



Hi!L

Instructions for the installation, use and maintenance of charred wood products

EXTERIOR CLADDING • INTERIOR CLADDING • DECKING



Instructions for the installation, use and maintenance of Hiil's charred wood products

Hiil's charred wood products are easy to install and maintain.

Our products come pre-finished from the factory and behave like normal sawn and profiled timber.

As a rule, charred wood is easy to care for, requiring less maintenance than oiled wood. Well-maintained charred wood will remain beautiful for decades.



1. General information on Hiil's charred wood products

The surface of wood is charred with an open fire on a dedicated charring line. Charring is an ecological, natural and non-toxic surface treatment method that only affects the surface of the wood to a depth of a few millimetres.

After charring, the product is either left with a few millimetres of charred surface, or it is washed, brushed or tinted, resulting in a range of different shades and finishes for the charred product.

All Hiil products are oiled at the factory with special linseed oil. The oil protects the wood, produces even tinting and binds the charcoal to the wood, preventing it from coming loose.

Basically similar to the treatment of pre-oiled or painted construction wood, the handling of washed (Savu, Savu+ and Sysi) and brushed products (Kaarna, Kaarna+, Noki, Kuura, Kelo, Sammal and Ruska) is generally more care-free than the handling of charred-surfaced products.

The charred-surfaced products (Hiili and Korppi) are more sensitive to dents, scratches and transport damage than ordinary wood material, and care must be taken when handling and moving them on the worksite.

1.1. Different charred product surfaces

Hiil's collections currently include 12 different surfaces and shades, achieved through a combination of charring, washing, brushing, tinting and oiling.

What all these products have in common is that they are all charred over an open fire and finally protected with a special linseed oil.

By adding a colour pigment to the product, different shades can be achieved while also ensuring that the product retains its colour longer when exposed to UV radiation. For example, Kaarna and Kaarna+ and Savu and Savu+ are of the same shade when they leave the factory, but as no pigment is added to Kaarna and Savu during production, they will turn grey when exposed to the sun.

OUR IKI COLLECTION comprises three natural-tint surfaces without colour pigments.

HIILI - a charred surface that is naturally black and shaped by fire

SAVU - a washed surface that is glossy, textured and dark brown

KAARNA - a brushed surface with a silky and natural brown finish

OUR HETKI COLLECTION includes nine products in shades that are achieved by mixing a pigment with linseed oil.

KORPPI - a charred surface with added blue pigment

SYSI - a washed surface with added black pigment

SAVU+ - a washed surface with added brown pigment; the goal is to achieve the same shade as for Savu, which is produced without added pigment.

KAARNA+ - a brushed surface with added brown pigment; the goal is to achieve the same shade as for Kaarna, which is produced without added pigment

NOKI - a brushed surface with added black pigment

KUURA - a heavily brushed surface with added white pigment

KELO - a brushed surface with added grey pigment

SAMMAL - a brushed surface with added green pigment

RUSKA - a brushed surface with added red pigment

1.2. Applications of charred surfaces

The applications that charred products are suitable for depend on the wood's surface and other properties. The table below shows our recommendations for the use of our different surfaces in various applications.

Technically, there is no reason why charred wood could not be installed anywhere that wood is generally suitable for, but because of the different properties of the surfaces, we recommend different surfaces for different applications. For applications subject to heavier use and contact, a brushed surface is usually the best choice as it has a higher mechanical resistance than, for example, a charred surface.

Note! We do not recommend installing charred-surfaced products (Hiili and Korppi) in places where the wood may be exposed to hard impact or repeated mechanical wear.

Note! If charred-surfaced products (Hiili and Korppi) are installed on a sauna's interior wall, we recommend building a separate backrest of a material other than charred-surfaced wood. This reduces mechanical stress on the charred surface.

Surface	Exterior cladding	Interior panelling including walls, ceilings and sauna wall surfaces	Decking boards, handrails, sauna stoves	Decking and sauna frame structures	Fence structures
Hiili (charcoal)	suitable	suitable	not suitable	suitable	suitable
Savu (smoke)	suitable	suitable	not recommended	suitable	suitable
Kaarna (bark)	suitable	suitable	suitable	suitable	suitable
Korppi (raven)	not suitable	suitable	not suitable	not recommended	not recommended
Savu+ (smoke)	suitable	suitable	not recommended	suitable	suitable
Sysi	suitable	suitable	not recommended	suitable	suitable
Kaarna+ (bark)	suitable	suitable	suitable	suitable	suitable
Noki (soot)	suitable	suitable	suitable	suitable	suitable
Kuura (frost)	suitable	suitable	not recommended	not recommended	not recommended
Kelo (snagwood)	suitable	suitable	suitable	suitable	suitable
Sammal (moss)	suitable	suitable	suitable	suitable	suitable
Ruska (autumn glow)	suitable	suitable	suitable	suitable	suitable

2. Transport, reception, inspection and handling of the products

2.1. Packaging and transport of charred products

Charred-surfaced products (Hiili, Korppi) are packed at the factory in bundles no higher than 60 cm. Whole bundles should not be placed on top of each other without protective sides or support frames to take the weight of the upper bundle.

Washed and brushed products (Hiili, Savu, Kaarna, Noki, Kuura, Kelo, Sammal, Ruska, Kaarna+, Savu+, Sysi) are packed at the factory in bundles no higher than 120 cm.

The bundles may have extra boards or panels on top when they come from the factory to protect them. Such protective materials are specifically marked on the back and they are not intended for installation.

2.2. Inspection of products on site

Upon receipt, the bundles must be inspected for possible external transport damage. If the damage is reported later, the carrier may no longer accept the claim pertaining to the damage. The profiles and dimensions of the panels should be checked on the worksite, and any errors should be reported before installation. We are happy to identify and solve any problem before the products are installed.

2.3. Storage and handling of products on the worksite

If the products are not installed immediately, they must be protected from rain and dust. Air should be allowed to circulate around the wood, and the bundles should be stored at least 10 cm off the ground, for example on a pallet.

Charred-surfaced products (Hiili, Korppi) should not be piled in bundles higher than 60 cm. Whole bundles should not be placed on top of each other without protective sides or support frames to take the weight of the upper bundle.

Do not store other materials or supplies on top of the bundles if they may damage the wood surfaces.

2.4. Preparations for the installation of charred wood products

Before installing the products, cut them to the right size and protect the cut surfaces with a surface treatment agent. As charring only affects the surface of the wood, cutting always reveals fresh wood that needs to be protected.

We recommend that you treat the cut surface with the same surface treatment agent that is used in the factory to protect the product.

You can order a suitable surface treatment agent in connection

with your wood product order. The order is made using the product name, for example Hiili, Savu, Kaarna, Noki, Kuura, Kelo, Sammal, Ruska, Kaarna+, Savu+ or Sysi.

Check the appropriate amount of surface treatment agent when you place your order.

You can also order oil for maintenance after your wood order has been delivered.

2.5. Special considerations for cladding panels

Note! If you are installing cladding panels vertically, you should cut the products at a 15 to 20 degree angle. This allows moisture to drip from the end of the panel more easily.

2.6. Special considerations for interior panelling

Wood is a natural material that changes its shape, shrinking and swelling with changes in humidity. The same applies to charred wood, as charring only affects the wood to a depth of a few millimetres from the surface.

Note! Wood materials for indoor use should only be brought to the site when the building is at a stage where the temperature and humidity are similar to normal living conditions. Wood should be allowed to settle under indoor conditions before it is installed. This typically takes about a week.

3. Fixing of charred wood products

As a rule, charred wood products are fixed similarly to standard timber, using either screws or nails, depending on the width of the panel.

Note! However, it is not recommended to use a nail gun to fix charred-surfaced products (Hiili, Korppi), as the impact of the gun may damage the charred surface around the fixing point.

3.1. Install products with the heartwood exposed to the weather

As a rule, Hiil's products should be installed with the heartwood exposed to the weather, i.e. the heartwood side remains visible. The heartwood side of the products is treated with the desired finish at the factory.

Please note that when the products arrive from the factory, they may be bundled with the heartwood sides facing each other.

This side visible



Always check the side to be installed from the end of the board or panel.

Please note that it is possible that individual panels may have been planed on the other side. Such a panel may be installed with the other side visible.

3.2. Fixing methods and choice of fasteners

The recommended fixing methods depend on the type and width of the panel.

Tongue-and-groove panels, 120 mm or narrower:

- Concealed fixing from the tongue either with cladding nails or narrow-head RST screws. A single screw/nail per fixing point is sufficient.
- When screws are used on the tongue, pre-drilling holes is recommended even with self-drilling screws
- An alternative method for fixing panels is to place screws in the middle of the panel

Panels over 120 mm wide, tongue-and-groove, shiplap, straight edge:

- Fixed by screwing through the surface with two screws per fixing point.

The length of screws and nails must be chosen in line with the thickness of the panel.

Hot-dip galvanised cladding nails are recommended.

Black, low-profile stainless steel self-drilling screws are recommended.

The recommended steel quality is C1/AISI 410, but when necessary, A2/AISI 304 or A4/AISI 306 can also be used.

Please note that when using screws with painted heads, an impact screwdriver may damage the paint surface. For a more finished result, using a standard drill as a screwdriver is recommended.

3.3. Matters to be considered with charred-surfaced products (Hiili, Korppi)

When installing Hiil's charred-surfaced products (Hiili, Korppi), please note the following:

- Charred-surfaced products may be dented if they are placed leaning against stairs, scaffolding or railings, with their visible side against the surface.
- Tree branches can leave marks on charred-surfaced products during transport. Check that the transport route is clear of branches.
- Charred products are easier to take out of the bundle by two people.
- The ends of ladders should be properly padded if they will be placed against a charred-surfaced panel wall.
- Screws that will remain visible can either be fixed in a single row or hidden in the cracks in the charred surface.
- Pay special attention to the depth of the screws. Screws that go too deep may damage the charred surface.
- Pre-drill holes for the screws or fix with self-drilling screws.

4. Service and maintenance instructions for charred products

As a rule, charred wood is easy to care for, requiring less maintenance than oiled wood. When treated carefully and maintained properly, charred wood will remain beautiful for decades.

4.1. MAINTENANCE INSTRUCTIONS FOR HIIL'S DECKING PRODUCTS

Hiil's decking products have brushed and tinted surfaces. In Hiil's Iki and Hetki collections, Kaarna, Kaarna+, Noki, Kelo, Sammal ja Ruska are suitable for use in decks.

General maintenance instructions for decks

KEEP THE SURFACE CLEAN

Regularly clear the deck of debris such as twigs, leaves and grass clippings. Organic matter traps moisture and can provide a breeding ground for algae, mould and decomposers. Cleaning also prevents dirt from accumulating on the wood surface, ensuring that the material retains its appearance for longer.

PREVENT STANDING WATER FROM ACCUMULATING ON THE SURFACE

Make sure that water can drain away from the deck surface. Also check that substructures are not exposed to standing water.

CHECK STRUCTURES AND FIXINGS

Regularly inspect the fastening of screws or nails. Tighten or replace any loose parts. Make sure there are no moisture-collecting piles or structures under the decking.

WASH THE SURFACE IF NECESSARY

Hiil's decking products can be washed lightly with water and a brush. For brushed surfaces, washing with water without detergent is often sufficient. Strong chemicals or solvents should not be used, as they can damage the surface treatment agents.

NOTE DURING USE

When moving heavy furniture, use felt pads or lift the items, do not drag them.

The need for charred decking boards and planks to be re-treated:

The colour tone of all Hiil decking products will change over time in outdoor conditions. Brushed and non-tinted wood will turn grey over time while the original colour of tinted wood will fade. To keep the decking boards and planks looking new in outdoor use, they must be treated at shorter intervals than those given in the instructions.

Hiil's decking products will grey and fade depending on their exposure to UV radiation, rain and snow.

Because of the pigment added to them, the tinted Kaarna+, Noki, Kelo, Kuura, Sammal and Ruska retain their shade longer than the non-tinted Kaarna, which will grey more quickly.





The need for re-treatment and the maintenance intervals for Hiil's decking products depend on the following factors:

- Exposure to UV radiation
- Exposure to rain and snow
- Whether the product has been treated at the factory with tinted or non-tinted oil
- Product user's opinion on patination

Maintenance treatment of Hiil decking boards and planks:

The maintenance interval for decking may be around 5 to 10 years, depending on the location and use. The product should be oiled using the same special linseed oil as at the factory.

The installation location has a major impact on the maintenance interval. A wood surface that is protected from the sun and rain by a canopy will be subject to far less stress than a surface exposed to the sun, rain and snow.

If you want to keep the product looking new, the right time for maintenance is before the surface starts to turn grey. The first signs of the product beginning to turn grey are a slight patina and wear on the surface.

Repairing damage to the product surface

If the factory-treated surface of a Hiil decking product is damaged and fresh, untreated wood is exposed, the damage should NOT be repaired with

a gas burner. The damaged area should be oiled with the same substance that was originally used for the product.

Note! Also read section 5 of this manual for instructions on successful surface treatment.

4.2. MAINTENANCE INSTRUCTIONS FOR HIIL'S CLADDING PRODUCTS

The surface of Hiil's cladding products is finished by charring, washing, brushing or tinting. Hiili, Savu and Kaarna in Hiil's Iki collection and Noki, Kelo, Sammal, Ruska, Kuura, Kaarna+ and Savu+ in the Hetki collection are suitable for outdoor use.

The Korppi surface can also be installed outdoors, but its blue colour tone will turn black within a few years of installation. For this reason, we recommend using products with the Hiili surface instead of Korppi as exterior cladding.

General maintenance instructions for cladding

KEEP THE SURFACE OF THE CLADDING CLEAN

Brush or rinse off leaves, pollen, cobwebs and other impurities. In particular, any dirt near the eaves and the lower edges of the wall should be cleaned to prevent moisture from accumulating on the surface.

PREVENT THE ACCUMULATION OF ORGANIC MATTER

Make sure that no bushes, grass or tree branches grow right next to the wall where they come into contact with the cladding surface. Organic matter traps moisture and may result in algae, mould or decay.

WASH WITH CARE IF NECESSARY

If the surface needs washing, use a mild detergent and soft brush or a low-pressure cleaner. Do not scrub vigorously or use harsh detergents that can damage the charred surface. Use cleaning products with a pH that is as neutral as possible.

ATTENTION TO STRUCTURES

Make sure that eaves, mouldings and sill pans direct water away from the façade. Check that there are no areas in the wall structures that may accumulate moisture.

The need for re-treatment of charred cladding panels:

Hiil's cladding products do not structurally require re-treatment. If the user appreciates the natural patination of wood material and prefers the product to grey, the product is maintenance-free.

The need for re-treatment of charred cladding panels:

Hiil's cladding products do not structurally require re-treatment. If the user appreciates the natural patination of wood material and prefers the product to grey, the product is maintenance-free.

Hiil's cladding products' rate of greying and need for aesthetic maintenance depends on the following factors:

- Product surface - a charred surface (Hiili) does not change its shade when exposed UV radiation. Brushed and tinted surfaces will turn grey or fade over time.
- Exposure to UV radiation
- Exposure to rain and snow
- Whether the product has been treated at the factory with tinted or non-tinted oil
- Product user's opinion on patination

If you want your products to retain their original colour tone, you need to treat them regularly.

Maintenance treatment of Hiil exterior cladding panels:

To keep the cladding looking new in outdoor use, periodic maintenance is required.

Hiil's exterior cladding products will grey and fade depending on the amount of charcoal on the surface and the cladding's exposure to UV radiation and rain. Hiili retains its black colour and does not turn grey. Savu and Kaarna will turn grey over time. Because of the pigment added to them, the tinted Kaarna+, Savu+, Noki, Kelo, Sammal, Kuura and Ruska retain their shade longer than the non-tinted Savu and Kaarna, which will become patinated more quickly.

The installation location has a major impact on the maintenance interval. A wood surface that is protected from the sun and rain by a canopy will be subject to far less stress than surfaces exposed to the sun, rain and snow. If you want to keep your product looking new, the right time for maintenance is before the surface starts to turn grey. The first signs of the product beginning to turn grey are a slight patina and wear on the surface.

REPAIRING DAMAGE TO THE PRODUCT SURFACE

If the factory-treated surface of a Hiil cladding product is damaged and fresh, untreated wood is exposed, the damage should NOT be repaired with a gas burner. The damaged area should be oiled with the same substance that was originally used for the product.

Repairing a damaged charred surface:

In the case of charred-surfaced products (Hiili, Korppi), the damaged surface can be re-treated with linseed oil tinted black (Hiili) or blue (Korppi). However, re-treatment does not repair the damage to the charred surface, but tints the exposed area of the wood surface black or blue.

For repair, we do not recommend:

- Black paint, as the gloss and colour of the paint will stand out from the charred surface in the areas repaired
- Re-charring of the damaged areas. Surface treatment agents are generally not resistant to fire and can ignite or smoke.

If the damaged area is large, in the worst cases it may be impossible to repair or restore the charred surface. In this case, we recommend replacing the damaged panel or product with a new one.

Note! Also read section 5 of this manual for instructions on successful surface treatment.

4.3. MAINTENANCE INSTRUCTIONS FOR HIIL'S INTERIOR PANELLING PRODUCTS

Hiil's charred wood brings natural beauty and a unique atmosphere to your decor. With the right care, the wood surface will remain beautiful and safe year after year. All products in Hiil's collections are suitable for use as interior panelling. Their surfaces are either charred, washed, brushed or tinted.

General maintenance instructions for interior panelling

AVOID MECHANICAL WEAR

A charred surface cannot withstand hard abrasion or impact. Brushed surfaces are more resistant to mechanical wear but they may also get damaged. Avoid knocking the wall surfaces with hard objects or scratching with furniture.

WIPE OFF DUST LIGHTLY

Use a soft duster, microfibre cloth or a slightly damp cloth or vacuum lightly with a brush attachment. Do not use abrasive cloths or strong cleaning agents.

PREVENT EXCESSIVE MOISTURE

Avoid condensation on the surface, especially in the kitchen or bathroom. Interior panelling does not need to be wiped with a damp cloth except in exceptional circumstances.

WOOD SURFACES IN THE SAUNA AND WASH-ROOMS

Brushed, washed and charred surfaces are also suitable for saunas and wet rooms. Even in these spaces, surfaces should be allowed to dry after use and good ventilation should be ensured. Avoid vigorous scrubbing when washing surfaces. Use cleaning products with a pH that is as neutral as possible.

DO NOT ALLOW DIRT TO GET STUCK ON THE SURFACE

If the surface gets splashed, wipe it clean carefully right away. The faster you act, the better the surface will stay clean.

The need for re-treatment of charred interior panelling:

Hiil's interior panelling products do not structurally require re-treatment. When installed in a shady and dry location indoors, Hiil's products will not change their shade over time. If the products are exposed to sunlight, UV radiation can affect the colour of washed and brushed surfaces over a longer period.

Maintenance treatment of Hiil interior panelling:

Hiil interior panelling does not, in principle, require maintenance.

If interior panelling products are installed in a sunny location where UV radiation can affect the wood surface over a long period of time, the product may start to fade. Even in this case, no maintenance treatment is required, but the product can be re-oiled with the oil used at the factory to restore the original shade.

A charred-surfaced product will not change its shade in this case either.

Repairing damage to the product surface

If the factory-treated surface of a Hiil interior panelling product is damaged and fresh, untreated wood is exposed, the damage should NOT be repaired with a gas burner. The damaged area should be oiled with the same substance that was originally used for the product.

Repairing a damaged charred surface:

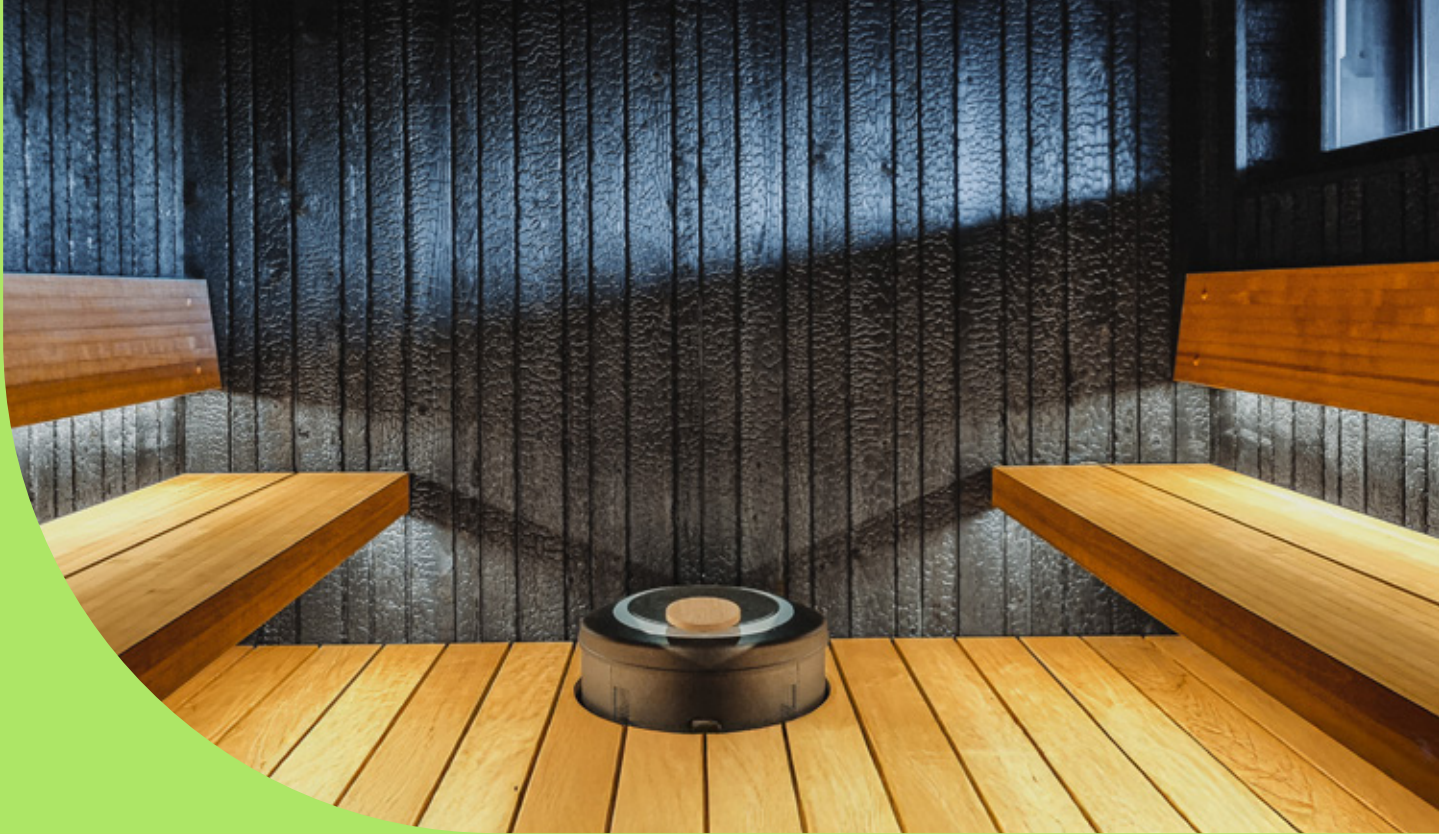
In the case of charred-surfaced products (Hiili, Korppi), the damaged surface can be re-treated with linseed oil tinted black (Hiili) or blue (Korppi). However, re-treatment does not repair the damage to the charred surface, but tints the exposed area of the wood surface to its original black or blue shade.

For repair, we do not recommend:

- Black paint, as the gloss and colour of the paint will stand out from the charred surface in the areas repaired
- Re-charring of the damaged areas. Surface treatment agents are generally not resistant to fire and can ignite or smoke.

If the damaged area is large, in the worst cases it may be impossible to repair or restore the charred surface. In this case, we recommend replacing the damaged panel or product with a new one.

Note! Also read section 5 of this manual for instructions on successful surface treatment.



5. Instruction for successful surface treatment

The surface should be treated with the substance that was originally used to treat the surface. You can order a surface treatment agent from Hiil with the name of your product surface (Hiili, Savu, Kaarna, Kelo, Noki, Kuura, Sammal, Ruska, Korppi, Kaarna+ or Savu+). If you feel uncertain, contact us for the appropriate surface treatment agent and more detailed instructions on how to maintain your product.

Always follow the instructions for the surface treatment agent.

Test the treatment product on a small area in an inconspicuous place before applying a more extensive treatment to visible surfaces.

Wipe off any excess treatment agent that has not been absorbed after treatment.

Sensitive surfaces should be protected from any oil that may drip or splash on them (paving, floors, plinths, windows, etc.)

When performing the treatment, keep in mind that oils can dry out too quickly in direct sunlight or on a hot day. In this case, the oil does not have enough time to absorb into the product, and the right level of protection is not achieved.

Note! Bear in mind that many natural oils pose a self-ignition risk when they dry! This means that rags, sponges and woodchips that have absorbed oil can spontaneously combust if they are left piled or crunched up. Rags and sponges should be put in water or spread out flat individually to dry.

6. Reuse and disposal of the products

All Hiil products are designed for decades long use. If for some reason the products are dismantled, the wood should be reused at another site. This way, the carbon bound in the product remains bound, the productivity of labour used to manufacture the product is not reduced and the wood is given a new lease of life.

All Hiil products are non-toxic and contain only wood, linseed oil and possibly a small amount of pigment, so if you end up disposing of the product, the wood can be used as an energy source.



Charred to life

For up-to-date contact information, please visit **hiil.fi**