



## CROSS COUNTRY SKI SHOP

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# WAXING GUIDELINES

## WORK ENVIRONMENT FOR WAXING

Kick (or grip) waxes are best applied at room temperature onto a dry ski base. All kick waxes can also easily be applied on the trail thanks to the additives which make the V20 Green and V05 Polar softer in cold temperatures and the V60 Red/Silver harder, and thus easier to crayon. The ski can be waxed and corked by holding the tip up, tail on the ground, and working the wax/cork with the free hand. Cleaning and application of gliders with an iron are best done when the ski is clamped horizontally at table top level. There are a number of clamps, ski forms and work tables to accomplish this. Both cleaning and ironing should be done in a well ventilated work area.

## NEW SKI PREPARATION

Ski bases have been stone ground “fine structure” at the factory, and soft wax has been applied to prevent oxidization of the base. After binding installation at the Norseman, a hot wax is applied to all skis as a base preparation wax, making the skis ready for the first trip.

## KICK / GLIDE WAXING

Glide waxes are applied to the tips and tails of the ski, outside the wax pocket. Cold kick waxes such as Swix V05 or V20 can be used as gliders. The wax is crayoned and corked on in thin layers. Kick (grip) wax is applied in the wax pocket which extends usually 10-14' / 25-35 cm in front the balance point, and 12-16' / 30-40 cm behind (shorter range for klisters). The wax pocket can be sanded lightly with nr. 100 sandpaper for better kick wax adhesion.

The correct kick wax for the day, as determined mainly by a snow thermometer, is applied by crayoning a thin layer over the wax pocket, and corking it in vigorously. For additional grip, 1) more thin layers are applied, 2) wax pocket is lengthened, or 3) warmer kick wax is applied. Swix V05 - V60 waxes are suitable for touring.

## CLEANING

Ski bases need to be cleaned when debris such as pine needles or other particles adhere to the wax and accumulate on the ski base, slowing the ski down. Also, the skis are cleaned when a colder (harder) kick wax is applied, or mixing of the previous kick or glider wax with the new application is not desired. (Warmer kick waxes can be applied on top of colder ones.)

The cleaning process starts with vigorous scraping of the wax with a strong plastic scraper. After the bulk of the wax and dirt is removed, a base cleaner (liquid or spray) is applied. It is allowed to dissolve the remaining wax and the residue is wiped off with lint-free material such as “Fiberlene”.

# ADVANCED WAXING TECHNIQUES

## NEW SKI PREPARATION

Additional steps to prepare new skis include ironing BP99 “New Ski Base Prep”, a soft glider or Graphite Warm, cooling, and scraping off excess wax. Repeat the procedure 3-5 times in order to saturate the base fully. Apply a hard glider, scrape, and then the day’s glider and scrape again. Brush first with a combibrush, then with a nylon brush to open the base structure, and the skis are ready for grip wax application or for skating.

## **KICK WAXING**

Performance in racing and skiing over longer distances will be optimized with the use of fluorinated Krystal VR30 - VR75 kick waxes. They provide better glide and are much longer lasting (3x) than V-line waxes. In abrasive snow conditions waxes will last the longest when applied on top of ironed on base wax VG35. The main factors influencing wax choice are temperature, humidity and snow granulation.

Klisters are semi-fluid waxes in tubes for conditions such as icy, wet or corn snow when hard kick waxes can't provide good grip. Warmed klisters are the easiest to apply by squeezing a thin line or frequent dabs on the base of the ski. The klister is then spread into a thin layer by a plastic scraper provided in the klister box.

Skins, either partial or full length, provide good grip on long climbs through changing snow conditions, and control speed during the descent. Skins have a built-in glue surface, but it should not be placed on a ski base waxed with a kick wax. After the skin is removed, the base is cleaned to prevent the glue from mixing with wax.

## **GLIDE WAXING**

Better ski performance can be obtained by ironing glide waxes on the ski base. Universal gliders U10 and U20 are the most economical, but increasingly better performances are obtained by applying 1) Graphite Cold or Warm glider, or 2) temperature specific CH (Hydrocarbon), or 3) LF (Low fluorocarbon), or 4) HF (High fluorocarbon), or 5) Cera F pure fluorocarbon glider. During ironing the wax is melted and dripped from the tip of the iron on both sides of the centre groove, about one drop for every 3-5 cm. The iron is used in one continuous direction in order to prevent overheating of the base (delamination), keeping a layer of wax between the iron and the ski base. (Hint: The iron must be warm enough to melt the wax, but if it smokes, the iron is too hot.) After cooling, the excess wax is scraped off with a plastic scraper, brushed first with a combibrush, and then with a nylon brush to open up the base structure to minimize suction. The groove and sides are then cleaned with a plastic groove scraper. The base is then polished (deburred) by wiping with non-abrasive "Fibertex". The entire base of a skating ski is waxed for glide. To optimize glide, the bases can be structured for different snow conditions. Longitudinal grooves are created in the ski base by linear rillers or by stone grinding, fine rills for cold, coarser for warmer conditions.

## **WAXLESS SKIS**

Waxless skis need to be waxed for better glide and to protect the base. The simplest method is to apply a liquid "Easy Glide" universal glider to the entire base and let it dry, or an "Easy Glide" paste wax requiring an application and a polish. Tips and tails can be waxed for glide by using either the crayoning or ironing methods.

## **CLEANING**

AN advanced cleaning method is to hot scrape or wipe off melted soft glider from a still hot ski base.

## **REPAIRS**

Minor damage to skis such as delamination of tails caused by skiing backwards or standing skis in a snow bank can be repaired by a Norseman technician. Scrapes in the base are repaired by dripping hot Polystick into the damaged area and sanding the excess off. A metal scraper will remove small physical surface irregularities. Accumulated scratches and damage to the base due to oxidation can be removed by refinishing the base surface with stone grinding. Oxidation shows up as white streaks or areas in the otherwise black ski base.

## **STORAGE**

Skis are best protected during the off-season storage by first cleaning the bases thoroughly and then applying a "Base Prep BP88" travel wax or a similar warm glider bulk wax.