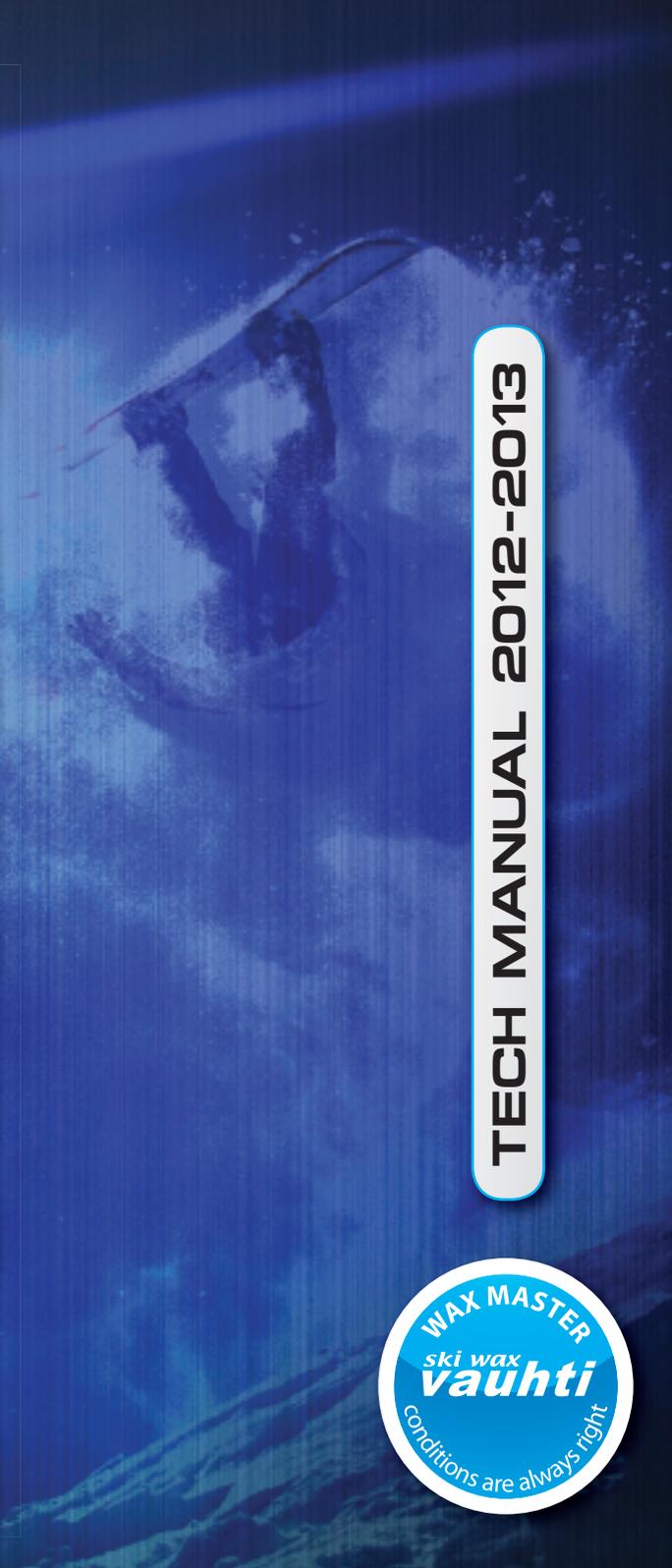
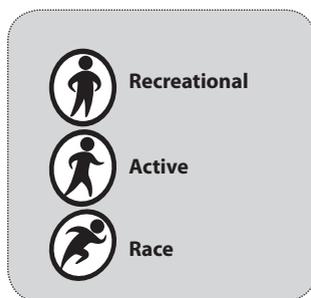


ski wax vauhti

TECH MANUAL 2012-2013



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Popular HFC powders represent the newest fluorine technology available.

HFC powders are suitable for a wide range of weather conditions, and possess top class durability and dirt resistance. These qualities guarantee that these powders maintain their glide properties better than their predecessors.

hfC 9

+10°...-4°C



Conditions: all snow types, from wet snow conditions up to -4 degrees.

Note! At -3...-4°C, best at old or artificial snow, and when humidity is over 90%.

Application Example 1:

Use HF or LF wax, suitable for the snow type and humidity, as a base wax. Brush the base wax layer carefully and well with a nylon brush. To ensure a thorough brushing, finish off with a brass or steel brush. The importance of base wax brushing is emphasized in zero and wet conditions. Polish the base with a nylon brush before applying powder.

Apply the powder with an iron, recommended iron temperature 170-180°C. Let the skis cool down and gently scrape off the excess powder with a dull scraper. Start brushing with a steel brush, a few strokes from tip to tail. Remove the brushing dust and continue with a nylon brush. In wet conditions with surface suction, finish off the surface with a steel, brass or powder brush. It is important to brush the ski structure "open" in all snow conditions - but it is extremely

important on wet snow and mild winter temperatures. All fluor powders are soft coating products and in order to get the maximum benefit out of them, make sure that too much powder is not left on the skis. Note! The skis should be completely cooled down before brushing - cool the skis off outside if necessary. If the powder is still slightly warm it is possible that brushing will only remove some of the powder, and some may be rubbed back into the ski with the brush.

Application Example 2 with Double Ironing:

Apply the fluor powder, and iron in as above. Let the skis cool down, and brush the powder "up" (not away) using short back and forth strokes, leaving the brushing dust on the surface of the ski base. Iron in the brushing dust. If only a little dust is brushed up, add another fine layer of fluor powder before ironing it again. The powder will melt quicker than on the first time, therefore move the iron a little faster. Let the skis cool down completely and finish off as in Example 1. Ironing the powder twice ensures the fluor powder is spread evenly on the whole glide zone. It makes waxing lighter and its moisture resistance is improved. Both of the waxing techniques are widely used.

hfC 115

-1°...-7°C



New hfC115 is based on C125 and 330c fluor powder used by the national teams in winter 2011-2012. . Conditions: For all snow types, -1...-7°C. Works best on moist, new or fine grained snow.

Application:

Use HF or LF wax, suitable for the snow type and humidity, as a base wax. Brush the base wax layer carefully and well with a nylon brush. Finish off with a brass or steel brush and polish the base with a nylon brush before applying the powder. Apply the powder with an iron, recommended iron temperature 170-180°C. Let the skis cool down and gently scrape off the excess powder with a dull scraper. Brush a few strokes with a steel brush, remove extra brushing dust and continue with a nylon brush. In wet conditions, finish off with a brass, steel or powder brush.

In low humidity at -4 degrees and lower, rub the ironed powder, when it's still warm, with a hand cork or roto cork. Cool down, scrape lightly and start brushing with a few steel brush strokes and finish off carefully with a nylon brush.

hfc15 powder can also be applied by ironing it in twice, using the same principle as with hfc9. We recommend this method when temperatures are at the milder end of the recommended conditions, and the humidity is high.

Hfc 15 "old" model -2°...-12°C

This product has been discontinued but here is a quick tip for those who still possess this in their wax box. Compared to the new hfc15 powder, this works extremely well on old snow, in temperature range marked on the package. On new snow, when temperatures are at -6...-10°C.

hfc 21

-6°...-20°C

Conditions: For all snow types, -6°...-20°C



Application:

Use HF or LF wax, suitable for the snow type and humidity, as a base wax. Brush the base layer with a steel brush and finish off thoroughly with a nylon brush.

Apply the powder with an iron, recommended iron temperature 170-180°C. Let the skis cool down and rub the ironed powder, when it's still warm, with a hand cork or roto cork. Cool down, scrape lightly and start brushing with a few strokes of a steel brush. Finish off thoroughly with a nylon brush.

In extremely cold conditions, when the snow is dry and "squeaky" and temperatures are close to -20 degrees, as follows: Rub a thin layer of LF Green on top of the ready base wax. Add the fluor powder on top of the thin wax layer. Continue the same way as above: iron in, cool down, rub, scrape lightly and brush thoroughly with a nylon brush.

General notes about Fluor Powders:

When should you apply powder using the double ironing method?

Ironing the powder twice increases the durability slightly and ensures the ski base is covered evenly. This method is most suitable for wet or moist conditions, when the ski track has "suction". When temperatures drop and humidity falls, the double ironing methods loses its benefits, and in very cold conditions this method may even be detrimental.

How long in advance can I iron the powder in?

Vauhti fluor waxes do not damage the ski base even if left on the ski for longer periods. If you know the expected conditions, you can prepare your skis by ironing the powder days in advance. You can finish off the waxing at a competition venue, either by ironing the brushing dust in again, or by rubbing the previous ironed coat etc.

How can I determine the air humidity without a humidity meter?

- clear weather, low humidity, 80% or under
- Partly cloudy, normal humidity, 80% - 90%
- Overcast, high humidity, 90 % or above
- A completely overcast sky, temperatures milder than -10°C, snow fall are almost always damp.

Remember winds can have a drying effect on the snow. It can dry the snow surface quickly and noticeably, especially in open areas. In windy conditions, humidity meters and snow moisture levels are in conflict with each other.

Ironing temperatures contained in waxing instructions are advisory and are based on the Vauhti 1000W waxing iron. They apply when ironing is done at normal room temperatures. Temperature changes in the waxing room and the skis affect the chosen iron temperature. Please note, temperatures may vary between different waxing irons.

Let the iron warm up enough before applying the powder with an iron. Fluor powder melts quickly and easily with an iron that has been warmed up properly, and the temperature on the ski base rises to only 40°C, when the ironing is done correctly. If the iron is not properly heated, you will have to slow down the movement of the iron and the effect of the iron increases and the temperature of the skis will be higher.

Vauhti 1000W Wax Iron temperature settings and corresponding temperatures.

5	80° ... 95°C
6	100° ... 115°C
7	120° ... 135°C
8	140° ... 155°C
9	160° ... 175°C
10	180° ... 195°C

Hardening Powders

35 g



Hardening powders are designed for conditions in which the track or the skating surface is exceptionally abrasive. For example, on artificial snow or especially when the snow re-freezes after a long period of thaw. In comparison to plain conventional or fluor glide waxes, using the hardening powder additives in icy snow conditions, results in superior durability and abrasion resistance.



FPO10 Fox 10F -1° ... -8°C

For mild winter temperatures

FPO20 Fox 20F -6° ... -12°C

For cold winter temperatures

FPO30 Fox 30F -10° ... -25°C

For extremely cold winter temperatures

Other Powders

GFP7 Grip Powder +5° ... -20°C 20 g



A high content fluor powder, which contains extremely fine graphite powder, for coating grip waxes. Suitable for all conditions. If applied correctly, the powder improves the grip wax glide properties without reducing the grip and in some cases it can even improve the grip. The use of Grip Powder does not reduce the durability of grip waxes. The benefits of the Grip Powder are best seen in classical sprint skiing, where it effectively improves the glide performance especially under high tempo double polling, where there is substantial up and down movement.



Grip powder can be used to "fine-tune" skis that are over gripping. It can also reduce and in some cases completely eliminate unwanted "excess grip" in klister waxed skis.

Application:

Spread a thin, even layer of Grip Powder on top of the ready grip wax, either on both ends of the grip zone or along the full length. On room temperature skis, adhere the powder to the wax with a few light strokes on a synthetic cork. Apply the powder coating to the klister only after the skis have cooled off outside. Sprinkle the powder, and rub it in lightly with the palm of your hand or a cork. When the grip waxing is cold, use more pressure to ensure the powder adheres to the wax.

You can also apply the Grip Powder after an initial test run on hard or klister waxed skis. Just clean and dry the grip zone, and apply the powder as above.

MFP1 MF-1 Fluor Powder +10° ... -2°C 25 g



Molybden Fluor Powder, suitable for wet conditions and temperatures just below freezing, -2...-3°C. It is easy to use, even without previous experience of fluor powders. A wax powder in MF-1 protects ski bases from overheating, and the ski bases do not "dry up" as easily as with high fluor powders.



Molybden in the powder effectively reduces dirt contamination

Application:

Apply a base wax suitable for the weather conditions. Sprinkle the powder on the glide zones. Iron in carefully, making sure the powder melts completely. Cool down, and brush firmly with a nylon brush. If the snow conditions are wet, finish off with a powder brush. Like high fluor powders, MF1 can also be applied with hand or roto cork. When using a roto cork adhere the powder first with a hand cork.

Hfc Compressed Fluor Compounds

20 g



HFC Compressed Fluor Compounds have the same content as the corresponding fluor powders. You can apply them cold or with an iron.

Cold Application: Rub a layer of Fluor Compound. Rub firmly with a natural cork, or apply with roto cork. Let the skis cool down for a few minutes and brush thoroughly with a nylon brush. Repeat the steps once more, if the skiing distance is long.

Hot Application: See the product instructions below.

NC9 hfC9 +10°...-4°C

For all snow types, from wet snow conditions up to -4°C Brush the base waxes very thoroughly. Rub a generous layer of hfC9 into the base, and iron in as per the corresponding fluor powder. Cool down, scrape lightly and start brushing with a few steel brush strokes. Continue with a nylon brush, and finish off gently with a soft brass or steel brush. Like with all powders, make sure to brush the base structure completely "open".

HFC Compressed Fluor Compounds 20g



NC15 hfc15 -1°...-7°C

For all snow types -1°...-7°C. Iron the first layer with a swift pass, cool down, brush and apply another layer with a cork. Cool down, scrape lightly and start brushing with a few steel brush strokes and continue with a nylon brush. If conditions are damp, finish off gently with a soft brass or steel brush. Like with all powders, make sure to brush the base structure completely "open".

Also suitable as a coating for hfc15 powder. Iron in the powder as usual, cool down the skis and brush with a nylon brush. Apply a layer of hfc15, rub with natural cork by hand or roto cork. Let the skis cool down for few minutes, brush thoroughly with a nylon brush. If conditions are damp, finish off gently with a soft brass or steel brush.

The new hfc15 Nappi is easy to apply and noticeably softer than the last year's version. Its function has improved noticeably especially in damp and mild winter temperatures.

NC21 hfc21 -6°...-20°C

For all snow types -6°...-20°C. Iron the first layer with a swift pass, cool down, brush and apply another layer with a cork. Cool down, brush thoroughly, finish off with a nylon brush.

Also suitable as a coating for hfc21 powder. Iron in the powder as usual, cool down the skis and brush carefully with a nylon brush. Apply a layer of hfc21, rub with natural cork by hand or roto cork. Take the skis outside for a few minutes, "open" the base with a few steel brush strokes, finish off firmly brushing with a nylon brush.

Fluor Liquids

50 g



HFC1 hfc1 Anti-Icing +1° ... -2°C

A 100% fluorocarbon product, very effective in reducing grip zone icing on classic zero race skis. Excellent top coat for klusters and soft grip waxes on wet and zero conditions. Also suitable for junior skiers' as a glide wax for wet and zero conditions.

Use:

Before applying, ensure the grip zone, including the porous surface underneath, is completely dry. The product is 100% water insoluble. If applied on a moist ski base, it will remain on the water film and does not adhere sufficiently into grip zone material. When applied and set on a dry ski base, its anti-icing qualities are long-lasting.

Spray an even layer of Anti Ice, from a 10cm distance, to the grip zone. If necessary, even out with a finger or a small piece of cloth. The product will surface dry quickly, but leave it to dry for about 5 minutes so that it penetrates deeper, dries and adheres completely.

The grip zone can be treated up to a day before the race without risking the reduction in the performance of the product. A long drying time ensures a thorough adherence to the base.

On Grip Wax:

Spray an even layer over the grip wax, and smooth gently with your finger. Let it dry at least 3-4 minutes, and the skis are ready to use. The product does not reduce grip properties. It enhances waxing performance, and reduces icing and dirt accumulation.





The product was made by processing the equivalent fluor powder into a liquidised fluor, and it does not contain hydrocarbon solvents. Excellent durability, also when applied directly on top of a wax, without rubbing or ironing.

All HFC liquids (excluding hfc Black) can also be applied with an iron. We recommend ironing if a fluor powder or Nappi is not used under the gel and the skiing distance is over 5km. If nappi or fluor powder is used as a base wax underneath, we do not recommend applying gel with an iron. On top of non or low fluor waxes: Spread generous and an even layer of gel, and leave it to dry until the gel turns completely white. Set the waxing iron temperature to 120°...135°C, Vauhti 1000W waxing iron to temperature setting 7. Iron in the gel, 3-4 passes from top to tail, so that the gel adheres to the ski base. Do not melt the gel like powders, but adhere to the base with some heat and light pressure. The temperature is correct when the iron moves easily on the top of the gel layer. Cool down the base for 1-2 minutes, and rub lightly with a cork or add another layer of gel. Cool the skis completely and brush thoroughly with a nylon brush. In wet conditions with surface suction, finish off with a brass or steel brush.



LC9 HFC9 Gel +10° ... -4°C

Gel coating for all snow types, in wet and zero conditions. At temperatures below -1°C the snow has to be new and soft with over 90 % humidity.

Works well on coarse and dirty wet conditions applied directly on top of a glide wax. Iron in the first layer, add a layer of gel, cool down, brush carefully with a nylon brush. Remove brushing dust, cool the skis outside and finish off with a steel brush.

When the product is used on top of a fluor powder or Nappi, apply on brushed skis that are clean from the brushing dust. Let the product dry at room temperature, cool the skis outside and brush as above. Note! Do not cold rub the gel.

LC15 HFC15 Gel -1° ... -7°C

Gel coating for all snow types, in mild winter temperatures.

When the product is used on top of a fluor powder or Nappi, apply on brushed skis that are clean from the brushing dust. Spread the gel to the base, let it dry at room temperature, rub with a hand or roto cork, and cool the skis outside. In wet conditions, start brushing with a nylon brush and finish off with a steel, brass or powder brush. When the snow is "light", start with a few steel brush strokes, and continue with a nylon brush firmly. In wet conditions with surface suction, finish off with a brass or steel brush.

On top of non or low fluor waxes: Spread a generous (and an even) layer of gel, and leave it to dry until the gel turns complete white. Set the waxing iron temperature to 120°...135°C. 3-4 passes with an iron, from top to tail. Cool down for a few minutes, add another thin layer, let it dry and rub with a hand or roto cork. Cool down completely and brush as above.

LC21 HFC21 Gel -6° ... -20°C

Coating for very cold winter temperatures. Can be used from -6°C on old and coarse snow.

When the product is used on top of a fluor powder or Nappi, apply on brushed skis that are clean from the brushing dust. Spread the gel to the base, let it dry at room temperature, rub with a hand or roto cork, and cool the skis outside. Start with a steel brush, using light pressure. Continue brushing firmly with a nylon brush Confirm the finish by checking the ski base structure against the light. Structure should be completely "open".

On top of non or low fluor waxes: Spread a generous (and an even) layer of gel, and leave it to dry until the gel turns completely white. Set the waxing iron temperature to

120°...135°C. 3-4 passes with an iron, from top to tail. Cool down for a few minutes, add another thin layer, let it dry and rub with a hand or roto cork. Cool down completely and brush as above.

LC3 HFC Black -2° ... -20°C

A high-graphite liquid fluor coating. Best at very cold winter temperatures, also works well on wet conditions and milder winter temperatures, when the snow is dirty. Creates a very hard, extremely durable and dirt resistant coat. Used mainly to finish off powder or hard waxing, can also be applied straight over hard wax with a roto cork.



FoxGels are easy to apply, pliable liquid fluor coating. They work well as cold waxed gliders and top layers on grip waxes and klisters. FoxGels are especially well suited for sprint and short distances. The waxing can be done outside and it's easy and quick. The durability of the FoxGel, when applied cold, is around 5-7km depending on the snow type. The durability can be improved noticeably by applying the gel on to a warm ski base, and rubbing firmly with natural cork by hand or roto cork. The most effective way to improve the durability is to use f-powder or f-compound underneath the gel, and add the gel into the brushing dust from the powder or nappi. The emulsion dissolves to the fluor wax underneath and together they form a fluor mixture that has the same durability as plain fluor powder waxing. The fluoride used in the FoxGel Medium and Minus does not melt in the hot waxing temperatures.



FG001 Foxgel Wet

+10 ° ... -2 °C

Recommended operating range from wet conditions down to -2°C.

Foxgel Wet improves the water resistance in waxing, and slows down the dirt absorption into the outer wax layers. The gel is suitable for coating fluor powders and compounds, as well as paraffin and fluor paraffin waxes. When the product is used on top of a fluor powder or f-nappi, do not cold rub. FoxGel Wet is also excellent for coating mild winter temperature grip waxes and klisters in difficult new snow conditions. The emulsion forms a thin, flexible, water and dirt resistant film on the surface of a grip wax or klistler. It does not reduce the grip properties, but improves the glide significantly in wet conditions with "suction". Because the gel also decreases the risk of icing on the grip wax, it works extremely well on conditions, where the snow on the ski track varies between dry and wet. We recommend FoxGel Wet coating on grip waxing when red or softer grip waxes are used. On coarse snow conditions, FoxGel coating on grip wax has not shown noticeable advantage.



FG002 Foxgel Medium

0 ° ... -7 °C

Recommended operating range starting from zero conditions down to -7°C.

Base wax the ski with glider matching the current conditions. FoxGel Medium is also perfect for coating the mild winter temperature grip waxes and klisters like the Wet version.



FG003 Foxgel Minus

-5 ° ... -15 °C

Recommended operating range -5°.....-15°C.

Use hard LF or HF wax series as a base wax.

Waxing Instructions: Apply the emulsion on the glide zone to a maximum 1 meter length at a time and immediately spread it into a thin film. FoxGel Minus is thicker than the gels for milder conditions. Use it for coating grip waxes and klistler, only when the grip waxing is "over gripping". Note! Remember to brush carefully and well with a nylon brush when the skis have been waxed with Fox Gel Minus.



The High Fluor Glider series were developed specifically for the top competitive skiers, and fitness skiers who demand wax performance at the racing level. The line was designed to be especially compatible with Vauhti fluor coatings. The high fluor content gives the product a good water and dirt resistance. The entire line is suitable for all snow types when the humidity is over 55%. Package size: 40g and 90g.



HF011/HF9011 HF Yellow -1° ... +10°C

HF-Yellow has the same hardness as the Purple, but its fluor content is higher than Purple's. It is suitable as a base wax for fluor coatings on wet or on old and coarse snow conditions right down to -2°...-3°C.

HF012/HF9012 HF Pink 0° ... -5°C

A fluor glider for zero conditions and mild subzero temperatures. Works best on falling, moist new or fine snow. Recommended operating range: at less than 75 % humidity is 0°...-3°C, over 75% humidity -1°... -5°C.

HF017/HF9017 HF Silver +3° ... -5°C

A fluor glider for zero conditions and mild winter temperatures. Designed for wet man-made snow conditions. Recommended operating range: at less than 75 % humidity 0°...-3°C, over 75% humidity -1°... -5°C.

HF013/HF9013 HF Purple -2° ... -7°C

A fluor glider for mild winter temperatures, a wide operating range. Recommended operating range: at less than 75 % humidity is -3°... -6°C, over 75% humidity -4°C...-9°C. Forms a durable finish.

HF014/HF9014 HF Blue -6° ... -12°C

A fluor glider for cold winter temperatures. Recommended operating range: at less than 75% humidity is -4°...-10°C, over 85% humidity -6°...-13°C. Suitable coating for old and grainy snow.

HF015/HF9015 HF Green -10° ... -25°C

Extremely hard fluor glider for very cold winter conditions. Recommended operating range -10°C and below, with over 55% humidity.

HF016/HF9016 HF Molybden -5° ... -20°C

Hardest glide wax in the series. Designed as a base wax for HF and LF series, and fluor coatings. Molybden forms an extremely dense, durable and dirt resistant surface. Works in a wide range of weather conditions. Best at less than 90% humidity.



An excellent base wax for fluor coatings. Also suitable for finishing the base preparation of new skis. The series include an extremely hard green and graphite glider for low humidity and very cold temperatures. Suitable top coating for competitive junior skiers. Package size: 40g and 90g.

LF210/LF411 LF Yellow **+5° ... -3°C**

The same hardness and wax content as HF Yellow. New wider operating range: on new snow down to -3 degrees, and old snow down to -5 degrees.

LF220/LF422 LF Purple **+1°...-5°C**

Same hardness and wax content as HF Purple, a wide operating range. On new snow down to -5 degrees, and old snow down to -8 degrees.

LF230/LF433 LF Blue **0° ... -10°C**

A glider for cold winter temperatures. The excellent base adherence and wide operating range has made this glider a popular choice as a base wax for the fluor powders.

LF240/LF444 LF Green **-1 ... -25°C**

The glider for extreme cold temperatures. An excellent base wax for fluor powders and coatings in extremely cold temperatures with humidity over 75%. Also suitable for dirty wet conditions, when an extremely hard base wax is required under a powder. If used on its own, best at 55%-75% humidity on both new and old snow, when the snow is "squeaky".

LF250/LF455 LF Grafit **0° ... -25°C**

A glider for dry and extreme cold temperatures. In this glider, the green wax has been hardened further with graphite, which makes the wax work well in very low temperatures and humidity. This wax forms a very dense and shiny surface on the ski, and we do not recommend using this product alone as a top coat when the humidity is high. We recommend finishing fluor graphite glider with a steel brush.

LF260/LF466 All Temp Glider and Fluor Base Prep Paraffin

For finishing base preparation for new or stone ground racing skis prior to the first fluor powder treatment. It is also ideal for reviving dry ski bases caused by frequent powder waxing. Forms a "greasy" shiny surface on the first or second application.

Glider for all snow types, wide operating range.



Base waxing example for race skis:

1. Start base preparation by brushing carefully with a steel brush.
2. Remove loosened dirt with Fluor Base Cleaner, add another coat of Cleaner and let it absorb for a while. Remove the excess Cleaner, but leave the ski base damp.
3. Iron in 2 layers of LF Base All Temp glider or LF Blue glider. Let it cool down for a few minutes, scrape and brush the glide zones with a nylon brush between the applications.
4. Saturate the base with two layers of LF Green. Iron in the first layer, leave the skis to cool down for 5 minutes, do not scrape between, apply and iron in another layer. Let the skis cool down for a while and start scraping when the base is still warm. Scrape more closely when the base has cooled down. Start brushing with a steel brush, a few strokes from tip to tail. Finish off brushing strongly with a nylon brush.

LF SPORT Fluor Glider Series

45/90 g



LF Fluor Glider series for active recreational skiers.

SLF10/SLF15 Molybden +5°...-5°C

A molybden glider with an excellent dirt and water resistance. Suitable for all snow types.

Works best on old or artificial snow.

SLF20/SLF25 Violetti +2°...-7°C

An extremely durable glider, a wide operating range.

Works best on new snow.

SLF30/SLF35 Sininen -5° ... -15°C

A strong durable glider for all snow types.

Basic Gliders

90/180 g



A high quality, fluor-free hydrocarbon waxes. Excellent for basic glide waxing, base preparation and maintenance. Also suitable as a base wax for racing.

L02/L121 Yellow +10°...-1°C

L03 /L131 Purple +3°...-5°C

L04/L141 Blue 0°...-10°C

L05/L151 Green -8°...-25°C

L06 Universal Thermo -1°...-25°C

L07/L171 Grafit Soft 0° ... -7°C

L08/L181 Grafit Hard -7° ... -25°C

L09/L191 Base Prep Paraffin

Grip Waxing

Base Preparation

The correct base waxing is often a key to a successful grip waxing. It ensures the durability, and builds a flexible and viscous base layer for harder grip wax layers, which secures maximum grip for the ski.

Base Preparation Example

Coarse grained, old or artificial snow when the snow is moist and ski track is solid. Works at a wide temperature range -1....-20°C.

Sand the grip zone with sanding paper and clean with a wax remover. Let the grip zone dry thoroughly.

Rub a layer of Base Wax Super on the grip zone, smooth with a natural cork and a heat gun, or with a waxing iron. Add four drops of blue or blue fluor klister, spaced evenly, to both sides of the groove. Use Blue fluor for -4°C or warmer temperatures. For colder conditions use normal blue klister.

Mix the klister thoroughly with the base wax with help of a natural cork and heat. Aim to make the two waxes into a single, very viscous and glue-like mixture.

Add the first top wax layer over the warm base wax layer, smoothing is easy with a thumb or natural cork. Let the skis cool down, and apply the final grip wax.

The above base waxing method is used by Vauh-ti technicians in preparation for most grip waxes. It can also be used on new snow, when the classic track is solid. In these conditions, the base wax layer should be noticeably finer.

Note! For newly fallen snow and especially when the snow is blown on to the ski tracks by the wind, use a fine layer of Base Wax AT or K18 as a base wax. Do not use Base Wax Super/Blue klister in these conditions.

Icing on the grip wax

Grip waxes do not contain water soluble ingredients therefore grip waxes themselves, including klisters, cannot freeze. Icing up process is the following: friction between sticky grip wax and snow causes the snow to melt and the water film slowly freezes on the wax surface. This occurs most when the snow is new and light, and the ski track is soft. On a soft ski track, almost the whole grip zone "drags" against the snow, and if the base wax is too viscous, icing is very likely.

When the temperatures drop close to -10 degrees, water film no longer forms. Most favourable conditions for icing are temperatures around -3°...-6°C, when the wind blows the snow on to the ski track.

Ice starts to form in the area, where the pressure between the grip wax and snow is greatest, normally at the end of the grip zone. The ski's body is thick in this area and has little flexibility. Another critical area is the front of the wax pocket where, especially in single ski glide, the pressure to the track is high. The pressure is lowest in the middle of the wax pocket, and the problem is normally avoided in this area.

In race conditions, the skier notices the too "sticky" grip, especially in the fast downhill sections, when the skis do not glide. The skier instinctively starts to take the weight off the front of the grip zone by lifting their toes up lightly and the speed improves, but then the wax pocket gets shorter from the back and the friction increases even further causing the ice film to form.

Fine, and sometimes invisible ice film can improve the glide, but the grip properties are inevitably reduced. In most cases, the skier is not even aware of the reason behind the loss of grip.

The ice film is normally noticed when the skier tries to add more grip wax on the cold ski. The grip wax does not stick to ice film before it's removed with a waxing cork.

The icing is less likely on a solid and hard ski track, because the wax base is off the snow in the double ski glide, or touches only with light pressure.

In other, more typical situations, the new snow at zero conditions sticks to an overly soft and thick grip wax layer. The "icing" continues, when more snow sticks to the wet snow in the wax layer, and as a result a few centimetre thick snow "mattress" can collect on the ski base.

This is caused by a clear waxing error, too soft and

too thick wax layer in comparison to the snow temperature.

The “kick” of the grip wax is applied under the top wax. The correct base wax for the conditions is coated with a thin top coat that is hard enough to stop snow sticking. Applying Fox Gel or Grip Powder coating reduces the risk of icing noticeably.

How can I stop icing?

Use a thin thin base wax layer.

Apply the first top wax layer when the base wax is still warm. The wax layer should be easily smoothed with a waxing cork or a thumb. The purpose of the first wax layer is to “tame” any excessive toughness in the base wax.

Cool down the applied layers carefully before adding more coatings.

Smooth the wax layers lightly, so that the softer grip wax layers do not “rise” to the surface.

Apply the last layers outdoors in colder temperatures.

Using the grip powder reduces excess friction effectively.

Waxing Example

New snow, -6 degrees, low snow humidity, slight flurry snow, soft ski track, snow is slow and icing is likely.

Apply a thin layer of Base Wax AT and one layer of K18 to the warm base wax, even out.

Cool down completely, and coat the wax with a few layers of K15. Smooth lightly so that the base layer does not “rise” to the surface.

This example uses two very different types of grip waxes, K18 under is typically used for old and coarse snow, it is viscous and glue-like, and it hardens up only little when the temperature drops.

Why is K15 used on the top, when it is a softer grip wax for milder winter conditions?

On new snow, at the above temperatures, K18 for older and coarse snow is too viscous to be used on top of the waxing. When the ski track is soft, the grip zone is in continuous touch with the snow.

If the track is solid and does not have loose snow, K18 works well as a coating on new snow.

K15 which is a wax for new snow, is noticeably softer at room temperature than K18. In this example (-6°C, new soft snow) K15 coating sets harder than K18, and is much faster (has much less grip).



The improved performance of the new K-Line fluoride grip waxes comes from a revolutionary ingredient that reacts to temperature more precisely than ever before. Thanks to this innovation, the risk of the grip wax freezing in sub-zero temperatures is reduced considerably. K-Line Fluor Grips have a wide operating range. The operating ranges have been marked separately for new and old snow.

The grip of the three softest waxes in the K-line range is related as follows: the K15 grip weakens when the temperature approaches zero, but then K12 takes over with excellent grip around 0°C. Then when the K12 grip is less at the warmest of its range, the K9 grip is at its best. K-line is an excellent choice for recreational skiers due to its good gripping properties and wide operating range.



GF383 K9 +2 ° ... -1 °C

Custom wax for zero conditions. Best in moist or variable, problematic zero conditions. For all snow types. K9 can be used for coating klisters and it is suitable to mix with other gripping waxes.

GF386 K12 +1 ° ... -2 °C 0 ° ... -4 °C

A fluor grip wax that contains aluminium and can be used in an extensive range of weather conditions. Due to its viscosity, it can be used as a base wax for K9. This is an excellent wax in conditions where the temperature of the snow varies from just above zero to just below zero. It can be used on old snow in temperatures as low as -4°C.

GF389 K15 -1 ° ... -5 °C -1 ° ... -7 °C

A wax developed for new, fine snow in mild winter conditions. With this wax, you will sweep through the difficult new snow 'violet' conditions. The grip properties of K15 take hold even in temperatures of -0.5°...-1°C and, thanks to the new composition, its glide properties are much better than with the previous violet grip waxes. This is most visible in conditions of -2°C and below. You can use K15 on new snow down to -5°C and on old snow down to -10°C and still have good glide.

No risk of freezing in any kind of snow! At its best in conditions where the lower parts of the ski trail are at a temperature near zero and the higher parts clearly below freezing.

Note! K15 is at its best on new or fine snow. For coarse snow and trails that are packed hard with snow (-3°C and colder conditions), we recommend K18, which has been developed specially for these conditions.

GF392 K18 -2 ° ... -12 °C

A viscous, all-purpose wax that sticks extremely well to your skis for use in sub-zero conditions. At its best on old, coarse snow. The best gripping temperatures begin at -2°C and extend to approximately -12°C on old snow or on a hard-packed trail. The wax can be used alone or as a base wax for other K-Line products, for which it is an excellent choice. This wax is extremely durable.

Note! K18 is specifically designed for old, coarse snow. For new snow -2...-5°C, we recommend K15, which has been developed for these conditions as a surface wax.



GF393 K19 -3 ° ... -10 °C

Complementing grip wax for K18. Use when snow is too fine for K18. At its best on fine grained and new snow. Also on coarse snow to improve the glide on viscous base waxes. Works in a wide range of conditions, on old snow almost up to -20°C.

GF395 K21 -4 ° ... -10 °C -4 ° ... -15 °C

An all-purpose wax for cold winter conditions. The wax can be used at temperatures beginning at -4°C and down to -10°C or below, if the snow is not newly fallen. Suitable for all snow types. If you wish to maximize the durability, and increase the kick, use K18 as a base wax at temperatures of -4... -10°C.

GF400 K-Base

Base wax for all K-Line grip waxes. For old and coarse snow. On new snow only when the ski track is solid. On new snow conditions, only apply a fine layer.

K-Base is a mixture of Base Wax Super and Blue klister with solid fluor material. K Base gives the skis excellent and "sharp" grip. If used correctly and in right conditions, it does not reduce grip wax glide properties. With K-Base, as your base wax, you can achieve perfect grip with very fine top wax layer.

Teho Grip Waxes

45 g



GF301 Purple +5° ... -4°C

Mainly used as a coating for grip waxes and klister.

GF302 Blue -3° ... -10°C

Suitable as a base wax or for coating other waxes.

GF303 Green -2° ... -20°C

The toughest TEHO Wax, which most resembles a base wax. Usually applied as base wax, but has more grip than traditional base waxes.

Tar Grip Waxes

45 g



One of the raw materials used in the Tar Grip Wax is a pit tar made from the Finnish pine wood. Tar waxes span a wide working range, have easier waxing properties than other grip waxes and also have a pleasant aroma. They are especially suited for recreational skiers, although their properties are attractive and useful even for the most demanding racers.

To make grip waxing easy, we have combined the best qualities of the tar grip wax range, and scaled down the series into three grip waxes. These three grip waxes are perfect from wet snow conditions to temperatures reaching -20°C.



G610 Terva punainen +1° ... -1°C

For new snow, at temperatures marked on the packaging. If the snow is old or coarse, and the track is well-used, the grip wax can be used up to -3°C.

GT612 Terva porkkana -1° ... -6°C

Recreational skier's all-purpose grip wax for weather conditions just below freezing. Easy to apply, and durable grip wax with a wide operating range. If the ski track is hard, and the snow is few days old, a good operating range is from -1° down to -12 degrees.

GT614 Terva vihreä -6° ... -20°C

General purpose grip wax for cold weather conditions and all snow types.

Synthetic Grip Waxes

45 g



Basic grip wax series for all snow types. These waxes are durable and easy to apply, suitable for race or recreational use. To make grip waxing easy, we have combined this series into four Synthetic grip waxes.



SL220 Red +1° ... -2° C

Aluminium AT red grip wax for all snow types. Apply in fine layers. Up to -3°C in older snow.

SL250 Carrot -1° ... -6° C

Grip wax for a wide range of weather conditions. Up to -12°C in older snow. In -1°...-2°C, apply a layer of red grip wax underneath.

SL260 Blue -5° ... -15° C

All-purpose grip wax for cold weather conditions. Can be used on its own, or on top of "Orange" (carrot), at -8°C and colder weather conditions.

SL270 Green -10° ... -30° C

Grip wax for very cold conditions. This wax is used on top of other softer grip waxes (Orange, Blue), when temperatures are below -10°C. The wax gives the glide, whilst the softer grip wax improves the grip.



Fluor klister are manufactured using the same fluor raw materials used in the fluor glide waxes. This improves the water resistance and glide properties of the klister. Fluor klister work in wet conditions longer and better than traditional klister. Given their better gripping properties, the fluor klister are applied in slightly thinner layers than traditional klister.



KF624 F-Red +10° ... +2°C

Specially designed klister for wet conditions. Applied in thin, smooth and even layers.

KF625 F-Universal +4° ... -1°C

Klister for new snow, variable and coarse wet conditions. In new snow, apply an extremely thin layer.

KF626 F-Purple +2° ... -4°C

Designed for watery and coarse conditions on either side of the freezing point. An excellent base wax for the softer fluor klister.

KF627 F-Blue 0° ... -8°C

Klister for coarse conditions. An excellent klister for coarse artificial snow.

KF628 F-Silver Plus +1° ... +10°C

Perfect for coating other klister in dirty wet or dirty variable conditions. Improves the dirt resistance effectively.

KF629 F-Hopea Minus +2° ... -8°C

Specially designed for difficult new snow at zero conditions. Mix with the soft fluor grip waxes or use as their base. Works well as a top coat for all fluor klister.



Few tips to determine the right thickness for a klister layer

New snow	always thin and even klister layer.
Fine grained snow:	thin and even klister layer.
Old fine grained snow:	medium klister layer, if the ski track is soft apply a thicker klister layer.
Coarse icy snow:	medium klister layer, coated with thin grip wax layer.

Klister Waxing

Klusters are used in conditions when hard waxes no longer provide adequate grip on wet, icy or coarse snow. The viscous and glue-like properties ensure that klusters adhere to the ski base better than hard waxes and also possess a better durability.

Klusters are always applied on a clean grip zone, never on top of an existing hard wax. The thickness of the kluster layer affects its functionality substantially. The thickness of the kluster layer is determined by the conditions, mainly snow type, temperature and the hardness of the track.

The functionality of a kluster can be enhanced by applying a coat of hard wax on top of the kluster or by using FoxGel coating.

A kluster waxing should be coated with a thin layer of grip wax in -3°C and colder coarse snow conditions. A thin hard wax coating keeps the kluster surface elastic and improves the grip while reducing

the kluster's tendency "to stick" in these conditions.

FoxGel coating improves the glide properties remarkably in heavy wet conditions with suction. It also improves the dirt resistance and retains the kluster's functionality over a longer distance.

Kluster waxing is easiest indoors on a dry room temperature ski. A shorter length can be used in the grip zone for a kluster in comparison to hard grip wax since the gripping properties of a kluster are substantially better than hard waxes.

Basecleaner



VFC74 Fluor Base Cleaner 100 ml

VFC75 Base Cleaner 150 ml

Totally innovative product for ski preparation. Oily, powerful but gentle product that does not contain solvents. Base cleaner that is also suitable for ski base preparation.

Use as a cleaner:

Spray Base Cleaner on the glide zones and leave it to work for around 2 minutes. Clean and dry glide zones with a fibre cloth.

Use a base preparation:

Lay skis horizontal, ski base facing upwards. Spray Base Cleaner on the glide zones and let it absorb for a while. Remove the excess and wax the skis normally.

Base cleaner is only used on glide zones, do not use it on grip zones.

Waxing Instructions to K Grip Wax Series

<p>+3°C or warmer</p>	<p>Wet, new or fine grained snow</p>	<p>Apply a thin layer of Purple Fluor Klister as base, and a coat of Red F klister on top. Mix a few drops of Silver Plus F-klister to the top layer. Cool down and coat with FoxGel Wet.</p>
<p>+3°C or warmer</p>	<p>Old or coarse wet snow conditions.</p>	<p>Apply a thin layer of Purple Fluor Klister as a base, and a normal layer of Universal F klister on top. If the snow is coarse and wearing, use Blue F Klister as a base and fluor-free Universal klister on the top. Add a thin coating of Grip Powder.</p>
<p>+3°...+1°C</p>	<p>Sleet, old or manmade snow</p>	<p>Blue fluor Klister as a base, K9 Grip wax on the top, and coat with grip powder or FoxGel Wet.</p>
<p>+1°...0°C</p>	<p>Thaw snow</p>	<p>Iron in a thin layer of Base Wax Super, add K9 grip wax on the warm base wax. If necessary, coat with grip powder or FoxGel Wet.</p>
<p>+1°...0°C</p>	<p>Old or man-made snow</p>	<p>Iron in a thin layer of Blue F-Klister, add K9 grip wax on the warm base wax. Cool down outside, add another thin even layer of K9, and smooth with hand strokes. If necessary, coat with grip powder or FoxGel Wet.</p>
<p>-1°...-2°C</p>	<p>New snow</p>	<p>Add a thin even layer of Base Wax AT. Add a layer of K15 to warm K Base. Cool down skis, coat with 1-2 layers of K15 grip</p>
<p>-1°...-2°C</p>	<p>Old, coarse or manmade snow</p>	<p>Iron in layer of K base. Add two to three coats of K12. If the snow is very wet, first add 3-4 drops of Blue klister into the K-Base, and coating as above with K12 grip wax.</p>

Waxing Instructions to K Grip Wax Series

-2°...-7°C	New snow	Add a thin even layer of Base Wax AT. Cool down and apply 2-3 thin layers of K15.
-2°...-7°C	Old or manmade snow	Iron in a thin layer of K Base. Add a layer of K15 to warm K Base. Take the skis outside, once cooled off add 2-3 thin layers of K15. Coat with K18.
-2°...-7°C	Coarse snow	Iron in a moderate layer of K Base. Add a thin layer K15 on a warm K Base. Take the skis outside, once cooled off add 2-3 layers of K18 grip wax.
-6°...-12°C	New snow	Add a layer of K18 grip wax as a base layer. Smooth the base layer well. Add a layer of K19, smooth lightly. Take the skis outside, once cooled off add 2-3 layers of K19 grip wax, smooth the layers with divi cork.
-12°...-20°C	New snow	Iron a thin layer of AT Base Wax, so that only a slightly visible sticky layer is left on the base. Add a layer of K19 to a warm grip zone, smooth lightly. Take the skis outside, add 1-2 thin layers of K19, smooth between layers. Add a thin layer of K21 grip wax, and coat with a grip powder.
-7°...-20°C	Old or manmade snow	Iron a thin layer of Base Wax Super Add a layer K18 on a warm K Base. Take the skis outside, once cooled off add a layer K19. Coat with a thin layer of K21.
-7°...-20°C	Coarse snow	Iron a layer of K Base. Add a layer K18 on a warm K Base. Take the skis outside, once the skis have cooled off add another two layers of K19.

Look more waxing instruction from the new wax machine in www.vauhti.com

Accessories

Wax Remover



V705
0,25 l



V710
0,5 l



V720
1 l

Brushes



01010
Nylon Brush Small



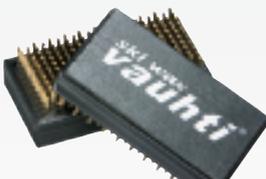
01020
Nylon Brush Large



01035
Nylon / Brass Brush



01040
Powder Brush



01050
Brass Brush



01025
Finishing Brush



01060
Steel Brush



01071
Roto brush, horse hair



01070
Roto brush

Corks



00920

Natural Cork



00910

Synthetic Cork

Ski Clips



01511

Ski Clips



01510

Ski holder

Scrapers



00810 3 mm

00820 5 mm

00830 Viisto

00840 Snowboard

00850 Steel

Cloths



00960

Fibertex Cloth



00970

Teflon Cloth



00950

Fibre Cloth

Other Products



V1000
Wax Iron 1000W



V850
Wax Iron 850W



01370
Wax Pox Large



01522
Thermo Drink Bottle



01610
Wax Apron

Hats



01181
Flower Green



01182
Flower Pink



01183
Flower White



01184
Flower Turquoise



01116
Flag



01116
Flag



01188
Black Rib



01117
White



01118
Black



01119
Blue



01110
Lykra Black

Gloves



01741
Thermo Lady, Pink



01742
Thermo Lady, White



01750
Thermo Lady, Black



01751
Thermo, Blue



01750
Thermo, Black



01720
Basic, Black



01730
Race, Black



01760
Ski Mitten, Black



01770
Lobster, Black



01780
Mitten, Black

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