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Operating and maintenance manual.





Operating and maintenance instructions.

Thank you for choosing Superwood. Superwood is thoroughly impregnated spruce, which protects the wood against wood-destroying fungi and rot without the use of heavy metals or organic solvents. If you cannot find what you are looking for in this manual, you can find more information at www.superwood.dk in the form of technical data sheets, product overviews, references, etc.

Enjoy your Superwood project.

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Ongoing maintenance

Superwood facades should be inspected and maintained at least once a year. The following should be observed:

- Moss, dirt, algae growth, surface mold, etc. should be washed off with household cleaning products or wood cleaner/algae remover designed for wood. (We do not recommend using a pressure washer on Superwood.)
- Loose boards are secured or replaced.
- The surface treatment is inspected and re-treated if necessary.
- In the event of major wind damage/cracks, repainting is carried out to minimize the risk of increased moisture absorption in the material.
- Plants growing up against wood cladding and sources of moisture such as leaky roof drains, etc. are removed.

Surface-treated Superwood

Superwood paints industrially with a brush/spray application machine. We use quality products from selected paint suppliers. Your order confirmation will indicate which painting system has been used. The maintenance interval depends on how heavily the boards are exposed, including the orientation of the facade in relation to north, south, east, and west, and the type of surface treatment used. The lifespan of the surfaces will vary depending on where in the country the cladding boards are installed. In coastal areas, the facades will be exposed to more severe degradation than cladding boards installed inland.

It is important to note that regular inspection and maintenance are necessary to preserve the aesthetics and structural integrity of the wood cladding. The frequency of inspections should be increased in harsh climates or in areas with high exposure to environmental influences. Maintenance should include cleaning, repairing any damage, and refinishing or replacing the surface treatment when necessary to maintain the protection and appearance of the cladding.

- Annual inspection and maintenance of exterior surface-treated facades with house washing products is recommended. A clean painted surface repels water and dirt better and protects the surface for longer.

- If flaking/damage is found during washing, these areas should be repaired. This will ensure longer durability.

See the individual paint supplier's website for guidance on surface treatment and maintenance. It is possible to re-treat with the same surface treatment color that was used at the factory. If you want specific Superwood colors, we can refer you to BN Farver ApS – www.bnfarver.dk

The finishing treatment can also be carried out using one of the recognized, water-based wood protection products, which can be purchased at DIY stores and paint shops.

Full surface treatment Full surface treatment is carried out at the factory with 1 x primer + 1 x intermediate treatment, as standard treatment on 3 sides of the cladding (2x3 sides). Superwood points out that no later than 12 months after installation, preferably after a warm and dry period, the facade must be finished with 1 x top coat so that all screw/nail heads are covered and any scratches/cracks caused by drying out are covered for the best possible water repellency.

The expected durability of our factory-applied full-coverage paint on rough-sawn surfaces will be 6 to 8 years under normal Danish climate conditions. We reserve the right to make exceptions for particularly harsh conditions, e.g. south-facing coastal facades, which are subject to heavy exposure. This includes, but is not limited to, south-facing facades in coastal areas or places that are particularly exposed to weather and wind, which can lead to more extensive degradation of the surface treatment. We recommend that this finishing be carried out with a recognized product available in all DIY stores and paint shops - always follow the applicable instructions from the paint supplier.

Estimated consumption for maintenance treatment with our full-coverage surface treatment: approx. 3-4 m²/l. You can find other instructions here: <https://www.superwood.dk/downloads/vedligehold/>

Top coat
Not included in our full-coverage standard treatment. Must be applied no later than 12 months

after installation, preferably after a warm and dry period. We recommend that the finishing treatment be carried out with one of the recognized products available at all DIY stores and paint shops. Always follow the instructions provided by the paint supplier.

Transparent surface treatment

Transparent surface treatments are carried out as standard with 1 x transparent treatment on 3 sides (1x3 sides). Transparent surface treatments do not have the same pigment content and protective effect as an opaque paint. Therefore, more frequent maintenance intervals are required if the protective effect of the surface treatment is to be maintained.

Transparent surface treatments provide a temporary cosmetic appearance and will change over time. The wood fibers will loosen and the facade will slowly

develop a natural patina. It is recommended that the surface be re-treated at intervals of 1-3 years, depending on climatic conditions. If the surface is not re-treated, the wood will patinate over time, change color, and the surface treatment will deteriorate. Surface mold and algae growth will be visible on particularly light transparent colors. When re-treated, the color shade will become darker. Please note that the color changes each time transparent paint is applied (a larger amount of pigment is added). a test coat to check the color. With transparent surface treatments, uneven color shades may occur.

Estimated consumption with our transparent surface treatments for re-treatment: approx. 15-25 m²/l. Please refer to our painting instructions for surface treatment: <https://www.superwood.dk/downloads/vedligehold/>



Color chart/conversion table

As our colors are specially developed, the color conversion table below indicates the closest standard NCS color, but is not the same color.

Transparent / TST Teknoschild 4005	Opaque / TS Teknoclad 3371	NCS S/Ral (Closest NCS color, but not the same color)
Silver	Silver	NCS S 6010-Y10R
Zinc	Zinc	NCS S 4502-R / NCS S 5005-Y20R
Grain	Grain	NCS S 2030-Y20R
Tar	Tar	NCS S 8005-Y20R
Sand	Sand	NCS S 0907-Y10R
Coal	Charcoal	NCS S 8000-N / NCS S 8500-N
Iron	Iron	NCS S 6005-Y50R / NCS S 7502-Y
Almue Blue	Almue Blue	NCS S 5030-B
Umbra Green	Umbra Green	NCS S 8010-G70Y
Swedish Red	Swedish Red	NCS S 4550-Y80R
	Black	RAL 9005, Water-based, Gloss 20

It is possible to re-treat with the same surface treatment color used at the factory. If you want specific Superwood colors, we can refer you to BN Farver ApS – www.bnfarver.dk

Fire-retardant paint

Superwood offers fire-retardant paint systems which, together with our facade cladding, comply with Reaction to fire B-s2,d0 in accordance with EN13501-1.

The fire-retardant surface treatment does not alter the technical properties of the wood and must therefore be processed, installed, and stored in the same way as regular Superwood wood cladding.

Expected maintenance intervals are up to 10 years. It is important to note that this does not constitute a guarantee, but should be used as a guide to the expected durability of the surface treatment, the surface treatment system used, and its performance.

Please refer to our guide on fire-retardant surface treatment: <https://www.superwood.dk/downloads/vedligehold/>

Dark facades/surfaces facing south and west

When Superwood delivers the cladding, the moisture content is approx. 16-18% +/- 2%. Wood is a hygroscopic material, which means that it absorbs/releases moisture to/from the surrounding climate depending on the temperature and relative humidity in which the wood is located. This is why wood "works." When wood absorbs moisture, it expands, and when it dries out, it shrinks.

Based on an upper average consideration, a piece of spruce wood will shrink/expand by approx. 0.3% with a change of 1% wood moisture in the range from approx. 10%-90% relative humidity. Length shrinkage is defined as approx. 0.02% with a change of 1% in wood moisture in the range from approx. 10% to 90% RH. Drying out/shrinkage causes cracking.

Moisture in wooden facades can be measured from 8% up to 22%, depending on the season and which side of the house is being measured. The most exposed sides of a house are the south and west sides, where greater moisture fluctuations (more severe drying out and moistening) can be measured. A facade has an average moisture content of approx. 15% measured over a year, with fluctuations from autumn/winter = approx. 22% to summer = approx. 8-15%.

The color of the facade also has a major influence on how much the wood shrinks/dries out. A black-painted south-facing facade is particularly challenged in this regard. On a cloudless summer day, this type of surface can reach a temperature of more than 50 degrees, and combined with the low RH% in summer, this means that the boards dry out significantly and scratches and shrinkage cracks will appear in the surface of the wood. Larger roof overhangs can reduce this stress.

When assessing the appearance of a facade, it should be done as a whole surface, at a distance of 5-6 meters, and in diffuse light, to give the best average impression.

Superwood installed without surface treatment

The impregnation protects the wood against wood-destroying fungi and rot, but is not a surface treatment. This means that Superwood will eventually break down and become dirty on the surface. The surface breaks down when exposed to sun, wind, and weather. The impregnation process does not change the technical properties of the wood, which means that the wood will still "work" like ordinary spruce. The wood will turn gray, scratch, crack, and become dirty from dirt and algae, mold/fungi will grow, and wood fibers will loosen from the surface. The deterioration of wood surfaces can be limited with surface treatment and ongoing maintenance.

Superwood recommends annual inspection and maintenance of exterior facades with house washing/wood cleaning products. A clean surface repels water, dirt, etc. better.

Weathering

Superwood impregnated spruce weathers like untreated spruce. Depending on the orientation of the facade (north/south/east/west), the size of the overhangs (shading effect) and the angle in relation to the sun, the surfaces will weather over time to a gray-toned surface. The more sun/light exposure and weather exposure, the faster the patination. North-facing surfaces and surfaces under eaves, etc., will not be exposed to particularly light and weather exposure and will therefore not achieve the same appearance. The impregnation process can delay the patination process.

Moisture resistance

Superwood is thoroughly impregnated spruce. The process itself does not alter the natural properties of the spruce beyond its durability against wood-destroying fungi and rot. This means that Superwood spruce will absorb and release moisture and thus expand and contract depending on the weather, humidity, and orientation (see the section on "dark facades/surfaces" or our installation instructions).

Wood quality

Superwood's wood quality is described in more detail in our technical guides, which you can find here: <https://www.superwood.dk/teknisk-support/>.

Superwood's product quality/appearance etc. is considered accepted and approved when the product has been assembled/installed or further processed by the customer.

Waste disposal

Superwood can be disposed of as ordinary combustible waste and incinerated in approved incineration plants as non-hazardous waste. Superwood must not be disposed of as wood for recycling where there is a risk of reuse indoors.

Inspiration for your construction project.

See more references and find
other great ideas and inspiration
for your next project at
superwood.dk

