

A detailed close-up photograph of a wood surface, showing vertical grain patterns and a prominent knot. The wood has a weathered, greyish-brown appearance. The image is partially overlaid by a dark green rectangular area in the top right corner.

ORGANOWOOD®

**MODIFIED
TIMBER
INSPIRED BY
NATURE**



Fossil of Archaeopteryx from the Natural History Museum in Berlin. By learning from the natural fossilisation process, we have created a process that partially fossilises wood to create timber with both rot and flame protection.

DISCOVER A SWEDISH INNOVATION THAT HAS LEARNED FROM NATURE

What makes wood so durable? OrganoWood® has employed some of nature's own developments to create lasting and effective wood protection that is entirely non-toxic. Inspiration has been taken from the natural fossilisation process where organic materials such as wood is mineralised with silicon – a process that normally takes thousands of years.



Swedish OrganoWood is a modified timber where naturally occurring silicon is bonded to wood fibres under high pressure to partially fossilise them.

Instead of killing wood-decaying fungi and microorganisms, such as in standard chemical impregnation, the silicon creates a physical barrier that prevents the fungi from eating the timber. This chemical-free process also provides effective flame resistance.

OrganoWood has been developed by multi-award-winning OrganoClick AB, in partnership with researchers at Stockholm University and the Swedish University of Agricultural Sciences. The awards have included Best Environmental Innovation, Most Promising Start-up of the Year and Climate Solver, a prestigious accolade from WWF in 2010. In 2014 OrganoWood was also named Hottest New Material of the Year at Nordbygg, Scandinavia's biggest construction show.

OrganoWood has been put through its paces in a number of independent tests carried out by SP Technical

Research Institute of Sweden. In addition to excellent results in terms of flame and rot resistance, our timber also becomes harder than the unmodified timber. The source wood is selected from high-quality Swedish forests. As well as pretreated timber the range includes tins of 01, a wood protection treatment and 02, a highly effective water repellent.

The timber requires no rot-proofing maintenance although we recommend brushing it with OrganoWood® 02 Repellent every 2–3 years, as this reduces the chances of water ingress and movement in the wood. OrganoWood has a natural wood colour and over time takes on an attractive silver-grey shade that lends a particularly authentic feel. See pages 8–9 for all our products.





The lotus leaf is nature's most water-repellent surface. Its structure has formed the basis for our research into repellency. Using natural and perfectly safe substances, we have created a wood surface that provides effective protection against moisture and dirt.

A PERFECT RAINDROP ON A LOTUS LEAF HAS TAUGHT US EVERYTHING ABOUT SUPERHYDROPHOBIC SURFACES.

The lotus flower has unique leaves that are extremely water repellent. We have taken the lotus leaf as a model for developing our unique dirt and water-repellent technology.



Imagine a surface where drops of water simply bounce off. This is known to chemists as a superhydrophobic surface. Certain plants have such surfaces as a natural protection against weather and wind. Inspired by the superhydrophobic leaves of the lotus flower, we have developed a dirt and superhydrophobic technology which is available in our pretreated *OrganoWood® Plus* timber as well as in tins of 02. The treatment gives the timber water repellent properties thus limiting the risks of splitting as well as surface growth and mould attack. It also makes it more difficult for dirt particles to adhere, making it easier for the wood to stay clean.

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In our *OrganoWood® Plus* treated wood, we first bond silicon to wood fibres to give the wood high resistance to fungal attack and create superior fire resistance. Then we treat it with our dirt and water-repellent technology. The equivalent treatment can also be carried out with our

tins of wood protection products: 01. Protection and 02. Repellent.

Together they provide natural wood preservation without heavy metals, biocides or solvents.





HARBOURS, BEACHES, SCHOOLS AND TERRACES – OUR ECO-CLASSIFIED TIMBER LOVES TOUGH ENVIRONMENTS!

Whether your project is large or small, we have the wood product for you. With an environmental recommendation from Byggvaru-
bedömningen (Environmental Evaluation of Building Products) and Sunda Hus (Healthy Building), our products have the highest eco-classification on the market. They are at their best in tough environments where durability and flame resistance are vital. However the looks alone – beautiful natural timber that ages naturally to a silver-grey – are probably reason enough for many to choose OrganoWood®...



In recent years, OrganoWood has been used for many purposes in outdoor constructions, from decks to architect-designed houses as well as major public construction projects such as harbour promenades and schools.

Since OrganoWood has eco-approval in the Byggvaru-
bedömningen and Sunda Hus databases of building materials, our products help achieve the Gold standard of the Swedish Green Building Council. An environmental impact assessment and life cycle analysis (LCA) conducted by the Jegrelius Institute for Applied Green Chemistry also provides evidence of OrganoWood's substantial eco-benefits.

The finished modified timber does not become coloured in artificial green or brown as do traditionally

treated timber, but has a refreshing natural wood colour. Over time, the timber ages to a beautifully natural silver-grey. The silicon treatment also has the benefit of making the surface somewhat harder and smoother.

Project examples:

- Wood decking, Skanska's new headquarters in Stockholm
- Jetties and promenade, Trysunda Nature Reserve in Örnköldsvik
- Wood decking, Kastanjen preschool in Hägersten
- Walkways in Vallda Sandö Nature Reserve
- Balcony decking, Signalfabriken apartments in Sundbyberg
- Pool decking, Lögarängsbaden pool in Västerås
- Wood decking, Rosendal gardens on Djurgården in Stockholm
- Exterior cladding for Kotten, fitness centre in Kungälv

ORGANOWOOD® MODIFIED TIMBER

All OrganoWood-modified timber has been developed to meet the conditions for outdoor applications above ground contact. In addition to well-documented rot resistance, tested to European standard EN 113, our decking also has significant flame resistance (tested to class Bfl-s1).

The timber comes with a 10-year rot resistance

guarantee (see guarantee certificate). The raw material is carefully selected Swedish pine. OrganoWood-modified timber has also been assessed by both Sunda Hus and Byggvarubedömningen.

For further technical specifications and installation instructions, see the product sheet for each product.

ORGANOWOOD®

Our OrganoWood timber has been modified with silicon pressurised into the sapwood and bonded to the wood fibres. This partially fossilises the timber and gives it effective protection against rot and fire. For longer durability, we recommend treatment with OrganoWood® 02. Repellent after installation to minimise splitting.



DECKING

Dimensions (mm)

22 x 95	28 x 120 - Grooved
28 x 95	34 x 145
28 x 120	



BEAMS

Dimensions (mm)

45 x 45	45 x 145
45 x 70	45 x 170
45 x 95	45 x 195
45 x 120	45 x 220



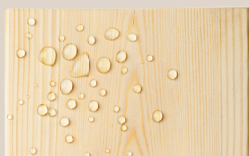
POSTS

Dimensions (mm)

70 x 70
95 x 95

ORGANOWOOD® PLUS

Our OrganoWood® Plus treated timber is first modified with silicon and then treated to make it superhydrophobic. This creates a wood that is water-repellent, decreasing the movement in the wood, which in turn reduces splitting. We recommend treating the timber with OrganoWood® 02. Repellent every two or three years to maintain the optimum "beading" effect on the surface.



DECKING

Dimensions (mm)

28 x 120
34 x 145

WOOD FACTS

- Pine is a soft wood that has many benefits, not least being easy to work with and lightweight. OrganoWood treated wood is also kilned dried to around 18% relative moisture content, which makes it even lighter than traditionally treated wood for use outdoors.

- OrganoWood is optimised for the modification of pine and spruce. Pine is traditionally used for terraces and structural elements, and spruce for cladding. These woods contain knots with a structure that can vary from case to case. Since both pine and spruce move according to the air humidity and temperature, splits can occur after installation, often after dry periods.

- If fibres start to come loose on the surface of the decking, you should brush away the fibres when the decking is dry and treat it with OrganoWood 02. Repellent.

- Wood turns grey via two natural processes. The sun's UV rays have a bleaching effect whilst various microorganisms make the wood darker. These two processes achieve a greying balance after about a year, by which time the wood is a pale, silver-grey colour. Particularly during the first autumn however, small surface mould spots may appear and the wood may also look dark, but this should only last a short time. See www.organowood.com for more info on the ageing process.

WOOD PROTECTION PRODUCTS

Wood is a living material that requires varying amounts of maintenance. OrganoWood has developed three products that together create a complete wood protection system: 01, 02 and 03.

OrganoWood® 01. Protection is used as an undercoat for timber that needs improved resistance to fire or rot. The product carries the **Good Environmental Choice** label from the Swedish Society for Nature Conservation. OrganoWood 01. Protection has a ble-

aching effect on wood and creates a harder surface that feels smoother and is less inclined to split.

OrganoWood® 02. Repellent is used as a topcoat or for maintenance in OrganoWood's wood protection system. The product makes the wood extremely water-repellent. It is also used as a final topcoat for OrganoWood-modified wood.

OrganoWood® 03. Cleaner is used for cleaning the surface prior to treatment as well as maintaining the wood.



ORGANOWOOD® 01. PROTECTION – ROT & FLAME PROTECTION

Transparent surface treatment that improves the timber's flame & rot resistance. Used as an undercoat in OrganoWood's wood protection system or to seal cut faces on OrganoWood-modified timber.

Natural, turning into natural grey



ORGANOWOOD® 02. REPELLENT – DIRT & WATER REPELLENT

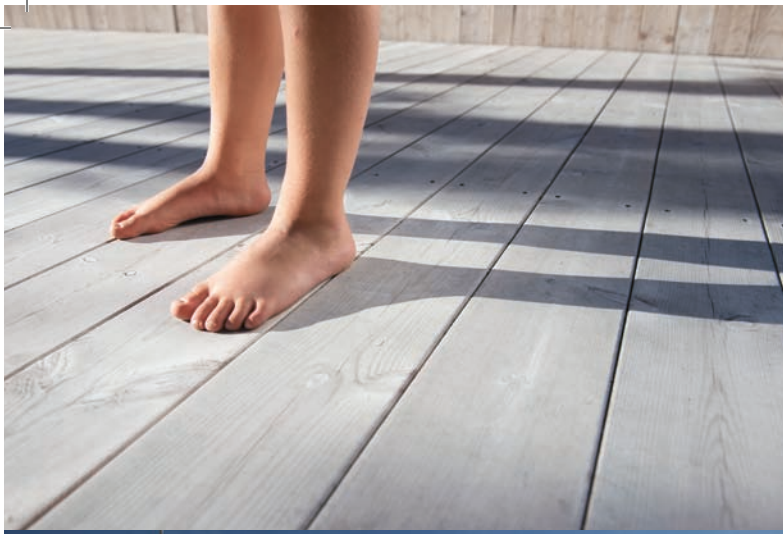
Surface treatment that improves the timber's dirt & water-repellent properties. Used as a topcoat and for maintenance in OrganoWood's wood protection system, or as a final topcoat for OrganoWood-modified timber.

Natural, turning into natural grey



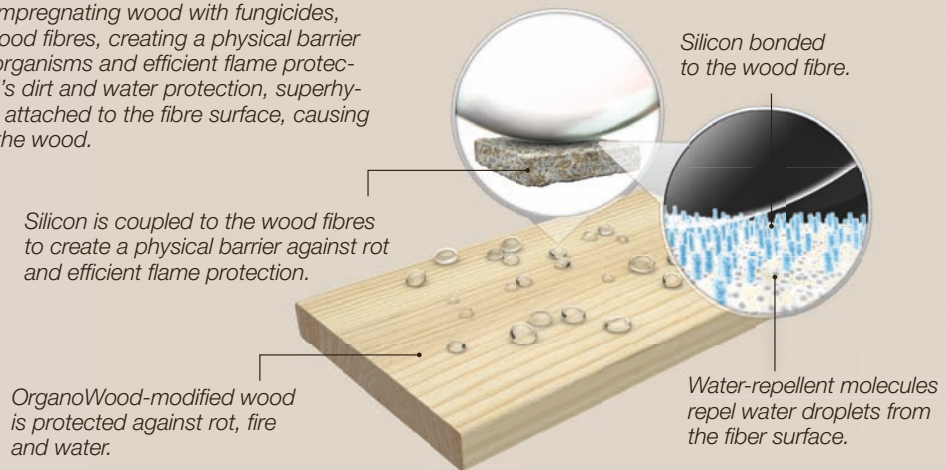
ORGANOWOOD® 03. CLEANER – ORGANIC WOOD CLEANER

Eco-friendly cleaner for wood surfaces outdoors. A super concentrate that is used to clean lightly or heavily soiled surfaces, before treatment with OrganoWood's wood protection products.



DISCOVER ALL THE BENEFITS OF ORGANOWOOD®

OrganoWood's wood technology mimics the natural fossilisation process. Instead of impregnating wood with fungicides, silicon is bonded to the wood fibres, creating a physical barrier against wood-decaying organisms and efficient flame protection. Using OrganoWood's dirt and water protection, superhydrophobic molecules are attached to the fibre surface, causing water droplets to roll off the wood.



There are many reasons to choose OrganoWood® – not just on quality and environmental grounds, but also for the aesthetics. And for those who believe in traceability it is reassuring to know that the timber comes exclusively from Swedish forests.



BEAUTIFUL

- Light, naturally coloured high quality Swedish pine
- Turns a beautiful grey after around 1 year outdoors
- OrganoWood® 02. Repellent makes maintenance easy



ECO-FRIENDLY

- Free from biocides and heavy metals, and does not need to be recycled as environmentally harmful waste
- Eco-classification from Sunda Hus and Byggvarubedomningen
- Ecologically sustainable Swedish forest raw material



EASY TO USE

- Harder surface with less splitting
- Does not require pilot drilling for screw holes
- Easy to clean after treatment with OrganoWood® 02. Repellent
- Treatments can be completed in just one day.



DURABLE

- Rot protection verified by SP Technical Research Institute of Sweden using standard testing method EN 113
- Protection against brown rot class 1 according to standard EN 350, using testing method EN 113
- Permanent bonding of silicon to the wood fibres, verified using testing method EN 84



GUARANTEED QUALITY

- Wood from the best pine districts in Sweden
- 10-year rot protection guarantee
- Properties verified in third-party testing by SP Technical Research Institute of Sweden



BIOMIMETIC TECHNOLOGY

- Rot protection technology inspired by the natural fossilisation process
- Water-repellent properties based on the same principles as the lotus leaf
- Unique and patented concept

ORGANOWOOD®

Whether the project involves a new decking in the country, a harbour, a lovely bench or a brand-new facade for office builds, OrganoWood® has the eco-friendly and durable timber for you. Our timber is at its best in tough environments and has well-documented flame and rot resistance. In addition, it can be treated to repel water. Find out more inside the brochure! Welcome to the future of wood.