



ALPINE SKI & SNOWBOARD PREPARATION RACING

swix

Swix wax and the environment

Ski wax, occupational health and the environment

- Swix is driving the wax industry in a greener direction by developing and adapting new and more environmental friendly technology
- Swix is continuously working to minimize the environmental footprint in all steps of the value chain; from production all the way to the consumer
- Swix is focusing on developing safe products and giving the consumer recommendations on personal protective equipment if needed. We are actively supporting regulatory authorities in their efforts to improve environment and human health

Swix is providing the customer a full range of products and the possibility to choose from performance products, *including non fluorinated alternatives*, in all categories.

Swix products are always according to laws and regulations.

Do you want to know more about Swix and our environmental work?
Check out swixsport.com - Environment

WE CARE

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This manual is made for racers and people who demand the absolute best performance from their skis and snowboards.

The information in this booklet is based upon feed back from our highly successful 2017-18 World Cup Racing Service Team. Swix takes part in the most important competitions with our own test team and service people. Testing and product development is done together with the ski and snowboard factories and their service technicians leading to new and better products.

COVER:
KJETIL JANSRUD, NORWAY
Photo: NTB scanpix



Telenor is the main sponsor of Kjetil Jansrud and the Norwegian Alpine Team.

Photo: Bård Ege/SwixSport.com/NTB scanpix

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Structure

When the base of a snowboard or ski has a certain surface structure, or texture pattern, the gliding performance is improved compared to a completely smooth base surface.

Prior to setting edge angles on a ski/board (new or old) it is a good idea to have them ground so we are starting with a truly flat edge. It is important to realize that even new skis are not always flat. Stone-grinding will secure a flat base. You can at the same time choose a preferred structure for the conditions the skis are most likely to be used.

It is impossible to classify the infinitely variable types of snow and the unlimited number of possible structure patterns. However the three most common structure types are:

- Linear structures
- Cross structures
- Broken structures

Structure Patterns

Today almost all base structure patterns are created by the stone grinding process. Stone grinding machines have become amazingly sophisticated. The ability to control grinding parameters, and to duplicate specific structure patterns has greatly improved.

LINEAR STRUCTURES

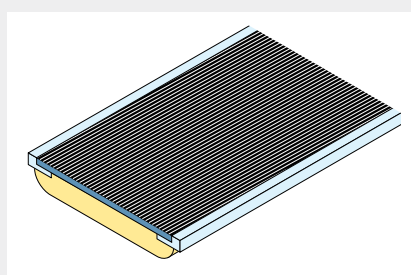
Fine Linear structures work well for colder, drier snow conditions.

CROSS-STRUCTURES

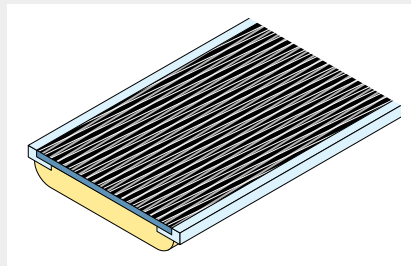
The most often used structures are diagonal structures, stone-ground to cross type structures. They work better for snow with medium to higher moisture content and coarse snow crystals. This structure has an optical diagonal banding appearance that runs at an angle across the base. Too deep, coarse structures will affect the turning ability.

BROKEN STRUCTURES

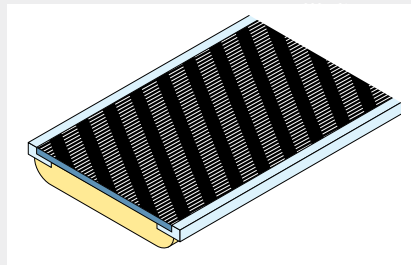
There are also numerous "broken" structure combinations produced by stone grinders or imprint tools. These vary in gliding property and turning ability.



LINEAR STRUCTURE



CROSS STRUCTURE



BROKEN STRUCTURE

Preparing edges on alpine skis

IN GENERAL

The set-up of the edges depends upon the type of ski, properties of the ski, usage of the ski, the skier's technical skills and the skier's ability to feel the kind of snow he/she is skiing on. The set-up of the edges must be adapted to each individual skier. The best results will be achieved through testing and experiencing different snow conditions. Both edge on each ski has to be treated equally and can be adjusted later when the skis have been tested on snow. To make sure that the skis perform perfectly on snow and ice, the edge has to be even and polished without scratches or other damage.

To ensure optimal gliding and ski-ability, the base-side edges has to be even with the base.

The right tools are important and practical for a good result. Top quality vises like the Swix T0149-50 is a good start, combined with other tools that will be mentioned later.

Keeping your workplace and tools clean is essential for best results. Procedures and the use of different tools are described step by step from page 39.

BASE-SIDE EDGES - PREPARATION AND FILING

All racing skis today use beveled edges.

This means that we give the base-side of the edge a certain fixed angle (see illustration page 6).

By beveling the edges, we get the following benefits:

- The edge has a slight angle to the surface and will carve more progressively.
- The ski will be easier to turn and control.
- Both edges of both skis will be less aggressive sideways towards the snow. The result will be less risk of catching an edge and losing control. This is very important, especially in speed events like Super-G and Downhill. In slalom, some racers prefer 0 degree beveling. This means the ski will be precise and feel more aggressive. This demands a stronger and more technically skilled racer. Tools that are used for base-side preparation are

Swix TA05N, Swix TA075N, Swix TA010N or Swix TA0520. (Read more about the tools on page 10.)

PLANING AND PREPARING THE SKIS SIDEWALLS

The sidewall of a ski normally has a thin plastic (sometimes aluminum) edge directly above the steel edge. This needs to be removed in order to do get the best results after filing on sidewall-side edges. By removing a small portion of this edge with a specialized planer, the risk of getting plastic in the file is reduced. This small plastic side-edge gives support to the steel edge and is important that it is removed gradually. There might be a thin sheet of metal above the steel edge on some skis. This is removed together with the plastic with the same tool. We recommend using a specially designed planer for this. The planer blade is either round or square. Swix TA100R (round) is normally used on skis with a cap construction, while the Swix TA100SB (square) is used on traditional sandwich constructions. Use the "panzer" file Swix T0108 to get a smooth and even surface on the sidewall. To finish off, use the fine Swix T0350 silicone-carbide paper # 180 and Swix Fibertex T0264. This work is done exclusively on the sidewalls and not on the steel edges.

FILING AND PREPARING SIDEWALL-SIDE EDGES

The sidewall-side of the steel edges are also beveled to give better grip on hard snow and ice. The sharper the angle between the sidewall-side and the base-side of the edge, the more "aggressive" the grip on the snow will be. This angle depends upon the following factors:

The ski's properties, the skill level of the skier, the skiing discipline (SL, GS, S-G or Downhill) and the type of snow. Kids and junior level skiers may use between 2 - 3 degrees, World Cup skiers up to 5 degrees. Tools for this use are Swix TA587, Swix TA687 and Swix TA3008/TA3007. (See illustration page 6.)

DEBURRING THE BASE-SIDE AND SIDEWALL-SIDE EDGES

There will always be small burrs after working with the file on the edges. To prevent the edge from getting dull because these burrs tend to break away the point of the angle causing the edges to become dull sooner. By using the Swix coarse diamond stone Swix TAA200N/TAA100N or the Swix rubber stone, Swix T0995, these small burrs are easily removed. (See page 41.)

DAILY MAINTENANCE

Small adjustments and improvements can be obtained by polishing the edges. Edges that are polished are faster, sharper and will stay sharper longer.

Polishing the edges after each day so that the skis are ready for the next day, means less time is spent on maintenance. On icy conditions, it could be necessary to bring a file holder for the sidewall-side edge with a diamond stone to polish the edges between each run.

Polish back and forth along the steel-edge (see illustration #4 page 44). Next, the base-side of the edge is polished (see illustration #6 page 41).

If this is not enough to make the edges sharp, a new base prep with filing is needed. Do as described earlier. Finish of the new base prep by polishing the edges with a stone.

DETUNING AND ADJUSTING STEEL EDGES

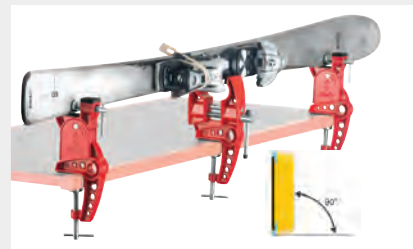
To get the full benefit of modern skis, it is recommended that the skis are sharp across the full length of the edge. This ensures a good carve from the tip to the tail of the ski. On steep slopes, a little extra pressure on the tip will make the ski start the turn more easily. To achieve this, the tip needs to be sharp. Likewise, a little extra pressure on the tail at the end of the turn makes the transition into the next turn easier and faster. If the skis feels too aggressive into the turn or it is difficult to finish the turn, try either of the following.

First, choose 0.5 degree more beveling of the base-side of the edge or if this is not enough, use the Swix rubber stone Swix T0992 or Swix T0994 to gently dull the edge. Put the rubber stone on the edge and move it back and forth. A little bit at a time (5 cm). Up to 25 - 35 cm from the tip, backwards and up to 5 cm on the tail.



WORLD CUP SKI VISE (T0149-50)

Swix three piece vise with wider jaws 50 mm for better grip and stability when working on carving skis and radial alpine skis. 40 mm to 95 mm.



EVO Pro Edge Tuner

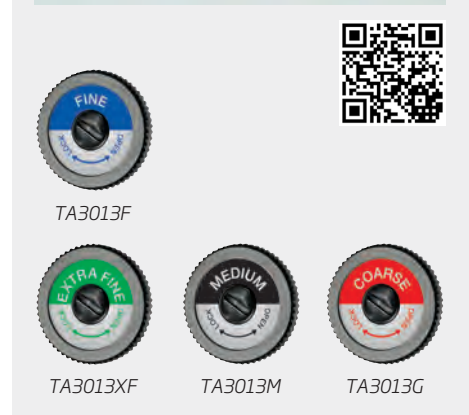
Swix Evo Pro Edge tuner is a high precision electrical side edge tuner, developed to restore, maintain and to give the edge a World Cup finish.

The EVO is very easy to operate, due to its ergonomically design, quick disc change and easy angle set-up. A key is also that the long lasting diamond disc is independent from the user pressure, as it is attached to a spring, making it impossible to mistakenly change the radius of the ski.

The EVO is equipped with a high quality diamond disc, and by using a diamond material, the edge becomes harder and more durable. This ensures enhanced performance, especially on ice and artificially snow.

The EVO comes with a FINE polishing disc included. As spare parts COARSE, MEDIUM, FINE and EXTRA FINE are available.

TA3012-110, 110 Volt.
TA3012-220, 220 Volt.



TREATING SCRATCHES AND DAMAGED STEEL EDGES

If an edge has hit a rock, this can temper the steel edge. These areas need to be removed with a stone such as the Swix TO240 before you can continue with a file. If this is not done, the file will "skid" over the hardened area, resulting in a damaged file and uneven sharpening of the edge. Removing the damaged area is necessary and easy, using the Swix TO240 stone. After removing the area with the Swix TO240 stone, filing the edge can continue and it will be much easier. (See illustration #4 page 37.)

HERE ARE SOME GENERAL GUIDELINES USED ON THE WORLD CUP:

SL base edge = 0 to 1 degree bevel

GS base edge = 0.5 to 1 degree bevel

SG base edge = 0.5 to 1 degree bevel

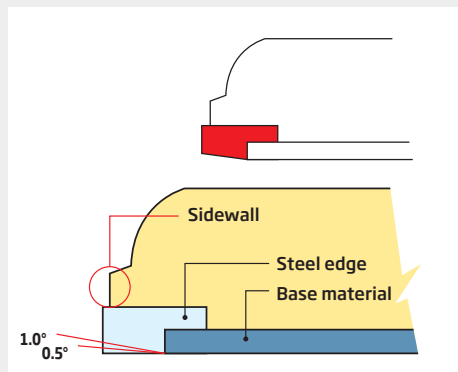
DH base edge = 0.5 to 1 degree bevel

SL sidewall-side edge = 3 to 5 degree bevel

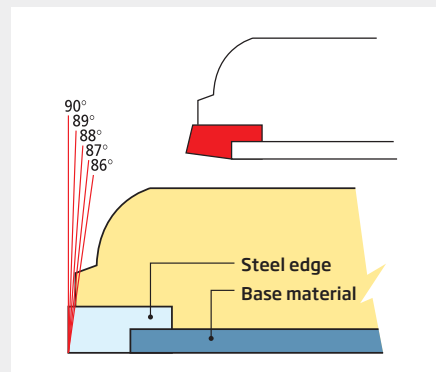
GS sidewall-side edge = 3 degree bevel

SG sidewall-side edge = 3 degree bevel

DH sidewall-side edge = 3 degree bevel



Base Edge Bevel - Usually 0.5 to 1 degree.



Side Edge Bevel.

Preparing edges on snowboards

IN GENERAL

The set-up of the edges depends upon the type of board, properties of the board, usage of the board, the snowboarder's technical skills and the ability to feel the kind of snow he/she is on. The set-up of the edges must be adapted to each individual. The best results will be achieved through testing and experiencing different snow conditions. Both edges of the snowboard should be treated equally and can be adjusted later when the board has been tested on snow. To make sure that the board performs perfectly on snow and ice, the edge has to be even and polished without scratches or other damage. If the board has been used on rails, the edge could be tempered and almost impossible to file. In this case, stone grinding is highly recommended. To ensure optimal glide and to benefit from the properties of the board, the base-side edges has to be even with the base. If the base of the board is not completely flat, a qualified technician can do this with a good stone grinding machine. The right tools are important and practical for a good result. Top quality snowboard-vises like the Swix SB031NO are a good start in combination with other tools. This will be mentioned later. Keeping your work place and tools clean is essential for the best results. Procedures and the use of different tools are described step by step from page 39.

BASE-SIDE EDGES - PREPARATION AND FILING

To make the snowboard easy to use, the edge has to be beveled. This means that we give the base-side of the edge a certain, fixed angle (see illustration page 6).

By beveling the edges, will give the following benefits:

- The edge has a slight angle to the surface and will carve more progressively.
- The board will be easier to turn and control.
- The edge will be less aggressive sideways towards the snow. The result will be less risk of

catching an edge and losing control. This is very important.

- Rotations will feel easier and the ride will have a better flow.

Tools that are used for preparing the base-side edges are Swix TA05N, Swix TA075N, Swix TA010N or Swix TA0520.

PLANING AND PREPARING THE BOARDS SIDEWALLS

The sidewall of a snowboard normally has a thin plastic directly above the steel edge. This needs to be removed in order to do get the best results after filing on sidewall-side edges. By removing a small portion of this edge with a specialized planer, the risk of getting plastic in the files is reduced. This small plastic side-edge gives support to the steel edge and it is important that it is removed gradually. There may be a thin sheet of metal above the steel edge on some snowboards, This is removed together with the plastic with the same tool. We recommend using the specially designed planer for this. The planer blade is either round or square. Swix TA100R (round) is normally used on boards with a cap construction, while the Swix TA100SB (square) is used on traditional sandwich constructions. Use the "panzer" file Swix T0108 to get a smooth and even surface on the sidewall. To finish off, use a fine Swix T0350 silicone-carbide paper # 180 and Swix Fibertex T0264. This is exclusively done on the sidewalls and not on the steel edges. (See illustration page 41.)

FILING AND PREPARING THE SIDEWALL-SIDE EDGES

The sidewall-side of the steel edge is also beveled to give better grip on hard snow and ice. The sharper the angle between the sidewall-side and the base-side of the edge, the more "aggressive" the grip on the snow will be.

Normally 2 - 3 degrees are used. Tools for this use are Swix TA587, Swix TA687 and Swix TA3008/TA3007. (See pictures page 10.)

DEBURRING THE BASE-SIDE AND SIDEWALL-SIDE EDGES

There will always be small burrs after working with the file on the edges. To prevent the edge from getting dull because these burrs tend to break away the point of the angle causing the edges to become dull sooner. By using the Swix coarse diamond stone Swix TAA200N or the Swix rubber stone, Swix T0995, these small burrs are easily removed. (See page 41.)

DAILY MAINTENANCE

Small adjustments and improvements can be obtained by polishing the edges. Edges that are polished are faster, sharper and will stay sharper longer.

Polishing the edges after each day so that the board is ready for the next day, means less time is spent on maintenance. On icy conditions, it could be necessary to bring a file holder for the side-wall-side edge with a diamond stone to polish the edges between each run.

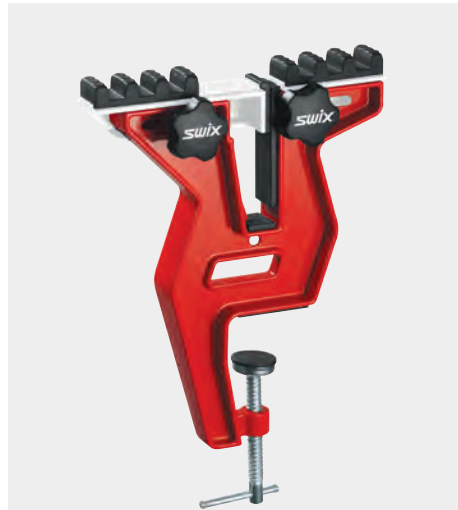
Polish back and forth along the steel-edge (see illustration #4 page 44). Next, the base-side of the edge is polished (see illustration #6 page 41).

If this is not enough to make the edges sharp, a new base prep is needed. Do as described earlier. Finish of the new base prep by polishing the edges.

DETUNING AND ADJUSTING STEEL EDGES

To get the full benefit of modern boards, it is recommended that the edges are sharp across the full length of the edge. This ensures a good carve from the tip to the tail of the board. On steep slopes, a little extra pressure on the nose will start the turn more easily. To achieve this, the nose needs to be sharp. If the board feels too aggressive into the turn or it is difficult to finish the turn, (the same thing also happens when you are in the halfpipe), try either of the following.

First, choose 0.5 degree more beveling of the base-side of the edge or if this is not enough, use the Swix rubber stone Swix T0992 or Swix T0994 to gently dull the edge. Put the rubber stone on the edge and move it back and forth. A little bit at the time (5 cm). Up to 25 - 30 cm from the nose and backwards and up to 25-30 cm on the tail.



PRO SNOWBOARD VISE (SB031)

Adjustable width for better stability. Fixed when working on side edges. Keeps the board in horizontal position based upon friction.



TREATING SCRATCHES AND DAMAGED STEEL EDGES

If an edge has hit a rock, this can temper the steel edge. These areas need to be removed with a stone such as the Swix T0240 before you can continue with a file. If this is not done, the file will "skid" over the hardened area, resulting in a damaged file and uneven sharpening of the edge. Removing the damaged area is necessary and easy, using the Swix T0240 stone. After removing the area with the Swix T0240 stone, filing the edge can continue and it will be much easier. (See illustration #4 page 39.)



COMPACT ECONOMY WAXING TABLE

(T00754)

Table top: 96 x 45 cm.

COMPACT AND COMFORTABLE POCKET

SCREW DRIVER (SB102NO)

EDGE PREPARATION PRODUCTS

The Swix File & Stone Product group is designed specifically for edge work on skis and snowboards. The files' details such as chroming hardness and thickness, cutting tooth angle, depth, and teeth per centimeter, all are based upon expert advice from World Cup technicians and file producers. The line of stones is to-the-point to get the job done accurately and without confusion.



World cup base edge file holders

Precise and light weight. Stainless steel all the way. No plastic. No parts to be replaced. The most precise Base Edge File Holder on the market. 0.5° (TA05N), 0.75° (TA075N), 1° (TA10N), 1.5° (TA15N), 2° (TA20N)



Professional Base-Edge Bevel File Sleeves

0.5° (TA005N), 0.75° (TA0075N), 1° (TA010N)



Adjustable Base Edge File Holder (TA0520)

0.5° to 1.5°.



Sidewall Cutter Aluminium (TA104)



World cup side edge file guide with stainless steel plate

- for skis and snowboards.
88° (TA688N), 87° (TA687N), 86° (TA686N), 85° (TA685N)



Swix Phantom R Edge File Holder (TA3008)

Economy edge sharpener with rollers and 80 mm file. Easy adjustment from 85 to 90 degrees. Ergonomic, longer holder for stability and good grip. Protects the hand. Takes files and stones up to 6 mm thickness. Easy tightening of files.



Ski brake retainers (T0165)

RACING PROFESSIONAL FILES

The Swix file program offers specialized files of the highest quality. The files are made to our own specifications to meet the demands of World Cup Service Technicians.



WC Racing Pro Fine File (T0103X100B)

4"/100 mm. 17 Tpi. Stainless steel. Extremely sharp fine high quality file for edge geometry set up. New generation of files that reduces the need for second use of files for finish. Lasts 10 times as long as regular files.



WC Racing Pro Medium File (T0102X100B)

4"/100 mm. 13 Tpi. Stainless steel. Extremely sharp high quality file for edge geometry set up. New generation of files that reduces the need for second use of files for finish. Lasts 10 times as long as regular files.



Racing Pro Fine File (T104RSC)

4"/100 mm. 16 tpcm. Sharp. Non chromed.



Racing Pro 2nd Cut File (T106RSC)

4"/100 mm. 13 tpcm. Sharp. Non chromed.



Racing Pro Bastard File (T107RSC)

4"/100 mm. 10 tpcm. Sharp. Non chromed.



Swix Fine File (T104X)

6"/15 cm. 20 tpcm, fine cut. Chromed Finishing File. Durable.



Swix 2nd Cut File (T106X)

8"/20 cm. 16 tpcm. Chromed all purpose file. Best all round shop/consumer file produced by Swix. Side beveling, base beveling set up before diamond work. Durable beyond all other files offered. A retail must for consumers.



Bastard File (T107X)

8"/20 cm. 13 tpcm. Chromed Bastard removal/setup file. Best file for setting side angle. Non-tang files offer a truer, flatter file for exact degree application. Best file for initial side bevel.



Specially designed Panzer file (T0108X)

12"/30 cm anti-rust treated file. Coarse, 13 tpi. Perfect for removing excess base material after repair. Can also be mounted to the waxing table for sharpening acrylic scrapers.

STONES

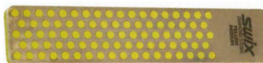
Diamond Files offer the special option of having the cutting ability of a file and the deburring and polishing ability of a stone all in one tool. The Diamond Files are perfect to carry in the pocket for quick removal of the fines burrs created on the edge when ski or riding on aggressive man-made snow. Just a couple of quick passes with the Diamond File on the side-edge will cut away the burrs for smoother turning. Will fit into the Swix file holders for the most accurate results.



SWIX/DMT Diamond Stone (TDM200)

Red Coarse, 100 mm.

A deburring and maintenance diamond stone. One of two stones that can do it all, deburr and sharpen.



SWIX/DMT Diamond Stone (TDM400)

Yellow Medium, 100 mm.

The Medium stone maintains a smooth edge. This is your 2nd "must have" stone.



SWIX/DMT Diamond Stone (TDM600)

White Fine, 100 mm.

Great stone for finishing all skis.



Diamond Stone (TAA100N)

X-Coarse 100 grit. Deburring and sharpening diamond stone. Works great for removing case hardening in the tip and tail from grinding stone entry and exit of the ski at the manufacturing facility, and from hitting rocks. 100 mm.



Diamond Stone (TAA200N)

Coarse 200 grit. Deburring and maintenance stone. One of two stones that can do it all in the diamond category. Works great for maintaining sharpness and smoothness. 100 mm.



Diamond Stone (TAA400NN)

Medium 400 grit. 2nd in your must have diamonds to maintain a smooth and sharp edge. Starts to bring out that high polish shine. 100 mm.



Diamond Stone (TAA600N)

Fine 600 grit. 100 mm.



Diamond Stone (TAA1000N)

X-Fine 1000 grit. Final diamond polish when looking for that mirror finish. Extremely exact edge accuracy. Used on alpine skis to achieve that super smooth finish. 100 mm.

GUMMY & CERAMIC STONES

Gummy Stones are an efficient way to detune (slightly dull) the tip and tail area, and to remove micro-burrs from filing. Ceramic Stones offer that final polish that will help maintain the ski edge geometry.



Gummy Stone (T0992)

Soft, for prepping and de-tuning tips and tails.



Ceramic Stone Fine (T0998)

For final polishing of the edge.



Gummy Stone (T0994)

A hard gummy for polishing and light to medium edge clean up. Can be used after filing to remove micro burrs.



Pocket stone (T0240)

Fine and coarse. Coarse side for removing hardened steel and burrs after hitting rocks. Fine side for polishing after use of file.



Gummy Stone (T0995)

Extra hard. Used after filing to remove micro burrs.



Photo: REUTERS/Dominic Ebenbacher
Telenor is the main sponsor of Aksel Lund Svindal and the Norwegian Alpine Team.

Base brushing

The Swix brush programme in general

The Swix Brush Program is subject to continuous development based on feedback from the Swix Racing Service Department that serves World Cup technicians, athletes, and teams throughout each season. As a result, Swix customers are guaranteed the highest quality products taking into account the latest developments and methods of World Cup technicians.

Swix Brushes are divided into three main categories of use, plus the economy line.

- The Swix "Pre-Wax" Brushes are designed to use before waxing for base restoration ("freshening") by removing the burnish and oxidization from the base surface, and brushing old wax out of the structures (base patterns) in ski and snowboard bases to clean and "open" the base for better wax absorption.
- The Swix "Post-Wax" Brushes are for use after waxing and scraping to brush the wax out of the base patterns. To many, these brushes are the most important. The base must be waxed, yet the structure patterns must also be revealed to minimize friction. The brushes in this category are designed to be efficient at removing wax but gentle enough to not have a base scratching effect.
- The Swix "Cera F" Brushes have the purpose of "application brushing" and final finish brushing. Professional technicians reserve these brushes just for use with Cera F so the final waxing result cannot be compromised with wax other than Cera F.



For each of these categories the Swix brushes are carefully selected with special qualities in mind. Swix selects not only the specific material for each purpose, but also the certain length of each fiber, a certain thickness and stiffness for each fiber, and lastly, the bristle density. By specifying the characteristics thoroughly, each of the Swix brushes has its own "personality" and fulfils a specific purpose.

Most of the Swix brushes come in two sizes. The smaller rectangular are easy in use and convenient when travelling. The larger oval brushes are suited for efficiency and comfort when preparing multiple skis.

Brushes after waxing and scraping

T0179B/T01790 Steel Brush (or T0162B/T01620 Bronze Brush)

A medium coarse steel or bronze brush to use after waxing and scraping. 10-12 strokes. Can also be used before waxing to clean and "open" the base.

T0160B/T01600 Blue Nylon Brush

A fine soft nylon brush for polishing. 4-5 strokes.

T0191B Steel Brush Ultra Fine

An ultra fine steel brush for renewal and cleaning of bases. Also used as second brush on wax.

Brushes for Cera F Powder

T0194B/T01940 Stiff Nylon Brush

For "brush up" (not away) of Cera F powder after ironing (and before ironing FC7 and FC0078 the second time). 4-5 strokes back and forth.

T0157B/T01570 Horsehair Brush (or T0164B/T01640 Wild Boar Brush)

Second brush on Cera F powder. An "animal" brush for brushing powder away. 10-12 strokes.

It is recommended to use separate brushes for the waxes from the brushes used for Cera F.

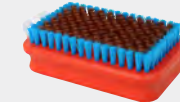
Wax Brushes



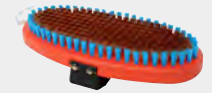
T0179B WAX ①



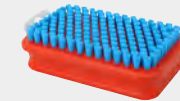
T01790 WAX ①



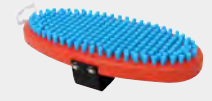
T0162B WAX ①



T01620 WAX ①



T0160B FINNISH



T01600 FINNISH



T0191B WAX ②



Cera F Brushes



T0194B CERA F ①



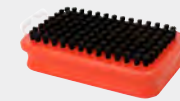
T01940 CERA F ①



T0164B CERA F ②



T01640 CERA F ②



T0157B CERA F ②



T01570 CERA F ②



ROTO BRUSH PROGRAM

Use of a Roto Brush is a great way to save time when there are many skis or boards to prepare. For club team racers where coaches and parents are preparing the skis for the entire team, a Roto Brush is almost a necessity. Even many top level technicians will use Roto Brushes for initial brushing after scraping, and then usually finish with hand brushing. Also Roto-Fleece is often the preferred way to apply Cera F Powder, Solids and Liquid.

RPMs from about 1000 to 2000 are used for brushing.

T0016M Horsehair

The initial brush on all waxes. Used on regular waxes and Cera F. (Do not use the same brush on regular wax and Cera F.) 100 mm wide.

T0016P Wild boar brush

Special first brush for wax on alpine skis. 100 mm wide.

T0017W White or Blue Nylon

Polish brush for wax and Cera F. Also preferred by some as "all round" brush. 100 mm wide.

T0018F-2 Fleece

The Roto-Fleece improves Cera F performance. Apply the Cera powder to the base with a wax iron first. The Roto-Fleece should be used a couple of times to get optimal performance. NB! Use separate Fleece brushes for each type of Cera F. 100 mm wide.

T0014HPS-2

Handle with 100 mm driveshaft and protection cover.



NOTE!

- Always use safety glasses when roto-brushing.
- Use the Protective Cover (T0012PS) to avoid getting wax particles and powder in the face.
- Don't press too hard, let the brush do the work!
- Brush from tip to tail with the brush rotation throwing the wax particles towards the tail.

Factors influencing waxing

Temperature

The temperatures shown on the Swix wax products are air temperatures in the shadow. Taking a reading of the air temperature in the shade is the first basic starting point for wax selection. This should be done at several points along the course especially keeping in mind where the most critical point is, such as a flat section. Snow temperature at the surface can also be helpful. But remember that once the temperature reaches the freezing point (0°C or 32°F), snow will remain at that temperature regardless of rising air temperature. At this point it is best to use air temperatures and focus on the proper steps for dealing with the increased water content of the snow.

Humidity

Humidity is important, but more as a local climate trend rather than a need to measure every percentile. It is important to know if the competition is taking place in a dry climate, meaning average humidity below 50%; a normal climate of 50% to 80%, or a high humidity climate 80% to 100%. Beyond this, of course, is adjusting to the situation of falling precipitation.

Snow Granulation

The appearance of the snow crystal and consequent snow surface is important for wax selection. Falling, or very fresh new fallen snow is the most critical situation for waxing. The sharp crystals require a wax that will resist snow crystal penetration, but at warmer temperatures must also have the ability to repel water. It is in this special, critical waxing situation that Cera F excels.

Man-made snow is today the most common snow in racing situations. Freshly made snow at cold temperature definitely require the addition of synthetic paraffin such as with CH04X, LF04X, HF04X and CH06X, LF06X, and HF06X. After man-made snow has "settled" for some days and the surrounding atmosphere has affected the

snow surface, the gliding characteristics of the snow improve and normal waxing considerations return.

At rising air temperatures above 0°C (32°F) the snow temperature still remains at 0°C (32°F). The water surrounding the snow crystals increases until the snow pack becomes saturated with water. Waxes that are highly water repellent and coarse base structures are needed.

Snow Friction

The friction on ice and snow is a mixed friction. It means that it is neither a true dry friction nor a true fluid friction. The contact is partly dry, partly wet. At very low temperatures the frictional mechanisms gradually might be described by laws governing dry friction.

At intermediate freezing temperatures, around -4°C to -10°C (25°F to 14°F), the water film between the frictional partners has the optimal thickness to create low kinetic friction.

Approaching the freezing point, the water film increases in thickness, and when conditions for melting is present, free water enters the system.

The contact area between ski and snow increases and the friction will increase. Suction gradually builds up as the amount of water increases.

Waxing and personal protection level

Swix has a wide product range. Within the two main categories "kick" and "glide" we offer products for world cup athletes as well as recreational skiers, and all levels in-between. You can choose between products according to your needs and waxing competence level. "Swix School" provides easy access to how to apply the products.

The majority of our products do not require any special precautions. This goes for all products in the "kick" category such as hard waxes and klusters. The only "kick" products where we recommend some precaution are liquid products on aerosol bottles, which preferably should be applied outside or in a ventilated room. The same precaution is recommended for our aerosol liquids within the "glide" category.

Make sure that the waxing facility is well ventilated.



Ventilated wax bench recommended by SWIX

This solution will improve indoor air quality:

- Air channel that gives controlled airflow and pre-warmed fresh air in the box.
- The air channel makes it possible to have the waxing in a controlled room with good working conditions.
- Collects and dispenses of polluted air.
- Is set up for balanced ventilation.
- Can be connected to existing ventilation.
- Adjustable height for top part.
- Needed air space 200m³.
- Easy to transport between different venues and events.



Pro Mask with fan (T40-MASK)

Professional protection system that protects against vapor and dust related to ski waxing. The system comes ready to use with two combination filters for gas and particles. We recommend to replace filters minimum once before, and halfway through the skiing season. Occupational waxers should replace filters every month.

The system includes a full face mask, hosing, and a belt with a battery driven ventilation unit.

The combination filters have protection level: A2B2E2K2P3.



T40-MASK

Economy Mask with replaceable filter (T42-MASK)

Economy mask that gives great protection against particles and vapor related to ski waxing. There are two filters included (gas and particles) that should be combined for the best protection. Filters should minimum be replaced once a year. For serious waxers we recommend an additional exchange during the skiing season.

The package included the mask, a storage box and two filters. They have protection level: Gas: ABEK1. Particles: P3 R.

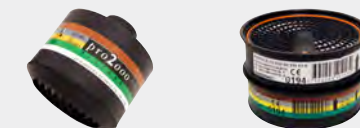


T42-MASK

Spare filters for Pro Mask (T40-2F)

The kit includes two combination filters (gas and particles) for T40-MASK. We recommend to replace both filters minimum once before, and halfway through the skiing season. Occupational waxers should replace filters every month.

The combination filters have protection level: A2B2E2K2P3.



T40-2F

T42-2F

Filters for Economy Mask T42-MASK (T42-2F)

The kit contains both gas and particle filters for T42-MASK, that should be combined for the best protection. Filters should minimum be replaced once a year. For serious waxers we recommend an additional exchange during the skiing season.

Filters have protection level: Gas: ABEK1. Particles: P3 R.

If you use a mask from other vendors, make sure it's that the protection level is minimum A2 (solvent/aerosols) and P3 (particles).

For all masks, note the expiry date and make sure that you follow the cleaning and storage instructions on the packaging/packing insert.

swix ceranova[®]

HIGH PERFORMANCE GLIDEWAX

FC 1



-12°C/-32°C -8°C/-14°C -5°C/-10°C -2°C/-8°C -4°C/4°C 0°C/10°C



BW 2



HF 3



LF 4



CH 5



swix ceranova[®]

THE STORY

Over 19 years ago, one year after the 1994 Winter Olympics in Lillehammer, Swix launched the Cera Nova wax system. This was a result of comprehensive testing performed before and during the Olympics that made it possible to put together a unique and logical wax system based on four different temperature ranges. Ranging from hydrocarbon- to high fluor waxes, the Cera Nova System covered all the needs of a serious skier for both training and high-level competition. By its intuitive build up, the skier could easily find the right choice for their needs within the range. For the first time, Alpine and Nordic (both for skating and classic) skiing were under one unique wax system.

Since that launch, Cera Nova has been the best selling wax system in the world. Its popularity stretches from World Cup Racing Service Technicians to skiing enthusiast. The system has been the recipe of success in all major championships over the last two decades and anchored by our famous Cera F, the wax that has won more Olympic and World Championship medals than any other wax in the world.

Over the years the system has been through several updates and modifications, all necessary in order to keep up with the advancement of raw materials, synthesis of fluoro and the development within waxing, in order to maintain the undisputed position as the world's best wax system.

Even with this successful history, Swix decided to launch a new wax project 3 years ago. The total Project Team was comprised of over 20 members ranging from Product Developers, Scientist from R&D, World Cup Racing Service Teams, and wax technicians from around the world. The mission was clear, we didn't just want to introduce a few new waxes or make visual changes to the existing line, we wanted to completely renew the existing Cera Nova line, and the new project was given the name Cera Nova XI.

The project was divided into three sub projects: Testing, Packaging and Design. Among them, there was no doubt that discovering better performing wax

formulations was the biggest task. We wanted to challenge existing wax formulations in the Cera Nova system in order to evaluate and conclude if changes were required. To get the assessment basis for this job we performed over 800 clinical tests at major ski destinations all around the globe, in all temperature ranges, both for Nordic and alpine skiing. This was the one and only way of putting the old system to the ultimate test and it required a tremendous effort from our Racing Service team and our R&D department. In order to keep viable statistics as the basis of the project, we started off with an advanced test plan for everyone to follow. This was key to discovering which original waxes could stay in the system and which waxes required improvement. From the ski tunnel in Torsby (Sweden) to Sochi (Russia) and Canmore (Canada) our Racing team has delivered test reports in all kinds of snow conditions more or less throughout the whole year.

In addition to our internal testing, project test waxes have been tested on the World Cup circuit for the past two years. The close collaboration with the service men and their valuable test feedback has contributed as a quality assurance of our own internal testing.

In the history of Swix there has never been a similar test effort before. A huge number of glide tests have been performed, analyzed, and compiled into our massive database; all for the purpose of finding the small margins that make the whole difference.

During the spring of 2014 the first deliveries from the Cera Nova X will leave our production facilities at Lillehammer, Norway. Our production team is highly experienced, and every new wax leaving our production facility will be of outstanding quality. It will be filled in a new innovative package, which includes inner marking, stronger side support and a hinged lock.

With a complete new design expression, inspired by the X in our brand name, we believe the final product will meet the highest expectations from the market and set a new standard for ski wax during the next decade.

ENJOY SKIING WITH CERA NOVA X WAX - YOUR WINNING MARGIN!

SWIX Cera Nova X

Category 1: 100% Fluorocarbon

Cera F Powders

Cera F Powders – 100% fluorocarbon
Swix Cera F reigns as the glide wax of choice when there can be no compromise in performance. Exclusively formulated for all high quality skis and snowboards. Swix introduced the first Cera F wax to the market in 1987 creating a wax revolution.

These waxes have a unique combination of characteristics for providing:

- Very high degree of purity
- Very low surface tension
- Friction reducing lubricating power
- Exceptional water repellency
- High resistance to dirt and oils
- Chemical inertness and stability
- Thermal stability

In short, this means the fastest gliding for the longest duration due to the resistance of contamination from dirt/pollution in the snow being greater than regular paraffin waxes. Cera F Waxes do not contain CFC's and is not harmful to the environment.

It's highly recommended to have a good iron when working with powders. The speed of the iron should be approx. 4-6 sec. on a skating or alpine ski. The powder should be ironed once.



Safety reminder

Neither Cera F powder or its vapor from ironing should be exposed to temperatures above 300°C (570°F). Therefore avoid exposure to torches, heat guns, space heater, and cigarette smoking.

Recommended ironing temperatures for Cera F are approximately 160°C/165°C (320°F/330°F) which are far below the level for Cera F decomposition.

FC04X

Temperature range from -10°C to -20°C (14°F to -4°F).

Recommended iron temp: 165°C (329°F).

A cold powder that works great in all snow conditions and perfect to minimize dry friction. This powder is brand new for the Cera Nova X launch and well tested over the last few years. It has proven itself in cold conditions at world cup destinations both in cross country and alpine and is the servicemen's choice when the temperature drops low.

Suggested base waxes are HF04X, HF04BWX or LF04X.

FC05X

Temperature range from -3°C to -15°C (27°F to 5°F). Recommended iron temp: 160°C (320°F).

Identical to our traditional FC100 powder, a cold powder that has shown great results for many years, and an absolute winner in cold conditions. Tests have shown best results in transformed and old snow, but it can also be used with great result in new snow. Easy to apply with a lower melting point.

Suggested base waxes are HF05X, HF05BWX or LF05X.

FC06X

Temperature range from -1°C to -10°C (30°F to 14°F).

Recommended iron temp: 165°C (329°F).

A powder for new and fine-grained snow, but is also performing well in transformed snow. Developed for the Cera Nova X line and has shown great performance in tests over the last 3 years. Already a favorite among several servicemen. Lower melting point makes it easier to apply.

Suggested base waxes are HF06X, HF06BWX or LF06X.

FC07X

Temperature range from +2°C to -6°C (36°F to 21°F). Recommended iron temp: 160°C (320°F).

A powder developed for normal winter conditions from around freezing and colder. From the cold side this powder performs well until you have a "suction" feeling in the track, then the FC08X is a better choice.

Suggested base waxes are HF07X, HF07BWX or LF07X.

FC08X

Temperature range from -3°C to +4°C. (39°F to 25°F).

Recommended iron temp: 165°C (329°F).

Our classic and best selling FC08X powder is continued in the new line. A quite easy decision as we haven't found a better powder during our test period. It has just confirmed to us that this powder is performing extremely well, and is well deserved a spot in the new range. A versatile powder which performs well in all snow conditions on both sides of the freezing point. A safe choice that never disappoint you!

Suggested base waxes are HF08X, HF08BWX or LF08X.

FC10X

Temperature range from 0°C to +15°C (32°F to 59°F).

Recommended iron temp: 170°C (338°F).

A continuation of FC010X which is performing to well to be dropped in the new line. The strength of the powder is in wet conditions from 0°C (32°F) and warmer. Used a lot during spring season with melting snow or falling wet snow. It performs well in all snow conditions.

Suggested base waxes are HF10X, HF10BWX or LF10X.

FC0078 - Super Cera F Powder Old Snow

A special racing powder for transformed, old snow +10°C to -10°C (50°F to 14°F).

Used often in World Cup alpine because of high durability when man made snow.

Recommended base wax alternatives: HF05X, HF05BWX, HF06X, HF06BWX, HF07X, HF07BWX, HF08X, HF08BWX.

High melting point. Recommended iron setting 165°C (320°F) or higher. A quality iron is required to get a good result.

**Category 1:
100% Fluorocarbon**

Cera F Liquid

Swix Cera F Liquid products, HVC 2.0 and Rocket, are designed for use as the final layer when waxing for top-level competitions. Based on Cera F technology, Swix Cera F Liquids offer the same high performance quality as the Cera F Powder Waxes. It is based on pure Cera F, Fluorocarbons. Its liquid state guarantees a perfect distribution on the base.

HVC 2.0 is applied after brushing Cera F.

FC65L HVC 2.0 Cold

50 ml.
+2°C to -10°C (36°F to 14°F). Liquid topping wax for top racing with extraordinary gliding properties. Extremely easy to apply. Just distribute with the pump sprayer and polish gently with the included felt cork. No further brushing is required, so after application the skis are 100 % race ready. Apply either the day before or just before the race. The performance stays the same.

HVC 2.0 Cold works best in high humidity above 70 % and on top of Cera F powder, but it can also be used with great result on top of an HFX or LFX glide wax.

One bottle is enough for 6 pairs of alpine skis or snowboards.

FC85L HVC 2.0 Warm

50 ml.
-2°C to +10°C (28°F to 50°F). Liquid topping wax for top racing with extraordinary gliding properties. Extremely easy to apply. Just distribute with the pump sprayer and polish gently with the included felt cork. No further brushing is required, so after application the skis are 100 % race ready. Apply either the day before or just before the race. The performance stays the same.

HVC 2.0 Warm works best in high humidity on the cold side, but on the warm side it performs great even in lower humidity. The best result is achieved when used on top of Cera F powder,



but it can also be used in combination with an HFX or LFX glide wax with great result.

One bottle is enough for 6 pairs of alpine skis or snowboards.

FC6AC Cera F Cold Rocket Spray

70 ml.
Liquid fluorocarbon topping for colder conditions +2°C to -10°C (36°F to 14°F). Rocket Cold works best when high humidity.

Used on top of Cera F powder or mixed with the powder. Can also be used on top of HFX, HFBWX and LFX waxes with good results.

Less expensive than HVC 2.0.

FC8AC Cera F Cold Rocket Spray

70 ml.
Liquid fluorocarbon topping for -2°C to +10°C (28°F to 50°F). For transformed and fine grained snow.

Used on top of Cera F powder or mixed with the powder. Can also be used on top of HFX, HFBWX and LFX waxes with good results.

Less expensive than HVC 2.0.



Use of Cera F Liquid as the final layer will absolutely assure that there are no voids in the pure fluorocarbon wax layer resulting in the highest possible speed performance.

**Category 1:
100% Fluorocarbon**

Cera F Solid Turbo

Cera F Turbos are square sintered 20 g blocks of 100% Cera F Powders. The consistency of the blocks is designed so rub-on application is easier. The rub-on application also is an economical way to use Cera F. The Turbo Waxes are used as a “booster” over Cera F powder or Cera Nova X Glide Wax to get extra speed.

Great for on the hill application when you cannot return to the waxing room when competition require more than one run.

FC6XS Cera F Solid Cold Turbo

20 g.
+2°C to -15°C (36°F to 5°F). 100% fluorocarbon solid block. For all cold snow conditions. Used alone or as the final “accelerator” layer. Easy to apply.



FC8XS Cera F Solid Warm Turbo

20 g.
-2°C to +15°C (28°F to 59°F). 100% fluorocarbon solid block. Wide range covering all normal snow conditions. Excellent in wet and moist snow. Used alone or as the final “accelerator” layer. Easy to apply.

Category 2:

HFBWX Waxes

Swix BW (Black Wolf) Waxes contain solid lubricants as additives which gives advantages during

- Coarse grained snow
- Dirty snow
- Man-made snow
- Dry friction (very cold temps)

The BW additive has considerable lower coefficient of friction compared with previous additives. Has been tested on World Cup alpine and XC with excellent results.

HF04BWX

Temperature range from -12°C to -32°C (10°F to -25°F).

Recommended iron temp: 155°C (311°F).

A special wax for extreme cold conditions with BW solid lubricant additive that reduces the dry friction in very cold snow. HF04BWX can be used as a race wax alone or as a base for Cera F cold powder, such as FC04X.

HF05BWX

Temperature range from -8°C to -14°C (18°F to 7°F). Recommended iron temp: 150°C (311°F).

The 5 series fulfill a hardness gap between the 4 and the 6 series. It was a demand from alpine and has been used with great success in World Cup over the last seasons. The lower melting point compared to the 4 series makes it easier to work with, without sacrificing the good glide properties in cold conditions.

The BW solid lubricant additive reduces friction when very cold snow and dry friction conditions. HF05BWX can be used as a race wax alone or as a base for Cera F powder, such as FC05X.

HF06BWX

Temperature range from -5°C to -10°C (23°F to 14°F). Recommended iron temp: 145°C (293°F).

The BW solid lubricant additive reduces the friction in cold conditions and in contaminated snow. It's a very popular wax both in alpine and cross country and has shown good properties on artificial snow in addition to natural, transformed older snow.

HF06BWX can be used as a race wax alone, but is often used as a base for Cera F powder, such as FC06X.



HF07BWX

Temperature range from -2°C to -8°C (28°F to 18°F). Recommended iron temp: 140°C (284°F).

A versatile wax suited for normal winter conditions below the freezing point. Its hardness makes it convenient to work with and easy to get a good end-result. The BW solid lubricant additive reduces the friction in cold conditions and in contaminated snow. It's a very popular wax both in alpine and cross country and has shown good properties on artificial snow in addition to natural, transformed older snow.

HF07BWX can be used as a race wax alone, but is often used as a base for Cera F powder, such as FC07X.

HF08BWX

Temperature range from -4°C to 4°C (25°F to 39°F). Recommended iron temp: 130°C (266°F).

The BW solid lubricant additive reduces the friction in contaminated snow. The adjusted hardness makes the wax more durable and absorbs less dirt. Excellent results in artificial snow as well as natural transformed older snow, especially noticeable when used alone.

HF08BWX can be used as a race wax alone, but is often used as a base for Cera F powder, such as FC08X.

HF10BWX

Temperature range from 0°C to 10°C (32°F to 50°F). Recommended iron temp: 120°C (248°F).

The BW solid lubricant additive reduces the friction in contaminated snow. The adjusted hardness makes the wax more durable and absorbs less dirt. Excellent results in artificial snow as well as natural transformed older snow, especially noticeable when used alone.

HF10BWX can be used as a race wax alone, but is often used as a base for Cera F powder, such as FC10X.

Category 3:

HFX Waxes

HF stands for High Fluorocarbon. There are 6 main waxes in this category, which are fluorinated hydrocarbon blends having a high percentage of a low melt point fluorocarbon additive - a result of Cera F technology.

The waxes are unique because they provide fast acceleration, have proved effective in a wide range of temperatures, and are durable and dirt resistant.

HFX waxes are excellent when used alone, but ideal when used in combination with Cera F as an over layer. Conditions of high humidity are optimal for HFX waxes.

HF04X

Temperature range from -12°C to -32°C (10°F to -25°F).

Recommended iron temp: 155°C (311°F).

A cold wax with nano technology specially developed for dry friction conditions. The advantage of fluor in these temperatures is most present when the air humidity is high, meaning above 80 %.

HF04X can be used as a race wax alone or as a base for Cera F powder, such as FC04X.

HF05X

Temperature range from -8°C to -14°C (18°F to 7°F). Recommended iron temp: 150°C (311°F).

The 5 series fulfill a hardness gap between the 4 and the 6 series. It was a demand from alpine and has been used with great success in World Cup over the last seasons.

The lower melting point compared to the 4 series makes it easier to work with, without sacrificing the good glide properties it has in cold conditions.

HF05X can be used as a race wax alone or as a base for Cera F powder, such as FC05X.

HF06X

Temperature range from -5°C to -10°C (23°F to 14°F). Recommended iron temp: 145°C (293°F).

A very popular wax both in alpine and cross country that has shown good properties on artificial snow in addition to natural snow.

HF06X can be used as a race wax alone, but is often used as a base for Cera F powder, such as FC06X.



HF07X

Temperature range from -2°C to -8°C (28°F to 18°F). Recommended iron temp: 140°C (284°F).

A versatile wax suited for normal winter conditions below the freezing point. Its hardness makes it convenient to work with and easy to get a good end-result.

HF07X can be used as a race wax alone, but is often used as a base for Cera F powder, such as FC07X.

HF08X

Temperature range from -4°C to 4°C (25°F to 39°F). Recommended iron temp: 130°C (266°F).

A continuation of the classic HF8 which is a legendary wax within racing. Over the last decade this wax has contributed to a numerous of Olympic and WC medals in all ski disciplines. It's softness and high fluoro content makes it perfect in conditions on both sides of the freezing point.

HF08X can be used as a race wax alone, but is often used as a base for Cera F powder, such as FC08X.

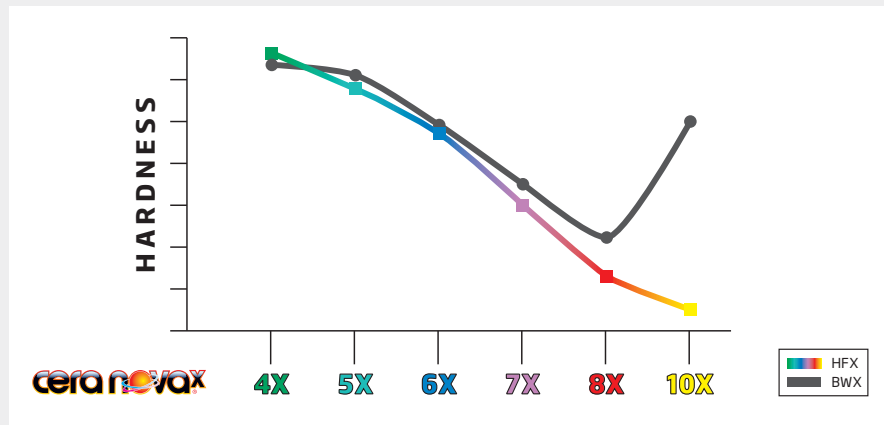
HF10X

Temperature range from 0°C to 10°C (32°F to 50°F). Recommended iron temp: 120°C (248°F).

Our test result shows that a slightly harder HF10X performs better in this area compared to the old classic, especially noticeable when used alone. The adjusted hardness is also making the wax more durable than before.

HF10X can be used as a race wax alone, but is often used as a base for Cera F powder, such as FC10X.

HFX and HFBWX Charts

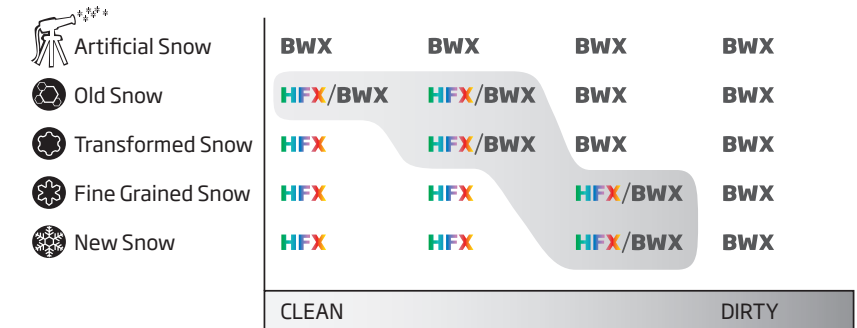


This chart shows the needle penetration hardness of HFX waxes compared to the black BWX. The hardness is relatively similar for the 4, 5 and 6. The BWX 7, 8 and 10 are all harder than HFX.

The largest difference we find between the 10 waxes: HF10BWX is as hard as a 6 while HF10 is the softest. Note that HF10BWX has higher fluor content than HF06BWX which makes it work better in wet snow than a regular 6 wax would. The changes with HF10BWX will give higher interest both for downhill and long distance cross country racing.

The increased hardness of 7, 8 and 10BWX makes the base absorb less dirt in moist and wet polluted snow. The BWX waxes have also a dry friction lubricant additive that reduces friction when the snow is dirty or when you have dry friction (cold transformed snow).

The HF waxes work best in clean, fresh or fine grained snow.



This chart gives an indication for which conditions a HFX normally will perform better than a BWX wax, and opposite.

When you have new and clean snow the obvious choice is a HFX wax, and it's still the best when you follow the y-axis upwards, as the snow crystals goes from fine grained to transformed. In old snow there is normally a close race between HFX and BWX, and without performing a glidetest it's difficult to predict which one will be the best. In artificial snow a BWX wax normally perform better than a HFX wax.

When we go the other direction and follow the x-axis from clean to dirty snow, it becomes more and more relevant to use a BWX wax, not only in artificial snow, due the great dirt repellant properties the solid lubricant additive in the BWX waxes have. In very dirty snow a BWX will be relevant to use for all the different snow conditions.



Category 4:

LFX Waxes



These are fluorinated hydrocarbon waxes having a lower percentage of low-melt point fluoro additive.

They are used as training waxes, or as racing waxes with Cera F as a final layer, or alone as a race wax at very low temperatures.

The temperature ranges and wax colors of the LFX waxes coincide with the HFX category, however they are distinguished from the HFX waxes by the 60 gram bar size. LFX waxes are lighter coloured than CHX.

LF04X

Temperature range from -12°C to -32°C (10°F to -25°F).

Recommended iron temp: 155°C (311°F).

A cold wax for dry friction conditions, which can perfectly be used alone as a race wax when the air humidity is low. It performs very well on artificial snow and has a great durability.

In the warmer part of the temperature range, and when high air humidity, Cera F powder, such as FC04X will increase the performance.

LF05X

Temperature range from -8°C to -14°C (18°F to 7°F). Recommended iron temp: 150°C (311°F).

The 5 series fulfill a hardness gap between the 4 and the 6 series. It's easier to apply than the 4 series, but provides outstanding glide properties within its temperature range, and has a great durability.

LF05X can be used as a race wax alone, but is often used as a base for Cera F powder, such as FC05X.

LF06X

Temperature range from -5°C to -10°C (23°F to 14°F). Recommended iron temp: 145°C (293°F).

Our std. LF6 has been one of the greatest successes in the old Cera Nova system, and through comprehensive testing we haven't found anything better.

This wax is very versatile. Its area of use stretches from base for Cera F powder, racing wax and base prep wax for cold skis. LF06X has a good durability and offer great performance on artificial snow.

When used as a base for Cera F, we recommend the new FC06X powder.

TIP: LF06X is a popular travel and baseprep wax in World Cup Racing.

LF07X

Temperature range from -2°C to -8°C (28°F to 18°F). Recommended iron temp: 140°C (284°F).

A wax that performs great in normal winter conditions below the freezing point. Its hardness makes it convenient to work with and easy to get a good end-result.

Can be used as a racing wax at low air humidity, but will also serve the purpose as a brilliant training wax.

When used as a base for Cera F, we recommend the new FC07X powder.

LF08X

Temperature range from -4°C to 4°C (25°F to 39°F). Recommended iron temp: 130°C (266°F).

A continuation of the std. LF8, a great wax for both base prep and training. It can also be used as a race wax, preferably with Cera F powder on top. Easy to melt and very convenient to work with.

When used as a base for Cera F, we recommend the FC08X powder.

LF10X

Temperature range from 0°C to 10°C (32°F to 50°F). Recommended iron temp: 120°C (248°F).

Test result shows that a slightly harder LF10 performs better in this area, especially noticeable when used alone. The adjusted hardness is also making the wax more durable than before. It's a good wax for base prep wax, but also a great training wax. For racing we recommend to go with high fluoro wax in this temperature area, but with a powder on top LF10X can be used with a good result. The FC10X powder would then be the natural choice.

LF03X

LF03X Cold Powder.

Temperature range from -12°C to -32°C (14°F to -25°F).

A very hard powder wax having a high content of fluorocarbon material. Used when the snow is very fine-grained and very cold. Easy to iron and scrape. Also helps to reduce base abrasion on cold, aggressive snow.

Category 5:

CHX Waxes



CHX stands for Hydrocarbon. This category has no fluorocarbon material in the blends. They are 100% high performance hydrocarbon paraffins. Although they can be looked upon as an economical racing wax group, the colder waxes perform very well alone, and the warmer waxes make an acceptable base layer for Cera F.

Their colors and temperature ranges coincide with the HFX and LFX Waxes. The CHX waxes can be distinguished from the LFX waxes by their darker shade of color.

CH04X

Temperature range from -12°C to -32°C (10°F to -25°F).

Recommended iron temp: 155°C (311°F).

A cold hydrocarbon wax for extreme cold conditions, which can perfectly be used alone as a race wax when the air humidity is low. It performs very well on artificial snow and has a great durability.

In the warmer part of the temperature range, and when high air humidity, Cera F powder, such as FC04X will increase the performance.

CH05X

Temperature range from -8°C to -14°C (18°F to 7°F). Recommended iron temp: 150°C (311°F).

The 5 series fulfill a hardness gap between the 4 and the 6 series. It's easier to apply than the 4 series, but provides outstanding glide properties within its temperature range, and has a great durability.

CH05X can be used as a race wax alone, but is often used as a base for Cera F powder, such as FC05X.

CH06X

Temperature range from -5°C to -10°C (23°F to 14°F). Recommended iron temp: 145°C (293°F).

Our std. CH6 has been a success in the Cera Nova system, and through comprehensive testing we have not found anything better.

It is an economic training and racing wax as well as a base prep wax for cold skis. CH06X has high durability and offer great performance in most snow conditions as well as on artificial and glacier snow.

CH07X

Temperature range from -2°C to -8°C (28°F to 18°F). Recommended iron temp: 140°C (284°F).

A wax that performs great in normal winter conditions below the freezing point. Its hardness makes it convenient to work with and easy to get a good end-result.

It is an economic training and racing wax as well as an all round base prep wax.

CH08X

Temperature range from -4°C to 4°C (25°F to 39°F). Recommended iron temp: 130°C (266°F).

A continuation of the std. CH8. An economic training and racing wax as well as base prep wax for warm skis. Easy to melt and very convenient to work with.

CH10X

Temperature range from 0°C to 10°C (32°F to 50°F). Recommended iron temp: 120°C (248°F).

Test results show that a harder CH10 performs better in very wet saturated snow. The adjusted hardness makes it more durable than before. Good wax for base prep and training. For racing we recommend to go with fluoro wax in this temperature area.

CH03X

CH03X Cold Powder.

Temperature range from -12°C to -32°C (12°F to -26°F).

This is a special synthetic hydrocarbon powder wax to add to other waxes to increase their durability and to protect the base from ice abrasion. For especially abrasive snow, such as newly man-made snow, apply the wax of choice and then iron. While the wax is still in liquid form, or at least still warm, sprinkle CH03X over the wax. Even a generous amount will not effect glide. Then iron the CH03X powder into the wax layer. Allow cooling, then scrape and brush away the excess.

WAXING REGULATIONS FOR PRIVATE WAXING CABINS

- When possible, use eco-friendly and biodegradable waxes and products.
- Make sure that the waxing facility is well ventilated.
- Always use a mask with the recommended filter (minimum A1P3) when applying and brushing wax products. Don't forget that particles can be retained in the air for quite a while.
- Make sure your mask is properly adjusted, and, as a minimum, replace the filter at the start of each season. Always follow the manufacturer's cleaning recommendations.
- Wear suitable gloves when handling base cleaner and other liquid products.
- Do not heat the waxing iron to a temperature higher than necessary, and make sure to wipe the iron clean after application. The particle concentration rises as the difference increases between the melting point and waxing iron temperature.
- Do not use heating guns and gas burners in the waxing facility. Using these tools in the presence of airborne particles that contain fluorine risks generating toxic fumes.
- Smoking is prohibited in the waxing facility. Smoking and airborne particles is an extremely hazardous mix.
- Do not eat or drink in the waxing facility.
- Make sure to collect any waxing residue and dispose of it in the appropriate container.
- Wash your hands once you have finished waxing the skis.

For more tips on waxing and application see
swixsport.com - Wax Resources



Swix special waxes

How to avoid base burn on abrasive snow:

- 1: Sprinkle CH03X/LF03X powder along the base near the edges.
- 2: Use a scraper to push the powder in a row approx. one centimeter from the steel edge.
- 3: Iron carefully so the wax melts into the base along the steel edge.
- 4: Allow the base of the ski or board to return to room temperature.
- 5: Scrape and brush as usual.
- 6: The waxes of the day are applied as usual on top and on the rest of the base. In slalom on icy, abrasive man made snow, apply CH03X on the entire width of the base.

Base Prep Wax (BP088)

This is a special CH blend requested by World Cup technicians for use during initial base preparation and travel waxing. It is economical yet still made with a blend of the highest quality paraffins and microcrystalline waxes. 180 g.

Base Prep Cold (BP077)

This is a blend requested by World Cup Technicians for use on "cold" snow skis. Used on new skis and as travel wax. 180 g.



Travel Wax

Bases should not be left exposed to the air for extended periods of time without a protective layer of wax. Following the race or training, when travelling to the next site, it is a good idea to apply a ironed layer of wax. In this case scraping is not done until it is time to prepare the skis once again for racing or training. The wax layer prevents the base from oxidizing and from getting scratched or dirty.

A good choice of wax for storage or transport is BP088, BP077, CH07X, CH06X, LF07X or LF06X. These waxes have an intermediate range for temperature and use. It is easy and effective to adapt the base to warmer or colder waxes from the temperature range of "7". Also, sometimes, due to late arrival at the race site, there is not enough time to take all the steps for preparing the skis. By having a wax on the skis in the range of "7" all that is necessary is quick scraping and brushing and most conditions will be adequately covered.

Liquid wax and base preparation

The HF and CH liquid waxes from Swix are high performance waxes in their categories. Liquid wax is offering a convenient alternative to the more labor intensive hot waxing and is an alternative to the traditional waxes in most conditions. However, to obtain the full effect of the products and preserving the ski base hot waxing should be performed regularly and at least for new or newly grinded skis. There are two main reasons for this;

- 1) Prevent organic solvents in the liquid wax penetrating into the base
- 2) Obtain a reduction in the base surface roughness

It is well known that the base material, UHMWPE, undergo swelling in contact with organic solvents. UHMWPE is semi-crystalline polymer which can be described as a two-phase composite of crystalline and amorphous phases. The crystalline phase is well organized with high density while in the amorphous phase is the polyethylene chains randomly oriented and large intermolecular space. In general, liquid waxes contains more than 80% solvents. Due to the low molecular weight and polarity of most organic solvents, they are well suited to diffuse into the intermolecular space. Repeatedly exposure of the base material to solvents will expand the material and make it more susceptible to partial melting ("burning of the base") when applying powder at high temperatures. The penetration of organic solvent into the base can be prevented by hot waxing as the wax is filling the intermolecular space of the amorphous phase. This process is known as "saturation" of the base. A recommended procedure is given in the section Post-treatment of stone grinded skis.

Hot waxing is also beneficial in reducing the surface roughness and to remove asperities of the base. This is especially important for cold conditions since there is insufficient amounts of water to form a lubricating film between the ski and the snow. Hence, it's important to reduce

asperities in the base that can get in contact with the snow to reduce the friction. The effect of hot waxing and brushing is demonstrated in the section Base brushing.

In contrast to hot waxing where the wax molecules enter the base material, liquid waxes are mainly engineered for making a coating on the base surface. The Swix liquid waxes are formulated to evenly coat the entire base, even into the micro structure leaving a lubricant film with low surface tension.

Swix Liquid HF and CH waxes using Bag-on-Valve aerosol technology are easy to apply and guarantees high performance for everybody regardless of waxing knowledge level. An advantage from occupational health point of view is less particles in the working environment compared to traditional waxing. However, it is still important to wax in a well-ventilated area to avoid solvent vapors.

To obtain the best performance it's important to allow the wax film to dry entirely. Apply the product in temperatures above 10°C (50°F) and wait 15 minutes for the film to dry before polishing with a blue nylon brush.

HF Liquid High Performance Glider

HF06XL

125 ml.

Temperature range: -4°C to -12°C (25°F to 10°F). A liquid spray-on racing wax that can be used alone, or as an underlayer for powders and top coats.

Especially developed for colder conditions, down to minus 12°C (10°F). Below this point liquids are normally outperformed by traditional paraffin waxes. HF06XL is a versatile wax that works in all snow conditions, but are at its best when the humidity is high.

HF07XL

125 ml.

Temperature range: -2°C to -7°C (28°F to 19°F). A liquid spray-on racing wax that can be used alone, or as an underlayer for powders and top coats.

Performs at its best when typical winter conditions below the freezing point. Can handle various snow conditions and are not humidity sensitive. A safe choice that rarely underperforms within its core area of use.

HF08XL

125 ml.

Temperature range: -4°C to +4°C (25°F to 39°F). A liquid spray-on racing wax that can be used alone, or as an underlayer for powders and top coats.

Extremely versatile wax on both sides of the freezing point with exceptional feedback from racing. It performs in older snow below freezing, new fallen snow above and everything between. Basically a must have in conditions you will meet often.

HF10XL

125 ml.

Temperature range: 2°C to +10°C (36°F to 50°F). A liquid spray-on racing wax that can be used alone, or as an underlayer for powders and top coats.

For very wet conditions when the snow has turned transformed. Ideal for spring skiing when the dirt content typically is high, as it collects less pollution from the snow than comparable paraffin waxes. A great choice that never underperforms in warm weather.



Ironing

Important rules:

- 1: Using the proper iron that keeps a stable temperature.
- 2: Using the proper iron pass speed, like 5 to 6 seconds per length for Cera F.
- 3: Ironing at normal room temperature.
- 4: Having the proper ski base condition at the start of the process.
- 5: Don't hold the iron in one place for any length of time!
- 6: Keep the iron clean!
- 7: Adjust temperature down when not in use.



"T72" Racing Digital Iron (T72110)

110 Volt, 550 Watt.

A 12 mm plate gives optimal temperature stability. Temperature range from 100°C to 170°C (112°F to 338°F). The iron is controlled by a micro processor and has digital temperature regulation. On the back, the heating plate has an angle to facilitate application of Cera F. In front it is straight to control glide zone waxing and classical skis. Wax-guide with the right temperature setting for Cera Nova waxes included.



"T71" Alpine World Cup Waxing Iron (T71110A)

For professional racing.

110 Volt, 1000 Watt.

50% of the plate is textured. This makes the iron "float" better when working with regular waxes on large bases. Angled in front and back. Rounded corners for smooth application. A 25 mm thick plate gives stable temperature and optimal control when applying Cera F. Temperature adjustment from 80°C to 180°C (176°F to 356°F). Easy to set temperature with LED buttons.



"T73" Performance Waxing Iron (T73110)

110 Volt, 500 Watt.

8 mm plate gives a stable temperature. T73 has manual choice of temperature by indication of degrees and is simply done by an adjustment-wheel. Adjustment range from 100°C to 165°C (112°F to 329°F). Wax-guide with the right temperature setting for Cera Nova waxes included.

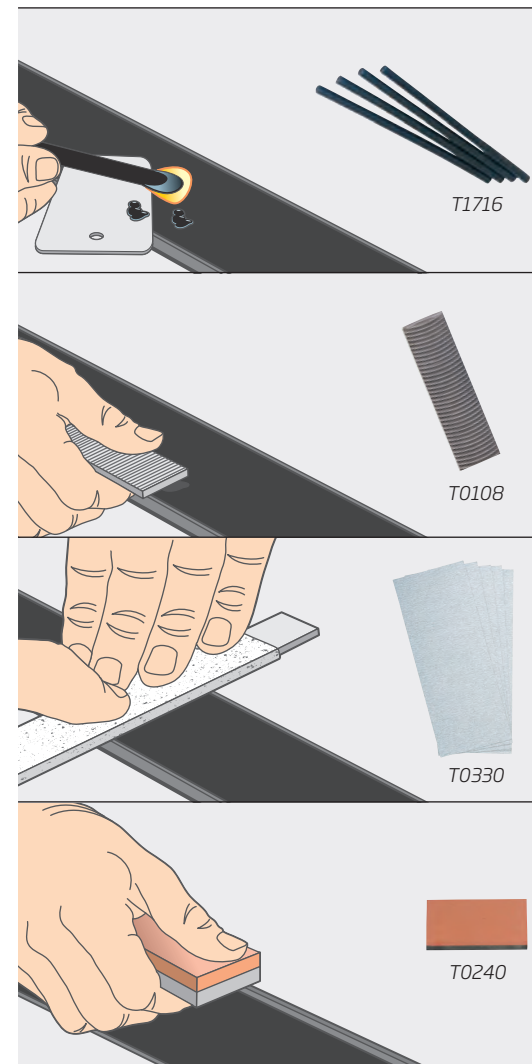
MAINTENANCE OF WAXING IRON

It is important to take care of the waxing iron. Just like a car or a bicycle, the iron needs to be maintained. This will secure better performance and longer life. If you do not follow these guidelines, the guarantee is no longer valid:

- Do not leave the iron at high temperatures when not in use. Adjust down to 120°C or turn it off. Particularly important after waxing with Cera F powders at high temperatures.
- Always clean the iron with fiberlene paper after use. If not, small wax particles will remain on the iron giving out fumes. Over time the wax particles will fasten to the iron and make it black.
- If the iron becomes black, polish the plate with orange fibertex.
- Try to avoid getting wax between the metal plate and the plastic top.
- When the iron is not in use keep it in upwards position: The upward position is important as it reduces the heating of the inside electronics.
- Place the iron where it is safe for not falling to the ground; The new iron holder for T70-H2 is recommended.
- If you have scratches in the base plate, use a fine sanding paper like grit 500.
- Be careful with use of solvents as this can have impact on the inside components.
- Hold the iron in the handle, never lift it by the cord.
- Avoid unnecessary bending of the cable, as it over time can lead to breakage of the cable.



											<ul style="list-style-type: none"> ● 160°C / 320°F ● 165°C / 330°F ● 170°C / 338°F
					150°C 302°F						
					155°C 311°F						
					150°C 302°F						
					145°C 293°F						
					140°C 284°F						
					130°C / 266°F		140°C / 284°F				
					120°C / 248°F		145°C / 293°F				



Repair base scratches and edges

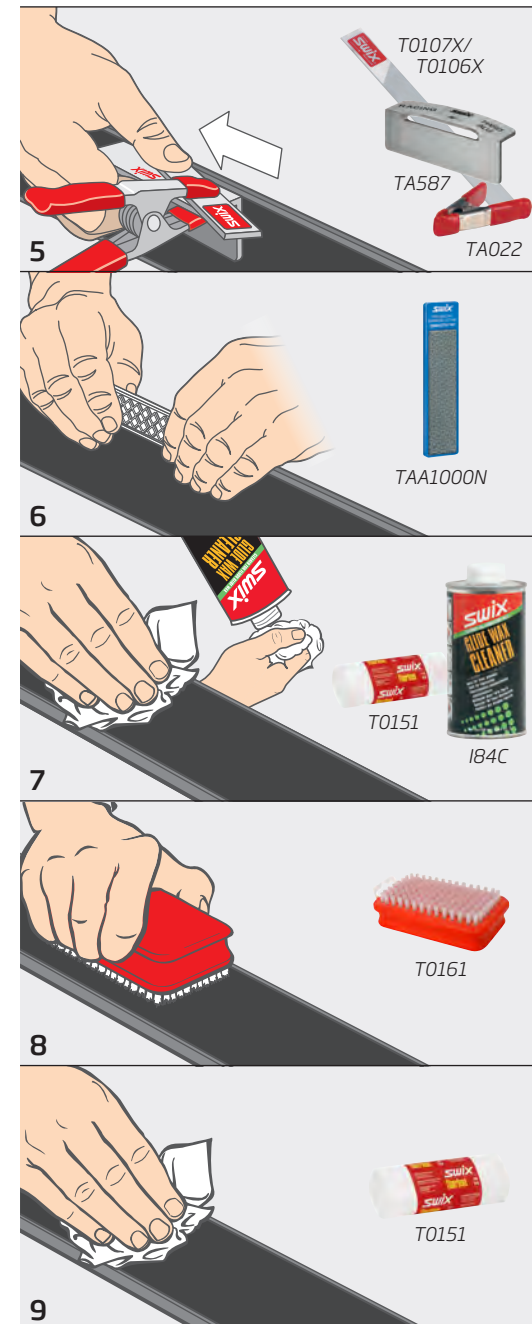
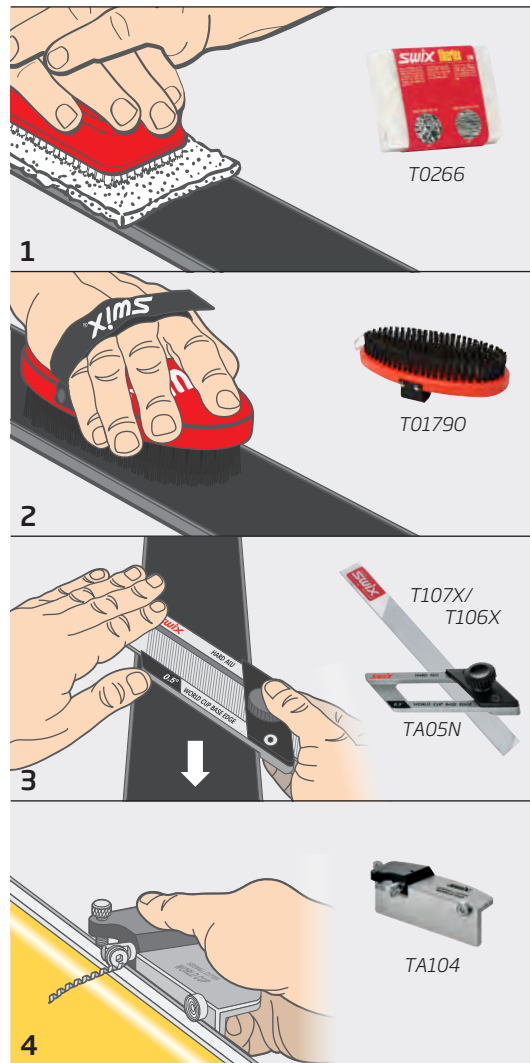
1. Repair base scratches by melting Polystick into the damaged part.
2. Remove excess repair material with a Panzer file (T0108).
3. Finish the repair area by sanding with #100 grit sandpaper.
4. Edges. If edges have damaged or case hardened spots, stone the edges with the Swix Pocket Stone (T0240), coarse side or a coarse Diamond stone/file (TAA100N).

Step by step treatment of boards and skis when new or after stone grinding

Skis or boards put through a stone grinder and structured by hand need accurate follow-up treatment for optimum performance. This process depends partly on the type of pattern given to the base.

Cold snow patterns need more extensive treatment than wet snow patterns. It is very critical that all micro-burrs are removed from the base, in cold snow conditions.

1. Work the base with Swix Fibertex T0266, both directions at least 50 times. This removes oxidation and polyethylene micro fibers (hairs) from the surface.
2. During the Fibertex treatment, use the Steel Brush (T0179) from time to time to help lift and expose fibers to be cut away with the Fibertex.
3. Base edge filing with Chrome file (T107X or T106X). Use Swix Base Edge File Guide (TA05N). 0.5° bevel is most common.
4. Sidewalls may need to have be cut back or planed to expose more steel edge before filing. Use the Sidewall Cutter (TA104 or TA103).



5. Side edge filing. Initial filing with Panzer File (T0108) one or two strokes is enough. Finish filing with Chrome File (T106X). Most used angles in SL and GS are from 2° to 3°.
6. Deburr the edge by running a fine stone along the edge. A smooth edge without burrs will keep its sharpness longer. Use the Swix Ceramic Stone (T0998) or a Diamond Stone (TAA1000N or TAA600N).
7. Moisten a piece of Fiberlene (T0151) with the Glide Wax Cleaner (I84C) and apply to the base.
8. Rub forward and backward a few times with a Nylon Brush (T0161).
9. Wipe off as much as possible with Fiberlene (T0151).

Let the ski dry for 5-10 minutes.

10.

Brush firmly with the Steel Brush (T0179 or T0162). The ski is now ready for application of new wax.

11.

Saturate the base with Base Prep BP088. The temperature of the waxing iron should be regulated to be hot enough to give immediate melting of the wax. Approximately 125°C (255°F).

12.

Scrape away after cooling to room temperature with a sharp plexi scraper (T0823D). Use light strokes, shaving away the excess wax.

13.

Brush with the medium coarse bronze brush (T01620) or Steel brush (T01790). Use the brush in tip to tail direction, approximately 5-10 times.

14.

Iron on the harder CH06X or LF06X. Just melt the wax on the base surface without heating the entire board or ski. The purpose is to lift and stiffen polyethylene micro-hairs to be more easily cut away with the scraper.



15.

Scrape away the layer of CH06X or LF06X after cooling to room temperature. Use a sharp acrylic scraper (T0823D). Use light strokes, shaving away the excess wax.

16.

Brush the base using the Steel Brush (T01790), approx. 50 strokes.

17.

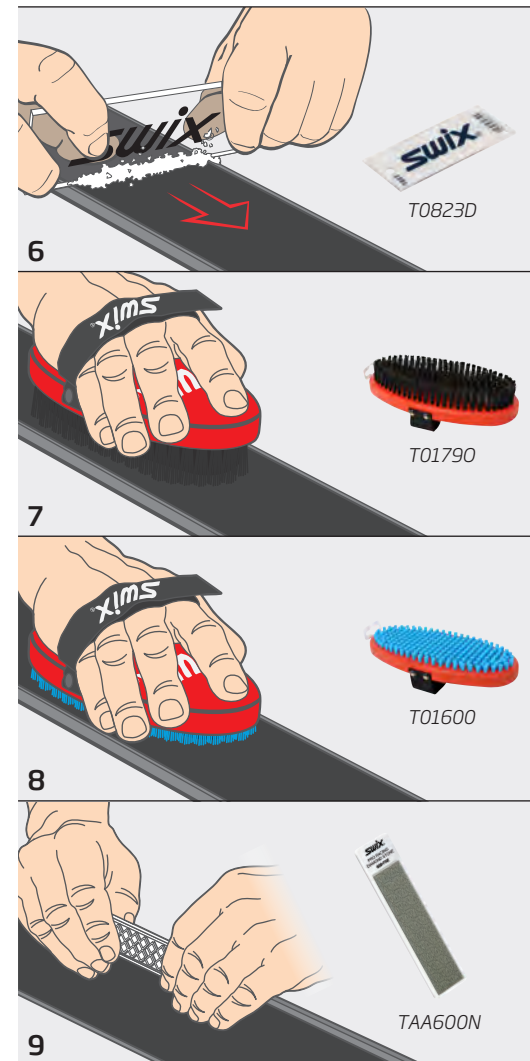
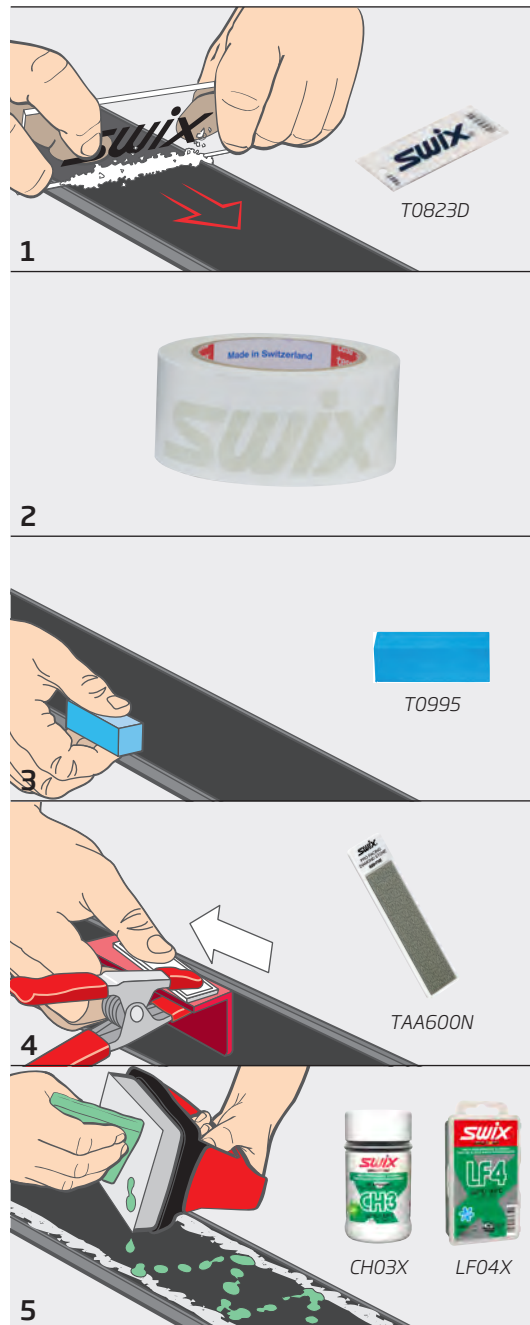
Saturate the base with BP088. Iron in five times with five minutes interval. Apply more wax if necessary. No scraping in between.

Continuous use of skis and boards, in between waxing, improves glide.

Step by step - race preparation

This is a general description used by top level technicians.

1. Scrape off travel wax with a plexi scraper.
2. Protect the base with R0386 tape.
3. Check the edges, file if necessary. Polish the base edges with a Hard Gummy Stone like T0994 or T0995.
4. Polish the side edges with a Fine Diamond Stone (TAA600N) or Ceramic stone (T0998).
5. Apply the race wax for the day. For cold conditions use first CH03X to protect base burn by the edge.



6. The wax should be scraped off after cooling to room temperature. Scrape off also the excess wax on the sides.
7. Brush the base with the Steel Brush (T01790). 10-20 strokes.
8. Continue with the Fine Blue Nylon Brush (T01600). 10 strokes.
9. Polish the edges once more with TAA600N Diamond Stone or T0998 Ceramic Stone.

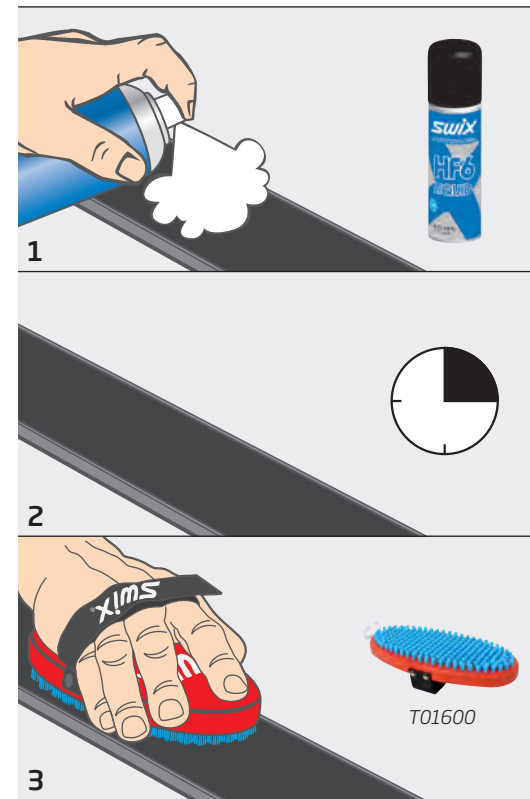
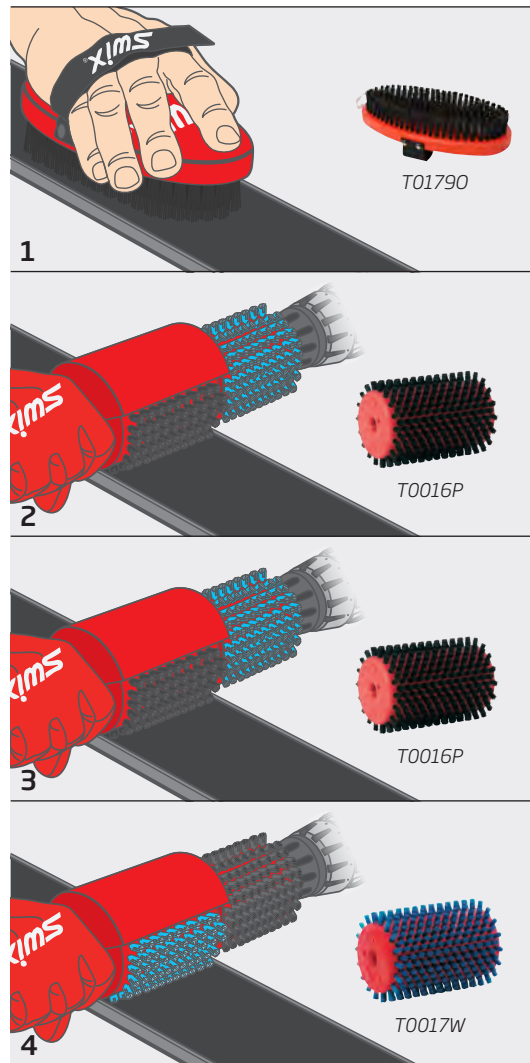
Roto brushing wax after scraping

When you have many skis to do Roto brushing can be timesaving.

You will need a drill that can do a minimum of 1000rpm and ideally up to 2000rpm or more. It is recommended to use protection eyewear.

- 1.** Use the Steel Brush T0179 from tip to tail in one movement. Two repetitions.
- 2.** Use the T0016P Wild boar Initial Roto Brush with a speed of 1000rpm to 2000rpm. Use light pressure. Start from the tip. Wax particles should be thrown towards the tail. Move the drill back and forth approx. a foot at the time as you gradually work your way towards the tail.
- 3.** Continue to use the T0016P Wild boar Roto Brush (1000rpm/2000rpm) from tip to tail two more times in one continuous pass of three to five seconds.
- 4.** Finish with the T0017W Blue Nylon Roto Brush, 1000rpm/2000rpm. Make a continuous pass three times from tip to tail in three to five seconds.

Now the ski or snowboard is ready or you can start with application of Cera F.



Application of HF liquid wax

To obtain the full effect of the liquids and preserve the ski base hot waxing should be performed occasionally and at least for new or newly grinded skis, before applying liquids.

- 1.** Shake the bottle and spray on an even layer in a tip to tail direction.
- 2.** Let the ski dry for at least 15 minutes.
- 3.** Brush firmly with a Blue Nylon hand brush (T0160) or roto brush (T0017W/T0015DB).

In cold conditions we recommend using a hard traditional glider before applying the liquid. CH4X, LF4X, HF4X, HF4BWX, CH5X, LF5X, HF5X and HF5BWX are all good choices for this purpose.

We also recommend using traditional waxes as storage and transportation waxes.

CERA F PERFORMANCE CHART

New/fine grained snow



Artificial/coarse snow



Corked application of Cera F powder

Complete edge filing and polishing. The base should be waxed and thoroughly brushed according to the steps outlined in the manual.

1. Sprinkle an even layer of powder on the base. When corking, less powder is needed than for ironing. A layer of Cera F can also be applied by rubbing on a layer using Cera F Solid.

2. Polish the powder into the base using a Cork (T0020) or Cera F Polisher (T0154) with Fiberlene. Use firm pressure back and forth so the cork will generate heat causing the powder to form a waxy film.

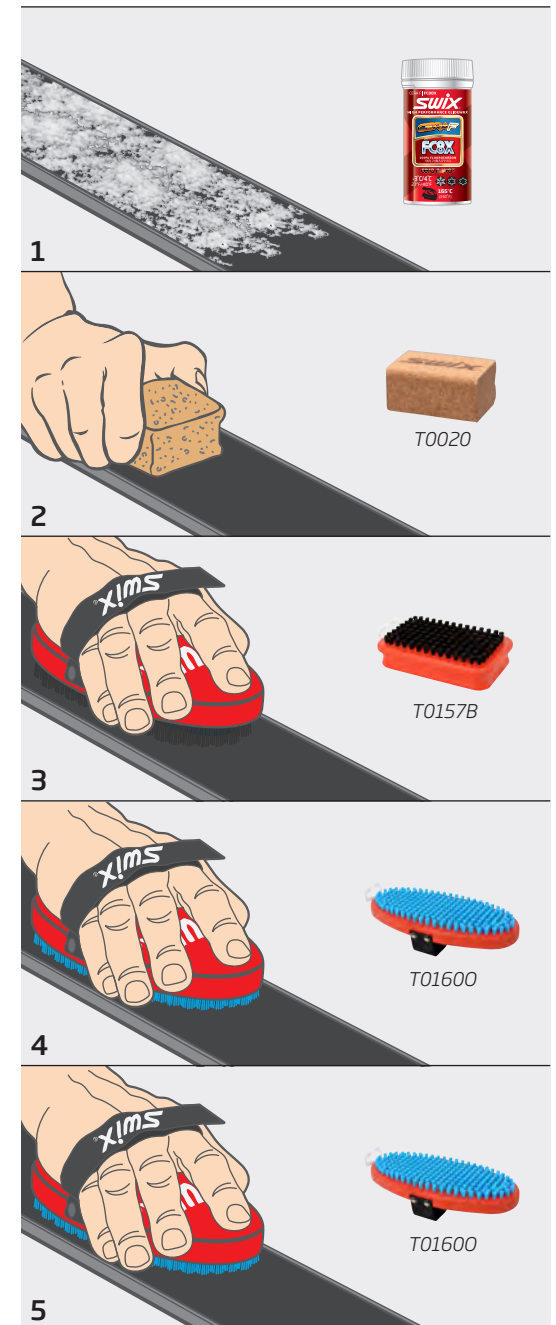
3. Brush the powder out of the base with the Wild Boar Brush (T0164) or Horsehair Brush (T0157). 10-20 strokes.

4. Follow with more brushing using the Blue Nylon Polishing Brush (T0160).

Lightly wipe the base with Swix Fiberlene. 5-10 strokes.

5. Put the board or skis base down in the snow for a few minutes. This is usually done at the start site.

Brush once again with the Blue Nylon Polishing Brush (T0160) and lightly wipe with Fiberlene. 5-10 strokes.

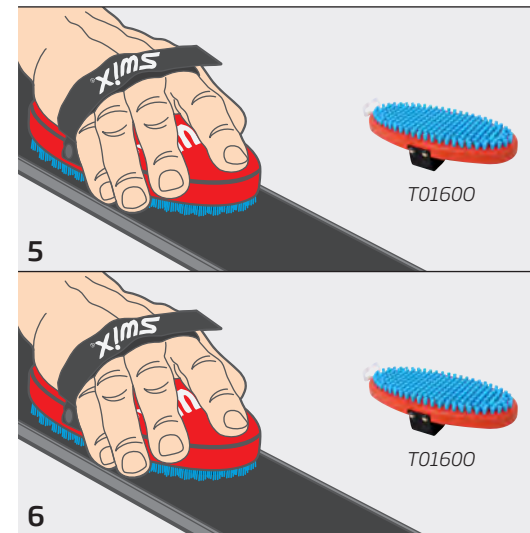
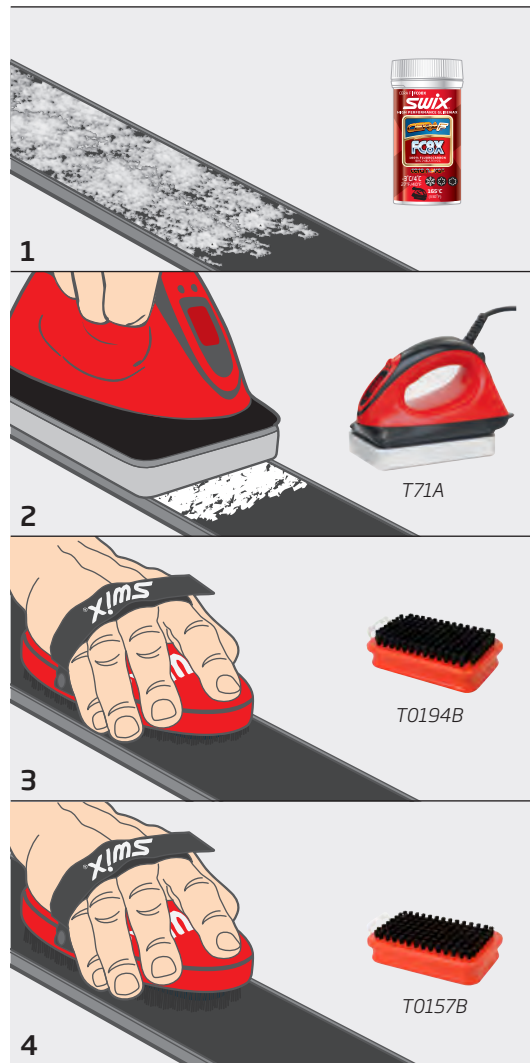


Ironing application of Cera F powder

A standard package of 30 grams normally is enough to wax 2 to 3 pairs of Downhill skis. A sufficient layer of powder has to be applied. If the layer is too thin, the high temperature of the iron might destroy the base.

Before the application of Cera F, the skis have to be waxed with the actual, traditional wax for today's conditions.

- 1.** Distribute the Cera F powder evenly on the base. Don't forget to apply enough powder to protect the base from direct contact with the iron. Lightly touch the iron along the base to stick the powder to the base.
- 2.** Iron the powder into the base. Make just one pass with the iron, taking approx. 5 to 6 seconds. Recommended iron temperature setting for FC05X and FC07X is 160°C (320°F), for FC007B, FC04X, FC06X and FC08X it is 165°C (330°F), and for FC10X it is 170°C (338°F).
- 3.** After cooling to room temperature (5 min.) brush the powder up from the base with the stiff Black Nylon Brush (T0194). 10 strokes.
- 4.** Continue with the Wild Boar Brush (T0164) or Horsehair Brush (T0157). 10 strokes.



- 5.** Finish with the Fine Blue Nylon Brush (T0160). 3-4 strokes.
- 6.** At the start site place the board or skis in the snow. After the base has adjusted to temperature of snow make final brushing with the Blue Nylon Polishing Brush (T0160). 5-10 strokes.



POWER VISE (T0147N)

Perfect for alpine and free ride skis. For wide skis up to 155 mm. Centerpiece is 30 mm further out from table compared to the other vises for better alignment with supports. Supports in front and back with screw fixation. Perfect for alpine and free ride skis.

Cera F powder Roto fleece application

The initial steps before Cera F Roto Corking are the same as for the ironing in method of Cera F.

It is recommended to have one separate Roto Fleece (T0018F-2) for each different Cera F.

Cera F applied with Roto Fleece is sometimes applied on top of ironed and brushed Cera F as a "topping".

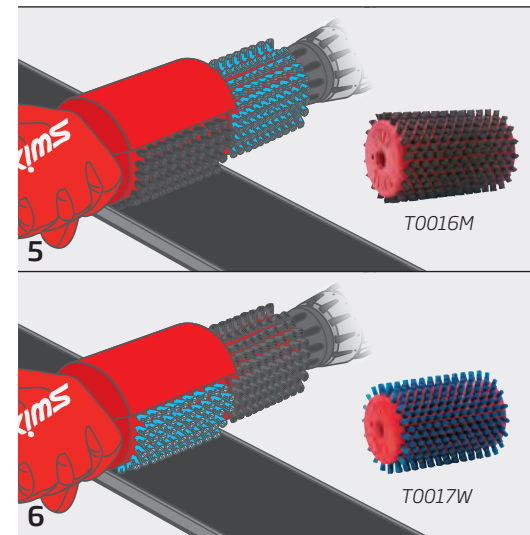
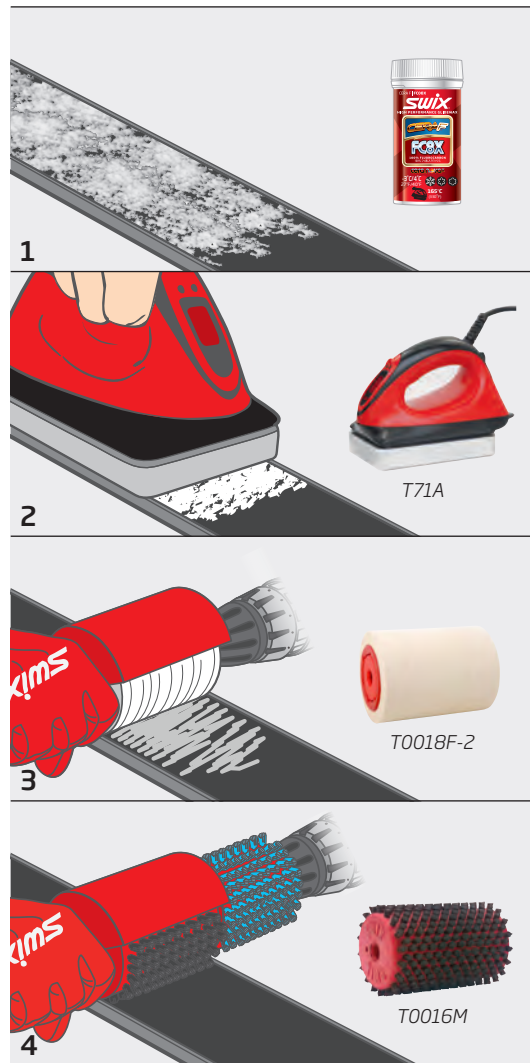
1.
Apply Cera F evenly.

2.
Use a waxing iron to fix the Cera F powder to the base. Iron temperature to be around 150°C to 155°C (300°F to 310°F). Iron quickly, 3 to 4 seconds for one ski or board.

After cooling brush the powder up from the base with the Horsehair Brush (T0157). Spray FC8AC into the powder and let it dry.

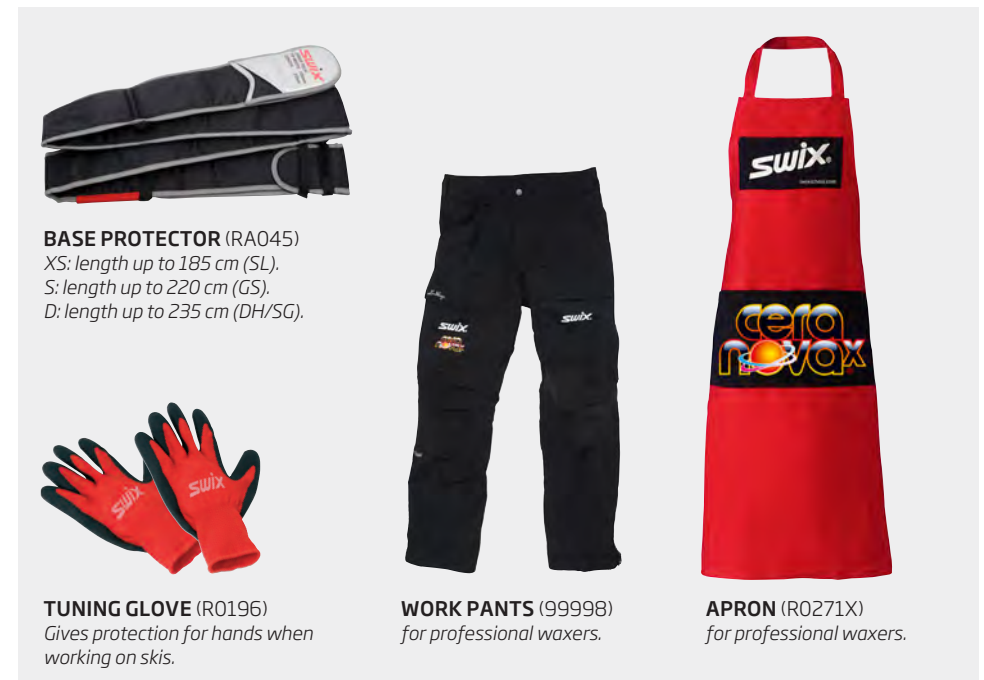
3.
Use the Roto Fleece (T0018F-2) at a speed of approx. 1.500 RPM. Start from the tip and work the Cera F powder into the base by moving the drill back and forth approx. a foot at a time as you work your way towards the tail. Use light pressure. Let the skis/snowboard rest for 5 minutes at room temperature.

4.
Use the Horsehair Roto Brush (T0016M) with speed 1000/2000 RPM. Start from the tip and move back and forth approx. a foot at a time towards the tail. (OBS! Do not use the same brush as for standard waxes.) Use light pressure.



5.
Continue with the Horsehair Roto Brush (T0016M) from tip to tail two more times in one movement of four to five seconds.

6.
Finish with the Blue Nylon Roto Brush (T0017W). Twice in one continuous pass from tip to tail in four to five seconds. Use light pressure. (OBS! Do not use the same brush as on standard waxes).



BASE PROTECTOR (RA045)
XS: length up to 185 cm (SL).
S: length up to 220 cm (GS).
D: length up to 235 cm (DH/SG).

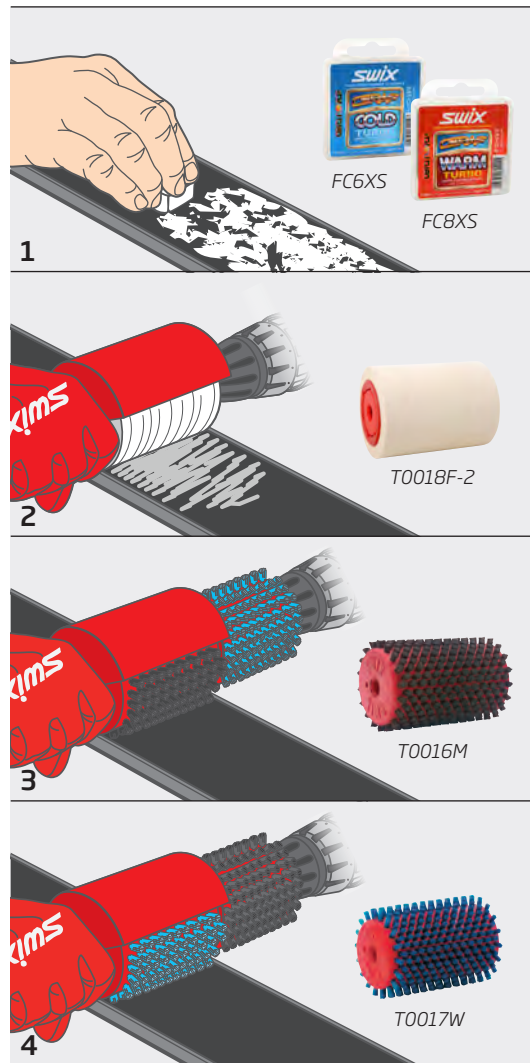
TUNING GLOVE (R0196)
Gives protection for hands when working on skis.

WORK PANTS (99998)
for professional waxers.

APRON (R0271X)
for professional waxers.

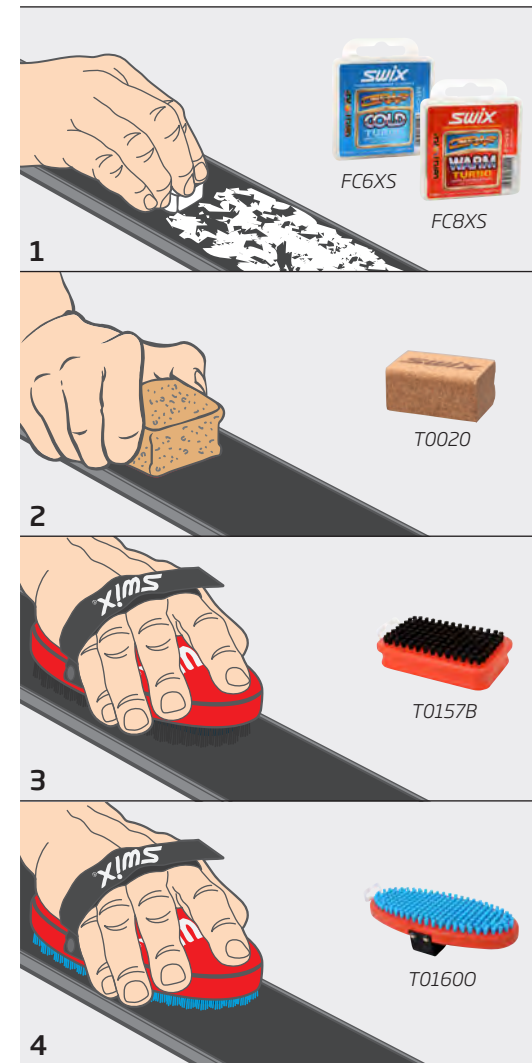
Cera F Solid Turbo Roto fleece application

1. Rub on an even layer.
2. Use the T0018F-2 Roto Fleece at a speed of approx. 1.500 RPM. Start from the tip and work the Cera F into the base by moving the drill back and forth approx. a foot at a time as you work your way towards the tail. Use light pressure.
3. Use the T0016M Horsehair Roto Brush with speed 1.500 RPM. Start from the tip and move back and forth approx. a foot at a time towards the tail. (OBS! Do not use the same brush as for standard waxes.) Use light pressure.
4. Finish with the Blue Nylon Roto Brush (T0017W). Twice in one continuous pass from tip to tail in four to five seconds. (OBS! Do not use the same brush as on standard waxes.) Use light pressure.



Cera F Solid Turbo hand cork application

1. Rub on an even layer.
2. Cork in with a Natural Cork (T0020).
3. Brush up and out of the base with the Horsehair Brush (T0157), 10-20 strokes.
4. Brush with the Blue Nylon Brush (T0160). Approx. 10 strokes.



Application of HVC 2.0

We recommend to apply HVC 2.0 on the race day for best possible performance.

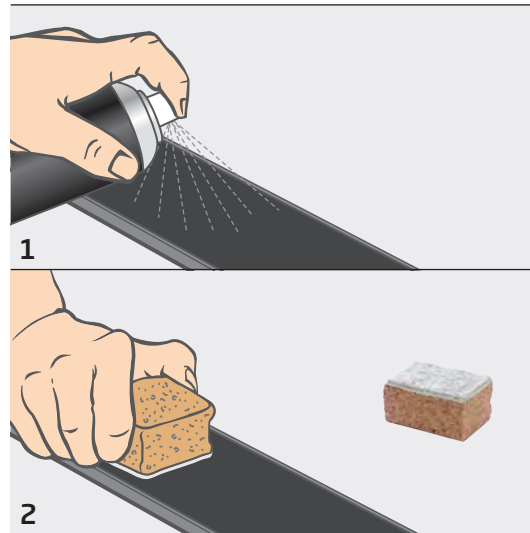
HVC 2.0 should be applied onto a pre-waxed ski base, preferably a LF or HF wax, followed by Cera F powder. The powder should be brushed away as normal before HVC 2.0 is applied. If use of a manual structure tool, should this be done before the base is treated with HVC 2.0.

1.
Shake the bottle for a few seconds, then spray the fluid onto the base from tip to tail in a steady pace.

2.
Immediately distribute gently with the included felt cork. Note that just a couple of easy passes with the felt cork is sufficient.

That's it. Go out and race!

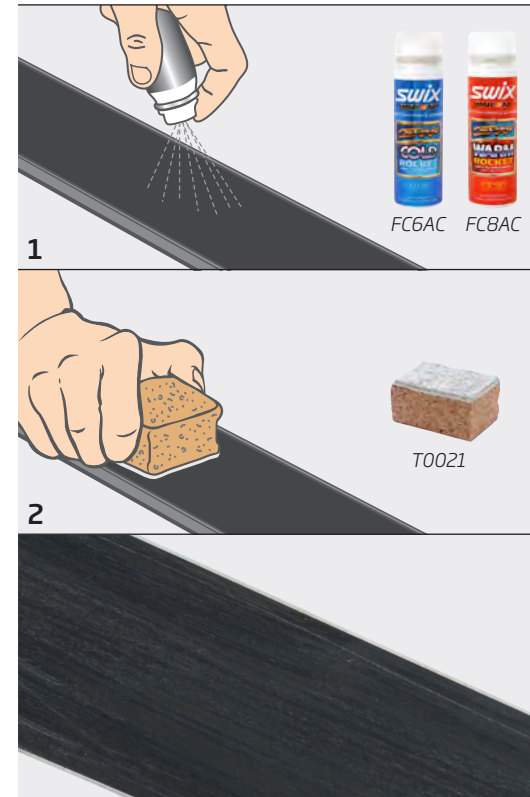
TIP:
In cold and dry weather conditions finish with a Blue Nylon brush (T0160). Brush lightly in one direction from tip to tail.



FC65L



FC85L



Application of Cera F Rocket spray

1.
Spray on the FC8AC or FC6AC while pressing the button. Keep the nozzle 4-5 cm above the base.

2.
Work the liquid lightly into the base with a Fleece Cork (T0021).

OBS! When the base has dried, there is no need for further polishing or brushing.

Cleaning the bases with wax

An important method for cleaning the bases on alpine skis and snowboards is to use wax instead of solvents. The following method also applies to cleaning the bases after using Cera F.

1.

Start with firm brushing of the base with the Swix Steel Brush (T0179) to remove oxidation and to open the base structure from dirt and old wax.

2.

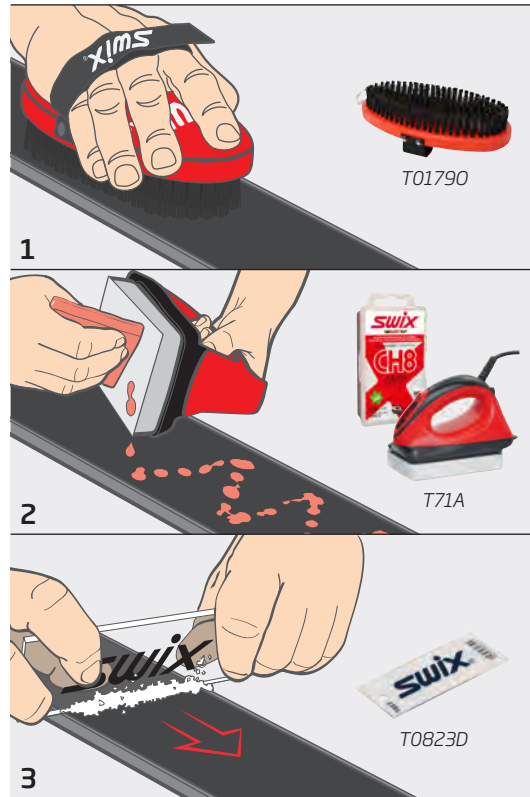
Select a soft wax (lower melting point) such as BP088 (Base Prep), CH10X or CH08X. The iron temperature should be approximately 100°C to 120°C (212°F to 250°F). Iron the wax continuously moving the iron until the board or ski is thoroughly warmed and the wax remains in a liquid form on the base. The warming of the base and the liquid state of the wax will "open" the base surface microstructure and float contaminants away from the base into the wax.

3.

While the wax is still in liquid form, scrape the wax off the base. It is possible to wipe the liquid wax off as well, followed by a few light passes with the scraper.

Repeat if necessary. Following riding or skiing in very dirty conditions you may want to repeat the "hot-scrape" process 2 or 3 times with additional brushing with the Swix Bronze Brush in between wax applications.

The "hot scraping" method of cleaning avoids the "drying-out" of bases caused by some solvents.



NOTE:

This is the same procedure that is used to condition the base to the wax selected to fit the day's conditions. For example, if LF08X is the wax choice, iron the wax into the base and scrape while it is still liquid or soft. Apply LF08X once more, iron, but then allow the base to completely return to room temperature before scraping. This will adjust and condition the base from the soft cleaning wax to LF08X.

Clean bases are faster bases!



WORLD CUP WAXING TABLE (T0077-2)

Solid and stable. Prolongment for long skis. For professional servicemen.
Practical: All parts to be packed into table for easy traveling. Delivered with traveling bag.
Net. weight 22 kg/48.4 lbs.

ALPINE FRAME (T0077-FR)

Ski rack that can be mounted on any SWIX waxing tables.

Cleaner for fluor glide wax & conditioner for racing skis

THREE EFFECTS IN ONE OPERATION

- Cleans
- Conditions
- Solves fluoro components

Cleaner for fluoro glide wax and CH wax. Improves glide and conditions the base. For glide sections on all racing skis and snowboards.

- Involves no hard mechanical treatment of the base.
- Does not dry out the base.
- No wearing of the stone grind pattern in the ski base.
- Makes the ski faster!

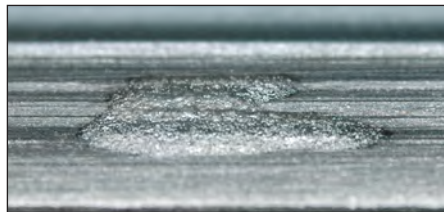


I84C
500 ml
17.5 fl. oz.

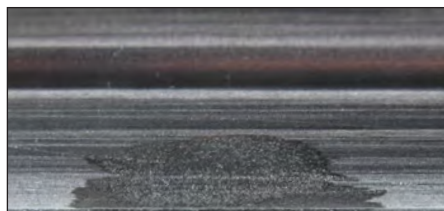
I84-150C
150 ml
5 fl. oz.

How does it work?

Untreated Base: The wax stays on top.



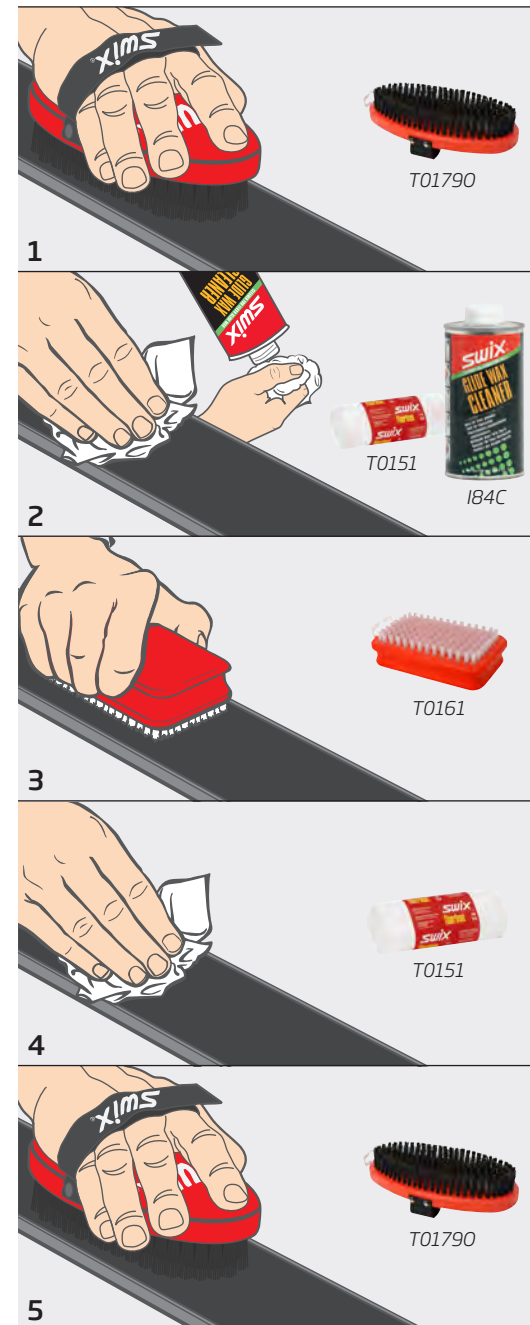
Base treated with I84C: Better wax adsorption.



T0150

T01790

T0161B



1

2

3

4

5

The use of Glide Wax Cleaner (I84C)

1. Brush lightly with the Steel Brush (T01790).
2. Moisten a piece of Fiberlene (T0150) and apply to the glide zone of the base.
3. Rub forward and backward a few times with a Nylon Brush (T0161).
4. Wipe off as much as possible with Fiberlene (T0150).

Let the ski dry for 5-10 minutes.


5. Brush firmly with the Steel Brush (T01790 or T0162). The ski is now ready for application of new glide wax.

SWIX®

PROUD POLE SUPPLIER TO

Kjetil Jansrud & Aksel Lund Svindal. Olympic medal winners 2018.



 telenor Telenor is the main sponsor of the Norwegian Alpine Team.

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