

DESCRIPTION OF INSTALLATION

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Description of materials.

Nola's products are manufactured in a large number of materials. The selection of materials is made in view with the product's aesthetic and practical durability. We are pleased to frequently use recycled materials, and such materials that can be easily recycled in existing plants.

1.0 General information on the environment:

Nola's objective is to make products, which are environmentally sound. We consider three aspects to be of particular importance, namely;

- 1) That the materials are chosen with care. Manufacturing is almost exclusively in Sweden, which provides short shipping distances and allows for an expanded and continuous control of quality and the environment.
- 2) As far as possible, we use environmentally certified suppliers and materials, and we use recycled materials.
- 3) We believe that the life and durability of our products, both aesthetically and practically, are crucial to the product's overall environmental impact.

General information on the surface treatment:

The surface treatment of the products has primarily two functions. The first function is to prevent various degradation processes such as corrosion on metal, and mould attacks on wood. The other function is to produce an aesthetically pleasing product.

General care and maintenance:

Nola's products are an investment in the environment that pays for itself both financially and with well-being. In order to get the utmost benefit, care and maintenance as well as supervision and attention are required. Together with our customers, we are creating an environment in both a narrow and a broad sense. Neither care nor maintenance are demanding but needs to be done continuously. Paper trays and ashtrays need to be emptied. Benches should be dried so that mould and rot cannot become attached. Wood cracks and damage to wood should immediately improve after cleaning. Damage to steel improves as soon as corrosion is removed, so that the rust does not spread. It is an advantage if wood products can be stored indoors in a cool area during late autumn, winter and early spring.

Wood.

General information on wood;

Wood is a living material. It is affected by climate change. It will change under the influence of rain and sun. Small cracks in the work will progressively become apparent. Primarily we use pine in our products - an environmentally friendly, domestic wood. Furun in our furniture is environmentally-certified according to FSC as far as possible, which means that felling and growth are managed according to set criteria, the so-called Well Managed Forest.

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General information about mould attacks on wood

There are many different types of moulds. A common type is black mould which, because of its colour, is clearly visible on bright surfaces. These fungi grow on the surface layer and do not actually destroy the substrate in any other way than by appearance. What appears are the dark spores, while the fungal threads (mycelia), which make up the actual fungus, have no colour.

Moulds may occur on wooden furniture, for example, if it is unprotected and exposed during prolonged precipitation. If rain has fallen on the wood and it is damp outside, mould fungi will soon start to grow.

When storing outdoor furniture, it is important not to cover it with a tarpaulin that reaches down to the ground. Soil moisture contributes to the growth of fungi. Wooden furniture should be covered but be airy. It should always be placed on the ground so that an air exchange can occur under the tarpaulin.

The problem of mould attacks is likely to increase with a shift to wetter summers, with continuous longer periods of humid and warmer autumns and winters. For this reason, we recommend regular inspections and washing of oiled pine furniture (i.e. yearly or every two years).

How can you remove black mould attacks?

Option 1:

Firstly, you should use common detergent with a brush and garden hose that not only removes mould but also dirt. High pressure wash should be avoided as it can risk pushing moisture into the wood through cracks and nails. Soap should be avoided as it is very difficult to rinse off.

Option 2:

Use a cleaning agent such as Grovrent or Trallrent, which is usually used for the cleaning of balconies and terraces.

These agents also clean grease, dirt and soot from the wood surface.

Option 3:

If none of these laundry detergents work, use *Alg & Mögelfritt* (a brand of cleaning agent for removal of algae and mould).

An effective remedy for all types of surfaces on the outside of a house affected by mould or algae. Also for use on deckings, facades, fences, suspended ceilings etc.

To be considered:

You should not wait until the mould is visible. When the mould has already seeped into the paint layer, you will need to use stronger agents like *Alg & Mögelfritt*. The keyword is MOISTURE. The north and east facing sides of houses have longer periods of wetness, and therefore wood furniture is more likely to suffer from growths, especially if you have plants close to the furniture.

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General information on pine;

Damaged or untreated pine is quite easily attacked by decomposition processes; therefore, it is especially important to improve damaged surfaces.

Pressure-impregnated pine:

Products manufactured with pressure-impregnated pine usually require no maintenance. By using wood oil products, you can enhance the appearance of the wood while extending the life of the product. e.g.: Pine planks. For aesthetic reasons, painted pressure-impregnated pine should be dried out properly first.

Stained pine:

Products manufactured with stained pine should be oiled at least once a year. If the product is outdoors all year long, the maintenance intervals should be shortened to at least twice a year. e.g.: Yellow stained Haga sofa

Coated pine (oil-based):

Products with coated pine must be maintained regularly with alkyd paint. With maintenance intervals approximately once a year. Damage and cracking should be corrected immediately. Spray paint is available to order in spray-packs of standard colours. e.g.: Painted Kalmar pine sofa.

Covered pine (water based):

We can also offer water-based coverings. A waterborne colour is gentler on the environment. At normal load, the paint has good and long durability. We have recently begun an evaluation of this colour system and will eventually switch to water-based colours for wood. e.g.: Hjorthagen painted pine.

White pigmented pine:

Pine products treated with white pigmented oil should be oiled twice a year. If the white pigment is bleached, you can mix the wood oil with a very small amount of white alkyd oil paint. e.g.: Krokodil bench.

Oiled oak:

Nola uses mainly American red oak in its furniture. The quality is very high, usually completely without any visible burrs. Because of its high content of tannic acid, it is a very durable wood in an outdoor environment.

Unserviced oak will get black spots after a while. These appear quite soon after the product has been set and may initially appear as almost entirely black.

In environments with high levels of metal contaminants in the air, the process is accelerated, and the oak can already have extensive stains after a month. The spots fade gradually, and after a couple of seasons it will turn grey, similar to teak. Smaller cracks usually also occur when the oak is a very "lively" wood. These cracks have a marginal effect on the strength and tone of the material.

Products manufactured with oiled oak should be oiled twice a year for the best possible protection. Good maintenance can never completely prevent stains from occurring, however oak that is not maintained becomes blacker and greys faster, but it still has a very long-life span. For the re-oiling of products, a fine oil that penetrates wood should be chosen instead of a film-forming oil.

e.g.: Budget sofa.

Oiled teak:

Teak is exceptionally durable in an outdoor environment. Teak has a high content of silicon and tannins, which makes it relatively expensive to process. Teak comes in a reddish-brown colour and to preserve this, it is important to oil the woodwork several times during a season, otherwise it will quickly deteriorate. This has no impact on its durability.

Products made with oiled teak should be oiled at least twice a year. e.g.: Kalmar teak sofa.

Untreated teak:

Products manufactured in teak can alternatively be left untreated. In this case, they will quickly begin to grey outdoors. This has no impact on their durability.

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Mahogany:

This wood has good durability in an outdoor environment. In addition, it maintains its colour tone better than, for example oak and teak. Mahogany lives and moves similarly, if not more so than Teak. Oiled Mahogany should be oiled a few times a year.

Ipé:

Ipé has up to 40 years durability, even if it is treated with no more than the normal amount of care. With regular oiling once a season with wood oil, Ipé can last for up to 100 years. Untreated, Ipé will eventually transform from a maroon to a more silver-grey colour. To preserve this brown colour, the decking must be treated and maintained with wood oil.

Jatoba:

Untreated, it is a very hard and strong hardwood with long durability. Jatoba wood is a brown colour with black accent stripes, that over time becomes a deep and rich red colour.

Larch:

Larch has good durability in an outdoor environment, better than for example pine. Larch contains a fair amount of resin and wax, which can cause the Larch to turn grey if left untreated. We use Larch in our Lärka planking.

Painted MDF-H board:

MDF (Medium Density Fibreboard) is a fibreboard, manufactured from wood and pulp. Products manufactured in covered MDF-H board, should be regularly maintained with alkyd paint. Maintenance intervals are approximately once a year. Any damage should be corrected immediately. Spray paint is available to order in spray-packs of standard colours. e.g.: Bumerang, covered MDF-H board.

Plywood:

Plywood is a lamination of thin layers of wood veneer. Plywood has very small moisture movements. The material is available in discs, but also as moulded details, mainly in our indoor products. Damaged paint surfaces can be improved with alkyd paint after cleaning.

Compact laminate:

Compact laminate is a sheet material of kraft paper as well as phenolic resins, compressed under heat and extreme pressure. The material is completely water repellent.

Compact laminate is heavy and very strong, and usually requires no maintenance.

Bitus Linax

We can offer Linax-treated pine as an alternative to other surface treatments. Linax is a linseed-based impregnation ring that provides extra-long durability in outdoor environments and corresponds to class AB. It is available as natural or in four different base colours.

Sioo:

Sioo is a wood shield with environmentally friendly silicon technology. Water-based and biocide free. We use Sioo mainly for our oak furniture, but it also works on all kinds of wood; it fits all woods, outdoor and indoor woods and provides a light wood surface without pigment. The surface is UV-proof, water repellent and non-stick. An active and preventive effect against algae, mould and pests. Also, anti-corrosion, wood reinforcement and fire retardant. This wood protection provides long durability and easy maintenance. No "annual oiling" is required. Can be recoated.

Nolas Sioo-treated products are treated twice at delivery, once with a wood shield (Premium Wood Shield Altan) and once with a surface protection (Premium Surface Protection Altan). After 10-14 months after the product has been placed outside, it should be treated once more to achieve the best durability with Sioo: x Premium Surface Protection Altan. The life expectancy after this is estimated to be approximately 10 years, before it needs to be treated again with Premium Surface Protection Altan. The surface protection forms a wear surface, which means that products that are exposed to hard mechanical wear may need to be treated more often than every ten years.

Surface treatment has a proven effect as per standards EN 46 and EN 113. For information about the Sioo treatment, see the website www.sioo.se.

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Metals:

General information on steel:

Steel is an alloy, in which iron constitutes the largest part. Steel comes in a variety of grades from so-called stainless steel to acid-proof stainless steel. Different steels differ in strength. Nola uses high quality steels of good strength in their products. Plain steel rusts if left untreated, therefore it must be surface treated. Nola uses two main methods of surface finishing for steel details. Most common is zinc and yellow chromate as well as polyester powder coating. The second method is hot-dip galvanizing sometimes with after treatment blasting as well as polyester powder coating. Both of these methods are very resistant. Other recommended methods are an epoxy base as well as a polyurethane painted finish. This also is a good surface treatment.

Maintenance:

- Products that are galvanized, yellow-chromated and polyester powder coated can be enhanced with alkyd paint. e.g.: Kalmar teak sofa.
- Water-lacquered, epoxy-based and polyurethane-lacquered reinforcement with alkyd paint. e.g.: Ludvika wood protection.
- Heat-galvanization can be improved with "Zinc Pro Corrosion Protection". e.g.: Ludvika wood protection.
- Heat-dip galvanizations as well as polyester powder coatings can be painted with alkyd paint. e.g.: Street bicycle stand.
- Products manufactured with stainless steel should be treated regularly with Dinitrol anti-corrosive oil or equivalent. e.g.: Milan countertops.

Stainless steel:

Products made of stainless steel may need to be shipped with Chrome Gloss or steel wool pads.

General information on Stainless steel:

Stainless steel is the well-known but incorrect term for steel with high chrome alloy. Most so-called stainless steels can be surface-rusted, but to a much smaller extent than ordinary steel. Only so-called acid-proof steel is in fact stainless steel. Naturally, they are also very expensive. The vast majority of the screws and bolts included as part of Nola's products are stainless steel, A2.

Corten steel:

Corten steel is resistant to high temperatures, the size does not alter as much when there are temperature changes. It also rusts slower than ordinary steel. Corten steel, like cast iron, rusts without breaking. Our Egypt planter is made of Corten steel.

Cast iron:

Cast iron has a high carbon content, so the untreated material quickly receives a protective iron oxide, which protects the product from further corrosion. Cast iron has a high content of recycled material. Cast iron products that are only "supply-painted" need not be maintained. e.g.: Markgaller. Rust protection paint and finishing paint with the same foundation and finishing undercoats painted with alkyd paint. e.g.: Gjutjärnsurnan. Those products painted with rust protection paint as well as those pre-painted are repainted with alkyd paint. e.g.: Tessinsof-fan.

Painted with a 2-component colour enhancement paint with the corresponding colour or 1-component alkyd paint.

Cast aluminium:

Cast, untreated aluminium develops so-called white rust with time. The product is barely damaged by this, with the surface becoming as soft as it does. Sand cast aluminium, like cast iron, has a very high content of recycled material. Products with cast aluminium must be steel brushed to remove corrosion. e.g.: planting urn Folke. Powder coated aluminium is enhanced with alkyd paint. e.g.: planting urn Berzelii.

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Painted aluminium repainted with alkyd paint.
e.g.: underside of the Caprifol planter.

Cast bronze:

Bronze is an alloy of copper and tin. The material is extremely resistant to weather and wind, comparable to church bells. Should a product crack or break through vandalism, it works well to polish or weld the material. A damaged oxide layer can be recovered through patination by skilled craftsmen.
Product example: Näckros planter.

Anodised sand cast or extruded aluminium:

Anodising aluminium is an electrolytic method where alumina is applied to the surface of the metal. Alumina is the same as corundum, which is one of the most durable, hard materials available. Maintenance of products made of anodised cast or extruded aluminium; Worn surfaces require renewal of anodising. e.g.: cigarette butt grid for Slingan ashtray / cornices for Seagull bicycle roof.

Aluminium plate:

Aluminium plate, like steel plate, is an alloyed material. Aluminium plate can vary greatly with respect to strength and corrosion, depending on the composition of the metal. Products made of aluminium plate must be polished with a steel wood pad.
e.g.: lid for Basket.

Aluzink plate:

This is a steel plate covered with a layer of aluminium and zinc. This plate is highly resistant to corrosion. When repeating the material, a small rust can occur in the strip, but the aluminium-zinc layer will soon overflow and prevent further degradation. The Angle bicycle rack is made of aluzink plate.

Polymers/plastics:

Fibreglass:

Products made of fibreglass reinforced polyester usually do not require any maintenance. When scratched, the material can be polished with rubbing agents.

In case of damage, the fibreglass reinforced plastic can be made with plastic padding mixed with fibreglass fabric.
e.g.: inner container for the planters.

Polyethylene:

Polyethylene is a thermoplastic with a waxy surface. Polyethylene can handle sunlight well. Clean the plaster with mild soap solution. Polyethylene can be recycled or burned. Polyethylene (HDPE) is the material in the Land Ho! planter.

Polycarbonate:

Polycarbonate is a highly impact resistant thermoplastic. Scratches can be very carefully smoothed out with a hot air gun. Polycarbonate can be cleaned with a mild soap solution. Strong types of detergents can scratch the material. Polycarbonate (PC) is used in the roof of the Seagull bike house.

Polyurethane:

Artificial polyurethane rubber is soft and elastic, has good tear and tensile strength and allows for a smoother grip. The material is cleaned with a mild soap solution, alkaline solvents can discolour the material. For example, polyurethane (PUR) is used in Polypello seats.

Concrete and Fibre-reinforced Concrete:

Concrete is cement mixed with ballast aka. crushed stone. The material has a very strong tension strength but is fragile for compression strength. To compensate for this, the concrete is reinforced, often with steel. Fibre-reinforced concrete is concrete mixed with fibreglass. The material has much increased strength and elasticity. Both normal concrete and fibre-reinforced concrete are sensitive to hard edge shocks, however ordinary concrete far more so. A concrete product that has been damaged can be repaired with a polyester patch, such as plastic padding.

Terrazzo concrete:

Terrazzo is an internationally used term for high-grade concrete used as a surface material.

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Terrazzo is a natural material consisting of ballast (i.e. rock material, usually marble) mixed with cement. Terazzo has high wear durability. Products made with ground terrazzo concrete are washed with soapy water to wash off lime deposits. e.g.: Flower pillar.

Stained concrete:

Products made of stained concrete are washed with low pressure guns. Damaged products can be stocked with batches available to order. e.g.: the Kalmar urn.

The above recommendations will serve as a guide for surface treatment.

For more accurate instructions contact Nola Industrier AB.

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