



SiOO:X

WOOD PROTECTION

Product Data Sheet

SiOO:X Wood Protective Panel Colours Industry

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WOOD PROTECTION: SiOO:X PIGMENTED PANEL WOOD PROTECTION	SURFACE PROTECTION: SiOO:X PIGMENTED PANEL SURFACE PROTECTION	01 CLOUD GREY, 02 OYSTER GREY, 03 SHARK GREY, 04 FOG GREY, 05 THUNDER GREY, 06 LAVA GREY, 07 BLACK STONE, 23 ALMOND BROWN, 27 WALNUT BROWN
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PRODUCT DESCRIPTION

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 Panel Colour Protection system is part of Sioo's industrial range and is specially formulated to suit industrial applications. For the corresponding consumer products, visit the consumer page at sioox.com.

The SiOO:X Panel Colour Wood Protection 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.

SiOO:X Panel Colour Surface Protection Industry is the second product in the SiOO:X Panel Colour Protection 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 SiOO:X system matures over time, which may affect the colour to some extent, being a little brighter over time. After 2-3 years, the timber is fully cured, and a final colour is reached. The result is a nice matt natural colour tone. The Colour 1-3 has a consistent natural, even, white grey weathered tone. It is achieved years faster than with natural weathering, simultaneously protecting the wood. The lifespan is extraordinary long, depending on climate zone and exposure and is very easy to maintain.

HOW IT WORKS

The components of the Wood Protection react with moisture in the outdoor environment, mineralize 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-repellence 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.

The SiOO:X Panel Colour Protection system can be created as three different finishes: Coloured, Stained and Indicative treatment. The treatments use different combinations of pigmented and self-greying coats to create different end results. Depending on how many of the coats that are pigmented, the greying of the maturing SiOO:X-process will have different impact.

- Coloured treatment means two coats of SiOO:X Panel Colour Wood Protection Industry, followed by one coat of SiOO:X Panel Colour Surface Protection Industry.
- Stained treatment means one coat of SiOO:X Wood Protection Industry, followed by one coat of SiOO:X Panel Colour Wood Protection Industry and a final protective coat of SiOO:X Panel Colour Surface Protection Industry.

- Indicative treatment means one coat of SiOO:X Wood Protection Industry, followed by one coat of SiOO:X Panel Colour Wood Protection Industry and a final protective coat of SiOO:X Surface Protection Panel Industry.

Indicative treatment and Stained treatment are more affected by wind and weather, and variations in the maturing of the SiOO:X system show through. Therefore, only the lighter shades of grey (01, 02, 03 and 04) are recommended for the Stained treatment and grey colour 02 for the Indicative treatment.

DURABILITY

With the correct application, installation, and maintenance, SiOO:X Panel Colour Protection Industry has a life span of up to 15 years on fine sawn* or micro structured wood surface. The life span of lighter colours 1-3, is up to 18 years.

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 and Decking.

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 which main side that is treated and installed facing out is very important. A correct application ensures a durable product and an attractive appearance on long term. The side that is SiOO:X is applied must have a surface that is suitable for SiOO:X and should be installed facing out.

WOOD AND SURFACE

SiOO:X Panel Colour Protection system should only be applied to rougher types of fine sawn* surfaces and Micro-structured/grooved surface. SiOOX is a penetrant working in and with the wood. The choice of wood species and the interaction with it is of great importance. SiOOX combats many problems with wood, for example the well-known blackening process. SiOOX is strengthening and protecting the cellulose in the wood in a physical mineralization process.

COVERAGE

Please see the coverage table.

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. The Surface Protection must be applied within a few days of the 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.

If unsure about the application method or equipment, read application guidelines and if so, contact customer service at Sioo before starting treatment or application.

Do not forget to treat the end grains during each stage of treatment. You can use the same products, but for better result it 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. 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 SiOOX. Follow guidelines and Sioo special instructions to achieve the best result.

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.

Surface Protection, 1 coat

After the second coat of Wood Protection has dried, the wood is ready for Surface Protection. 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 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 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 ready for distribution or storage. This will help distribute the moisture in the wood, and the maturing of the SiOO:X system can continue.

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 can be initially, make them 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.

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. Also read 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 Panel Colour Wood Protection Industry: +8°C to +30°C (the preferred application temperature is +16°C to +22°C)
 - SiOO:X Panel Colour Surface Protection Industry: +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% (the preferred moisture content is 16 to 22%)
 - 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.

* '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 customer service at Sioo.

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 contact Sioo with any questions or concerns before using the product.