product and the user must use common sense and good judgment. Please check www.sioox.com for updated version of this product data sheet.