

**MAPLUS®**





## **MAPLUS: ABOUT US**

Fluorine and its secrets are the core of the research and development of Maflon Spa, dynamic and innovative company specialized in the production of high-tech fluorinated products. Owned by Mazza Holding of Castelli Calepio (Bg), this industrial group, 100% Italian, for over thirty years has been present on the global market with its main companies, Guarniflon® Spa and Maflon® Spa firstly.

From the passion for skiing and mastery of the fluorine chemistry of the Mazza family, Maplus®, a division specialized in ski wax and technical accessories for ski preparation, was born in 1997.

Thanks to the synergies with the industrial chemical research of Maflon® SPA, in a few years Maplus® has managed to reach a leading position in high-level competitions, becoming, with its perfluorinated products, the reference in terms of sliding and durability in the ski and snowboard World Cups.

We can declare with satisfaction that today Maplus® waxes are used in competition by all the National Teams and by all the ski companies present in the World Cup!

And yet Maplus® does not care only of athletes and their results: the experience gained at the highest level has allowed us to develop a complete line of wax ideal to meet the needs of any skier and snowboarder, from the Freeride addicted to the beginner who wants an easy to manage equipment, up to the needs of the professional laboratories for the rentals.

## **GLIDE WAXING**

Waxing is an essential operation to facilitate the gliding on the snow. Contrary to popular believes, waxing is not only used by professionals to increase the gliding speed, but mainly it guarantees to all snow-lovers greater facility, safety and fun in the execution of any sequence of bends. A properly waxed sole allows to run on any type of snow without suffering unexpected and dangerous decelerations, allowing to get a better steering action of the skis and so a greater control and safety during cornering and braking.

Even in the most extreme conditions, only a right waxing can guarantee the optimal efficiency of the skis so to fully enjoy passion of skiing !

## **PARAMETERS THAT DETERMINE THE CHOICE OF THE RIGHT PRODUCT**

There are many factors that influence the choice of the best product to ensure the ski's maximum speed.

Naturally, just only the indication of snow temperature is enough to direct the choices of a passionate skier who doesn't need a race preparation.

### **SNOW TEMPERATURE**

The snow temperature is easily detected at several points of the surface of the snow away from sunlight. The detection instrument must be inclined with the probe in contact with the snow surface and not inserted in depth otherwise the temperature value obtained would not be realistic. These tricks are valid and suggested not only for a professional electronic thermometer with the contact probe but also for a simple thermometer for chilled food. To speed up the detection, laser thermometers can be used, but, in order to get precise obtained values, it is necessary to have a very compact snow (that is, snow must have high density).

### **TYPE OF SNOW**

The type of snow and the compactness of the snow cover are detected through visual observation. There are more than 80 types of crystals snow, of ice and artificial snow, but considering the various processes of metamorphosis and mechanical compacting of the snow, for waxing purposes only the following types of snow should be considered:



#### ABRASIVE SNOW

1. Artificial
2. Fine (falling, new and little transformed)
3. In-transforming (aggressive crystals)
4. Icy

#### LITTLE ABRASIVE SNOW

1. Moist (falling, new and frosted)
2. In-transforming (not aggressive crystals)
3. Old transformed
4. Wet

The compactness (density) of the snow blanket changes progressively with the processing by the snowcats, the progress of the metamorphosis process of the snow crystals and the air loss.

The snow temperature, the type of snow and the compactness of the snowpack interact together for determining the durability and the type of paraffin to be used.

### **HUMIDITY AND AIR TEMPERATURE**

Air humidity and its temperature are measured at 10 cm from the surface of the snow. The detection of the air parameters takes place with a precision digital thermo-hygrometer at the distance specified previously, this because it constitutes the layer of air in continuous exchange with snow surface.

The interaction of snow and air parameters allows the appropriate selection of race waxes with reference to their gradation.

### **THE RACE WAXING**

#### **BASE GRINDING AND EDGES PREPARATION**

Before applying any ski wax, ski base and ski edges must be carefully prepared.

Currently, grinding C.N.C. machines are available and, combined with high-quality grinding stones and diamonds and low operating temperature, they allow their users to obtain high-sliding surfaces through a clean polyethylene cut instead of a tear.

Ski bases grinded with such machines, show lower roughness and consequently they are immediately sliding, without need for "ski running" to reduce roughness before racing.

At high-level, edge sharpening is done traditionally by hand, using diamond cup electric sharpeners or manual tools with high precision files, which allow the creation of real sharpened corners with no burr.

After ski base grinding and ski edge sharpening, it is necessary to remove the traces of dirt left from the processing and residues of the emulsion used in grinding machines. Then, you can proceed with polyethylene saturation with a base wax, always remembering that, without preparation and proper cleaning of the ski base, it is not possible to guarantee the best waxing results which is based on the most advanced chemical research on gliding products.

### **CLEANING**

After processing ski base with a grinding machines and ski edges preparation, it's essential to clean ski sole with the MAPLUS CLEAN cleaner.

In cleaning operations, the direction must always be from the tip to the tail of the ski.

#### **OPERATING PROCEDURE:**

1. Spray or drip the detergent over the surface of the ski sole;
2. Spread the detergent evenly over the entire surface of the ski using a paintbrush;
3. Brush the ski using a soft brass brush to improve the action of the detergent and wait at least 2 minutes so that it plays its action, without letting it dry;
4. Remove the dirt and wax residues with fiberlene or blotting paper wrapped around a plexiglass scraper, repeating this operation at least twice;
5. Dry the ski with fiberlene or blotting paper.

It is necessary to wait until the base is completely dry to wax.

Maplus CLEAN evaporates completely in about 20 minutes at ambient temperature of about 16° C, but you can speed its evaporation using a jet of hot air.

## SATURATION

Racing ski bases are generally made of ultra high molecular weight polyethylene (UHMWPE) filled with graphite and they are realized through sintering. It is a process that consists in melting under pressure high molecular weight polyethylene powder mixed with additives in a cylindrical mould so to get a compound. Once cooled down, the cylindrical shape obtained is cut to the desired thickness, generating the sintered base. During the polyethylene cooling process, some empty micro-spaces are originated at the points of contact among crystalline micro spherulites.

The base saturation is possible by spreading the liquid paraffin in these empty micro-spaces.

The heat is crucial, because it keeps the paraffin liquid and generates micro-movements of polyethylene, that facilitate the final saturation of empty micro-spaces.

Thanks to electronic waxing iron, saturation occurs normally after about 30 waxing treatments, waiting from time to time that the base cools down, in order to avoid an excessive heating of the internal structure of the ski. At high-level, saturation is carried out with the thermo-waxing bag or with a precise thermocover.

The thermo-waxing bag, that allows distributing evenly the temperature, and consequently the paraffin across the base, permits to saturate more skiing at the same time.

The skis, covered with a thick layer of paraffin, must be left in the thermo bag at a temperature of 50°/ 60° C, for a period that can range from 8 to 24 hours according to the type of ski construction. The temperature must not be higher than the ones indicated, because an excessive heat can damage the internal structure of the skis. It's very important to wait for the gradual cooling of the skis inside the closed thermo- bag, to avoid damaging the structure of polyethylene and of the ski. Ski bindings must be removed before starting the process.

At least two treatments for any ski are necessary to obtain the best result: the process, repeated twice, let the skis to be still covered by a thin and uniform layer of paraffin until they are taken off from the bag at the end of the treatment. Only in this case the saturation has been completed.

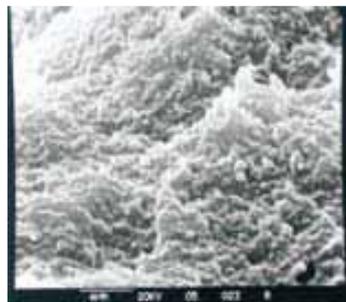
Instead of the thermo bag, it's possible also to use the designed SKI THERMO-COVER, which acts in a similar way but with different timelines. The ski bases are compressed against the thermo-cover and you get the saturation with more cycles lasting up to 2 hours. The temperature of the thermo cover is not adjustable and oscillates constantly between 55° and 60° C.

The most suggested products for saturation are the racing bases SOFT BASE or XSOFT BASE: in fact, due to their melting points, they remain liquid at recommended temperatures, during all the saturation process.

The use of the thermo-bag or the thermo-cover, compared to electronic iron, makes skis immediately gliding and more resistant to abrasion and dirt. It is necessary to repeat the saturation process whenever the skis are grinded with stone grinding machine.



POLYETHYLENE MICROHOLES



SATURATED MICROHOLES



## **SPEEDING UP**

After the saturation, and before moving on to protective waxing, it's necessary to work the ski base with some brushes in order to create on the stone grinding machine made structure a micro-longitudinal rifling, that allows the best sliding of the micro-drops agglomerated in globular form between base and snow.

For this purpose, you use brushes that allows to micro-rifle the base's surface.

This micro-rifling must be lubricated by a superficial layer of paraffin SOFT or XSOFTE BASE, in order to get it perfectly clean and gliding. The direction, in brushing operations, must always be from the tip to the tail of the ski. The recommended sequence is not univocal but it must be adapted according to the material used and the feedback in terms of sliding according to the personal experience; it can also be repeated 2 or 3 times.

### **OPERATING PROCEDURE:**

1. Use a very sharp plexiglass scraper. Apply light pressure to remove only the excess of saturation paraffin and avoid scratching the crests of the impression (the impression doesn't appear);
2. Brush with hard steel brush to micro-rule the base. Perform 3 brushing cycles from tip to tail. The pressure to be exercised is depending on how much you want to scratch the base and it is a matter of personal experience depending on the result you want to achieve;
3. Brush with hard brass brush to free the impression superficially. Perform 3 brushing cycles from tip to tail;
4. Brush with soft steel brush to micro-rule the base in depth. Perform 3 brushing cycles from tip to tail;
5. Brush with soft brass brush to free the impression in depth. Perform 3 brushing cycles from tip to tail.

## **PROTECTION**

After the base saturation and the speeding up, it's possible to proceed to the base waxing maintaining and protection during transport. It is the waxing that is carried out each time between a race and the next, or between a training and the next.

It differs from waxing saturation because it is done with higher melting paraffin and therefore harder, such as SOFT BASE or 40.60SM or MED (in order of increasing hardness), depending on the experience and the attitude of the skier, and using the DIGITAL PRO WAXING IRON or the HOT BOX.

The characteristic of these racing bases is that of having a very wide range of use: they are high quality paraffins, that offer good sliding in all conditions and high abrasion resistance. Over this resistant and performing paraffin protection sub-layer, it is possible to carry out the race waxing, making sure that the base surface (impression and micro-surface spaces) is perfectly cleaned, brushed and polished, and ready to be saturated by race wax.

For this purpose it's necessary to do a deep brushing of the ski base surface each time. The direction, in brushing operations, must always be from the tip to the tail of the tool. Manual oval or rectangular brushes or roto brushes can be used indifferently.

### **OPERATING PROCEDURE:**

1. Use a very sharp plexiglass scraper. Exert light pressure to remove only the excess of saturation paraffin and avoid scratching the crests of the impression ( the impression doesn't appear);
2. Brush with hard steel brush or hard brass brush to free the impression superficially. Perform 3 brushing cycles from tip to tail;
3. Brush with soft steel brush or soft brass brush to free the impression in depth. Perform 3 brushing cycles from tip to tail;
4. Brush with hard horsehair brush to free the impression in depth further. Perform 3 brushing cycles from tip to tail;
5. Polish with soft nylon brush. Perform 3 brushing cycles from tip to tail.



## **WAXING WITH MAPLUS RACE WAX LINE**

After the preliminary operations of preparation of edges and base by imprinting and saturation, You can proceed to the realisation of the race waxing.

We then proceed to determine the choice of the most performing products according to the temperatures and type of snow parameters, and humidity and air temperature already analyzed above.

The application of hydrocarbon paraffins (RACING BASE), of fluorinated paraffins (LP2 or HP3) and perfluorinated waxes (FP4) allows certain overlaps according to the following chemical combinations:

- hydrocarbon paraffin alone or mixed with other hydrocarbon paraffins;
- fluorinated hydrocarbon paraffin alone or mixed with other hydrocarbon paraffins, fluorinated or not;
- fluorocarbon wax alone or mixed with other fluorocarbon waxes, but anyway over a fluorinated paraffin.

The direction of waxing operations must be from the tip to the tail of the tool. The race waxing can be carried out hot or cold, depending on the physical condition of products and the experience of the skiman.

## **RACING BASE – SOLID & POWDER**

Base paraffins (high-medium-low melting) for the saturation and protection of racing ski and snowboard.

They are excellent products for the protection of race bases, for training and for sliding tests.

Hot application with waxing iron.

### **ARTIC BASE POWDER**

Use for snow with temperature from -30°C to -10°C, with fine, new or conserved crystal, and mixed with artificial snow. At high racing level this paraffin can be used with air humidity < 30% ; indeed, in case of icy very abrasive snow, it can be used over the perfluorinated wax FP4 to increase their long lasting. Clearly the hydrophobia of the base will be less. It is also used as a universal hardener to protect the base along the edges in case of natural or artificial and very abrasive snow.

Waxing iron at temperature of 150°C - 160°C.

### **ARTIC BASE**

Use for snow from -30°C to -10°C, with fine, new or conserved crystal, and mixed with artificial snow. At the highest racing level, in case of icy very abrasive snow, it can be used over the perfluorinated wax FP4 to increase their long lasting. Clearly the hydrophobia of the base will be less.

Waxing iron at temperature of 150°C - 160°C.

### **MED BASE**

Use for any type of snow from -10°C to -5°C.

Waxing iron at temperature of 130°C to 140°C.

### **40.60 BASE**

Use for any type of snow from -9°C to -3°C.

Waxing iron at temperature of 130°C – 140°C.

### **SOFT BASE**

Use for any type of snow from -5°C to 0°C. It has a melting point of 60°C, so it's the best product for the hot saturation of the bases with thermo-box or thermo-cover.

Waxing iron at temperature of 120°C – 130°C.

### **XSOFT BASE**

Use for any type of snow from -2°C to 0°C. It's an excellent product for the saturation and the protection of racing ski bases. It has a melting point of 48°C so it's a very good product for the hot saturation of the bases with thermo box or thermo cover.

Waxing iron at temperature of 110°C- 120°C.



## APPLICATION ARTIC BASE POWDER WITH WAXING IRON

1. Place the powder paraffin evenly on all the ski base;
2. Melt and spread the wax with a regular forward movement (from tip to tail) of the waxing iron at the temperature of 150°C and then perform a continuous passage from tip to tail (about 3 cm per second);
3. Free the side of the ski and the side face of the edges from the solid paraffin;
4. Wait at least 15 minutes to allow the wax to harden and to cool down and remove the excess of wax with a very sharp plexiglass scraper doing light pressure;
5. Free the ski structure with a hard steel manual brush;
6. Brush the ski base with a hard steel manual brush or a roto steel brush;
7. Brush the ski base with a manual brush or hard horsehair roto brush;
8. Polish the ski base with a manual or soft nylon roto brush.



## APPLICATION RACING BASE SOLID WITH WAXING IRON

1. Let the paraffin block drip on the ski base for 20 cm, putting it in contact with the waxing iron base, at the temperature indicated for each specific product, and then spread the wax with a regular forward movement (from tip to tail);
2. Repeat the same procedure on all ski base and then carry out a final passage from the tip to the tail (about 3 cm per second for ARTIC BASE and MED BASE, about 4 cm per second for 40.60 BASE and SOFT BASE and about 5 cm per second for XSOFTE BASE);
3. Free the side of the ski and the side face of the edges from the soled paraffin;
4. Wait at least 15 minutes to allow the wax to harden and to cool down and remove the excess wax with a very sharp plexiglass scraper doing light pressure;
5. Free the ski structure with a hard steel manual brush;
6. Brush the ski base with a hard steel manual brush or a roto steel brush;
7. Brush the ski base with a manual brush or hard horsehair roto brush;
8. Polish the ski base with a manual or soft nylon roto brush.

### **LP2 – SOLID & POWDER**

Fluorinated solid or powder (LP2 GREEN) paraffins for racing use as final product or as a base before applying perfluorinated waxes FP4. Use with relatively low and intermediate humidity conditions (<60%). Hot application with waxing iron.

#### **LP2 GREEN POWDER**

Use for snow from -30°C to -10°C, with fine, new or conserved crystal, and mixed with artificial snow. Air humidity from 20% to 60%. This paraffin can also be used as a hardener for fluorinated paraffins LP2 VIOLET and LP2 RED or HP3 VIOLET and HP3 RED in case of new or conserved abrasive snow and mixed with artificial snow. Waxing iron at temperature of 160°C.

#### **LP2 BLUE**

Use for snow from -25°C to -10°C, with old transformed or windy crystal, and mixed with artificial snow. Air humidity from 20% to 60%. Excellent during periods without snowfalls. Waxing iron at temperature of 150°C – 160°C.

# MAPLUS®

## LP2 VIOLET

Use for snow from -12°C to -6°C. Air humidity from 20% to 60%. In case of new or conserved abrasive snow and mixed with artificial snow, mix LP2 VIOLET with LP2 GREEN.

Waxing iron at temperature of 140°C – 150°C.

## LP2 RED

Use for snow from -7°C to -3°C. Air humidity from 30% to 60%. In case of new or little transformed abrasive snow and mixed with artificial snow or springtime icy snow, mix LP2 RED with LP2 GREEN.

Waxing iron at temperature of 130°C – 140°C.

## LP2 YELLOW

Use for any type of snow from -5°C to -1°C but not wet. Air humidity from 30% to 60%.

Waxing iron at temperature of 110°C – 120°C.

## LP2 ORANGE

Use for any type of wet snow from -4°C to 0°C and rainy conditions. Air humidity from 30% to 60%.

Waxing iron at temperature of 100°C – 110°C.



### APPLICATION LP2 GREEN WITH WAXING IRON

1. Place the powder paraffin evenly on all the ski base;
2. Melt and spread the wax with a regular forward movement (from tip to tail) of the waxing iron at the temperature of 160°C and then perform a continuous passage from tip to tail (about 3 cm per second);
3. Free the side of the ski and the side face of the edges from the soled paraffin;
4. Wait at least 15 minutes to allow the wax to harden and to cool down and remove the excess wax with a very sharp plexiglass scraper doing light pressure;
5. Free the impression with a hard steel manual brush;
6. Brush the ski base with a hard steel manual brush or a roto steel brush;
7. Brush the ski base with a manual brush or hard horsehair roto brush;
8. Polish the ski base with a manual or soft nylon roto brush.



### APPLICATION LP2 SOLID WITH WAXING IRON

1. Let the paraffin block drip on the ski base for 20 cm, putting it in contact with the waxing iron base, at the temperature indicated for each specific product, and then spread the wax with a regular forward movement (from tip to tail);
2. Repeat the same procedure on all ski base and then carry out a final passage from the tip to the tail (about 3 cm per second for LP2 BLUE and LP2 VIOLET, about 4 cm per second for LP2 RED and about 5 cm per second for LP2 YELLOW and ORANGE);
3. Free the side of the ski and the side face of the edges from the soled paraffin;
4. Wait at least 15 minutes to allow the wax to harden and to cool down and remove the excess wax with a very sharp plexiglass scraper doing light pressure;
5. Free the impression with a hard steel manual brush;
6. Brush the ski base with a hard steel manual brush or a roto steel brush;
7. Brush the ski base with a manual brush or hard horsehair roto brush;
8. Polish the ski base with a manual or soft nylon roto brush.



**2.b (mix with LP2 GREEN)** Over the LP2 VIOLET or LP2 RED layer, just molten, place some LP2 GREEN powder (the quantity depends on how much the snow is new and abrasive with conserved and artificial crystal) and with waxing iron at temperature of 150°C, perform a continuous passage from tip to tail (about 3 cm per second) melting perfectly the powder in the underlying solid paraffin.

### **HP3 – SOLID & POWDER**

High fluoro solid and powder paraffins for racing use as final product or as a base before applying perfluorinated waxes FP4. Use with relatively high and intermediate humidity conditions (>60%).

Hot application with the waxing iron.

#### **HP3 GREEN POWDER**

Use for snow from -30°C to -10°C, with fine, new or conserved crystal, and mixed with artificial snow. Air humidity from 50% to 90%. This paraffin can also be used as a hardener for fluorinated paraffins HP3 VIOLET and HP3 RED in case of new or conserved abrasive snow and mixed with artificial snow.

Waxing iron at temperature of 160°C.

#### **HP3 BLUE MOLY – COLD ADDITIVE**

Charged with Molybdeno. Use for snow from -25°C to -10°C, with old transformed or windy crystal. Air humidity from 50% to 90%. Excellent during periods without snowfalls and with high dirt. This paraffin can be used as moly hardener for paraffins HP3 VIOLET and HP3 RED, in case of old abrasive snow, windy and dirty, both natural and artificial.

Waxing iron at temperature of 150°C – 160°C.

#### **HP3 VIOLET**

Use for snow from -12°C to -6°C. Air humidity from 60% to 100%. In case of new or conserved abrasive snow and mixed with artificial snow, mix with HP3 GREEN or LP2 GREEN, if the humidity is lower.

Waxing iron at temperature of 140°C- 150°C.

#### **HP3 RED**

Use for snow from -7°C to -3°C. Air humidity from 60% to 100%. In case of new or conserved abrasive snow and artificial or springtime icy snow, mix with HP3 GREEN or LP2 GREEN, if the humidity is lower.

Waxing iron at temperature of 130°C – 140°C.

#### **HP3 YELLOW 1**

Use for new and moist snow from -4°C to 0°C, but not wet. Air humidity from 60% to 100%. It's the only choice for moist, polished and sticky snow.

Waxing iron at temperature of 110°C – 120°C.

#### **HP3 YELLOW 2**

Use for transformed snow from -5°C to -1°C, but not for wet and springtime icy snow. Air humidity from 60% to 100%.

Waxing iron at temperature of 120°C – 130°C.

#### **HP3 ORANGE 1**

Use for springtime icy and grainy snow but little wet from -4°C to 0°C. Air humidity from 60% to 100%.

Waxing iron at temperature of 120°C – 130°C.

#### **HP3 ORANGE 2**

Use for natural wet snow from -3°C to 0°C and rainy conditions. Air humidity from 60% to 100%.

Waxing iron at temperature of 100°C – 110°C.

#### **HP3 ORANGE 2 MOLY – HOT ADDITIVE**

Charged with Molybdeno. Use for wet snow, mixed with artificial snow and dirty from -3°C to 0°C and rainy conditions. Air humidity from 60% to 100%. This paraffin can be also used as a moly additive for paraffins HP3 RED, HP3 YELLOW2 or HP3 ORANGE 1 in case of old and dirty snow, both natural and artificial, by rubbing a thin layer on the ski base before dripping and melting the selected HP3.

Waxing iron at temperature of 100°C – 110°C.



## APPLICATION HP3 GREEN WITH WAXING IRON

1. Place the powder paraffin evenly on all the ski base;
2. Melt and spread the wax with a regular forward movement (from tip to tail) of the waxing iron at the temperature of 160°C and then perform a continuous passage from tip to tail (about 3 cm per second);
3. Free the side of the ski and the side face of the edges from the soled paraffin;
4. Wait at least 15 minutes to allow the wax to harden and to cool down and remove the excess wax with a very sharp plexiglass scraper as doing light pressure;
5. Free the impression with a hard steel manual brush;
6. Brush the ski base with a hard steel manual brush or a roto steel brush;
7. Brush the ski base with a manual brush or hard horsehair roto brush;
8. Polish the ski base with a manual or soft nylon roto brush.



## APPLICATION HP3 SOLID WITH WAXING IRON

1. Let the paraffin block drip on the ski base for 20 cm, putting it in contact with the waxing iron base, at the temperature indicated for each specific product, and then spread the wax with a regular forward movement (from tip to tail);
2. Repeat the same procedure on all ski base and then carry out a final passage from the tip to the tail (about 3 cm per second for HP3 BLUE MOLY and HP3 VIOLET, about 4 cm per second for HP3 RED and about 5 cm per second for HP3 YELLOW 1 and YELLOW 2 and for HP3 ORANGE 1, HP3 ORANGE 2 and HP3 ORANGE 2 MOLY);
3. Free the side of the ski and the side face of the edges from the soled paraffin;
4. Wait at least 15 minutes to allow the wax to harden and to cool down and remove the excess wax with a very sharp plexiglass scraper doing light pressure;
5. Free the impression with a hard steel manual brush;
6. Brush the ski base with a hard steel manual brush or a roto steel brush;
7. Brush the ski base with a manual brush or hard horsehair roto brush;
8. Polish the ski base with a manual or soft nylon roto brush.

**2.b (mix with HP3 GREEN)** Over the HP3 VIOLET or HP3 RED layer, just molten, place some HP3 GREEN powder (the quantity depends on how much the snow is new and abrasive with conserved and artificial crystal) and with waxing iron at temperature of 160°C, perform a continuous passage from tip to tail (about 3 cm per second) melting perfectly the powder in the underlying solid paraffin.

## **LINK (3 - 2 - 1)**

Mix of high fluoro solid paraffins, specially designed for Alpine disciplines, for racing use as final product or as a base before applying perfluorinated waxes FP4. Use with relatively high and intermediate humidity conditions (>60%). Hot application with the waxing iron.

### **LINK 3**

Use for any type of natural and artificial snow from -16°C to -8°C Air humidity from 60% to 100%. Waxing iron at temperature of 150°C.

### **LINK 2**

Use for any type of natural and artificial snow from -9°C to -2°C but not with springtime icy or rotten snow. Air humidity from 60% to 100%. Waxing iron at temperature of 140°C.

### **LINK 1**

Use for springtime natural and artificial snow from -3°C to 0°C with totally transformed crystal with medium and coarse grain and with dirty and/or salty snow. Air humidity from 60% to 100%. It's the best choice both on hard and abrasive iced snow and on rotten snow and in case of rain. Waxing iron at temperature of 130°C.



## **APPLICATION WITH WAXING IRON**

1. Let the paraffin block drip on the ski base for 20 cm, putting it in contact with the waxing iron base, at the temperature indicated for each specific product, and then spread the wax with a regular forward movement (from tip to tail);
2. Repeat the same procedure on all ski base and then carry out a final passage from the tip to the tail (about 3 cm per second for LINK 3, about 4 cm per second for LINK 2 and about 5 cm per second for LINK 1);
3. Free the ski side and ski edges side from the soled paraffin;
4. Wait at least 15 minutes to allow the wax to harden and to cool down and remove the excess wax with a very sharp plexiglass scraper doing light pressure;
5. Free the ski structure with a hard steel manual brush;
6. Brush the ski base with a hard steel manual brush or a roto steel brush;
7. Brush the ski base with a manual brush or hard horsehair roto brush;
8. Polish the ski base with a manual or soft nylon roto brush.

**2.b (mix with LP2 GREEN)** On the newly solidified layer of LINK, spread a layer of LP2 GREEN powder (the higher the abrasion of the snow, the greater the amount of dust) and with waxing iron at temperature of 150°C, perform a passage from tip to tail at low speed (about 3 cm per second) melting perfectly the powder in the underlying solid paraffin.

## **FP4**

Powder, liquid and solid perfluorinated waxes to be used in overlapping fluorinated paraffins HP3, LINK or LP2 with intermediate and high relative humidity (>50%).

## **POWDER**

Perfluorinated powder wax for racing.

Recommended hot application with waxing iron at temperature of 160°C.

**FP4 COLD**

Use for snow from -22°C to -8°C with with new and conserved crystal, fine and abrasive.  
Air humidity from 30% to 70%

**FP4 COLD SPECIAL (840S)**

Use for snow from -17°C to -9°C with in-trasforming or transformed crystal and mixed with artificial snow.  
Air humidity from 60% to 100%

**FP4 SUPERMED**

Use for compact snow from -16°C to -2°C with in-trasforming and transformed crystal and with artificial snow.  
Air humidity from 40% to 80%. Good also on springtime icy hard snow.

**FP4 MED M400 (841S4)**

Use for snow from -13°C to -5°C with new and conserved crystal, fine and abrasive.  
Air humidity from 50% to 80%.

**FP4 MED SPECIAL (841S)**

Use for compact snow from -9°C to -4°C with in-trasforming crystal and mixed with artificial snow.  
Air humidity from 50% to 80%.

**FP4 MED S MOLYBDENO (841SM)**

Charged wih Molybdeno. Use for compact dirty snow from -9°C to -4°C with in-trasforming crystal and mixed with artificial dirty snow.  
Air humidity from 50% to 80%.

**FP4 MED**

Use for any type of snow from -9°C to -2°C but not moist or wet, polished and icy.  
Air humidity from 60% to 100%.

**FP4 MED S8 (841S8)**

Use for compact snow from -6°C to -1°C polished and icy and mixed with artificial snow.  
Air humidity from 60% to 100%.

**FP4 MED S8 MOLYBDENO (841S8M)**

Charged wih Molybdeno. Use for compact dirty and/or salty snow from -6°C to -1°C polished and icy and mixed with artificial snow.  
Air humidity from 60% to 100%.

**FP4 HOT SPECIAL (842S)**

Use for compact snow from -3°C to 0°C polished or icy and mixed with artificial snow.  
Air humidity from 60% to 100%.

**FP4 HOT SPECIAL MOLYBDENO (842SM)**

Charged wih Molybdeno. Use for moist compact and dirty snow from -3°C to 0°C polished and icy and mixed with artificial snow.  
Air humidity from 60% to 100%.

**FP4 HOT**

Use for wet snow from -3°C to 0°C with old and transformed crystal and mixed with artificial snow.  
Air humidity from 60% to 100%.

**FP4 HOT M (842M)**

Charged wih Molybdeno. Use for wet and dirty snow from -1°C to 0°C with old and transformed crystal and mixed with artificial snow.  
Air humidity from 70% to 100%.



## APPLICATION WITH WAXING IRON

1. Place the powder wax evenly on all the ski base;
2. Spread the wax on the ski base rubbing and pressing with the manual cork (useful the cork/nylon brush MTO111);
3. Melt the wax passing the waxing iron (about 3 cm per second) from the tip to the tail at recommended temperature of 200°C;
4. If necessary, remove the melted wax with a rigid brush (useful the cork/nylon brush MTO111) then melt it again passing the waxing iron from the tip to the tail once again at the same above mentioned temperature;
5. Then roll immediately the surface of ski base with cork or polyester roller at a drill speed between 1000 and 1500 rpm, according to the applied pressure;
6. Wait at least 15 minutes for the ski wax to harden and the ski base to cool down;
7. Brush the ski base with manual or roto hard horsehair brush;
8. Brush the ski base with manual or roto soft nylon brush;
9. Polish the ski base with 12 mm merino wool roller.

**It is recommended to use the facial mask with cartridge filter to avoid breathing fluorocarbon vapors**

### **LIQUID – SPRAY**

Perfluorinated waxes for racing.

Excellent as accelerants or correctors at the start on powder waxes or on fluorinated paraffins.

Recommended cold application with merino wool rollers or manual cork.

#### **FP4 COLD SPECIAL (850S)**

Use for snow from -17°C to -9°C with in-transforming or transformed crystal and mixed with artificial snow.

Air humidity from 60% to 100%

#### **FP4 COLD**

Use for snow from -22°C to -8°C with with new and conserved crystal, fine and abrasive.

Air humidity from 30% to 70%.

#### **FP4 SUPERMED**

Use for compact snow from -16°C to -2°C with in-transforming and transformed crystal and with artificial snow.

Air humidity from 40% to 80%. Good also on springtime icy hard snow.

#### **FP4 MED SPECIAL (851S)**

Use for compact snow from -9°C to -4°C with in-transforming crystal and mixed with artificial snow.

Air humidity from 50% to 80%.

#### **FP4 MED S MOLYBDENO (851SM)**

Charged with Molybdeno. Use for compact dirty snow from -9°C to -4°C with in-transforming crystal and mixed with artificial dirty snow.

Air humidity from 50% to 80%.

#### **FP4 MED**

Use for any type of snow from -9°C to -2°C but not moist or wet, polished and icy.

Air humidity from 60% to 100%.

#### **FP4 MED S8 (851S8)**

Use for compact snow from -6°C to -1°C polished and icy and mixed with artificial snow.

Air humidity from 60% to 100%.

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## **FP4 MED S8 MOLYBDENO (851S8M)**

Charged with Molybdeno. Use for compact dirty and/or salty snow from -6°C to -1°C polished and icy and mixed with artificial snow.

Air humidity from 60% to 100%.

## **FP4 HOT SPECIAL (852S)**

Use for compact snow from -3°C to 0°C polished or icy and mixed with artificial snow.

Air humidity from 60% to 100%.

## **FP4 HOT SPECIAL MOLYBDENO (852SM)**

Charged with Molybdeno. Use for moist compact and dirty snow from -3°C to 0°C polished and icy and mixed with artificial snow.

Air humidity from 60% to 100%.

## **FP4 HOT**

Use for wet snow from -3°C to 0°C with old and transformed crystal and mixed with artificial snow.

Air humidity from 60% to 100%.

## **FP4 HOT M (852M)**

Charged with Molybdeno. Use for wet and dirty snow from -1°C to 0°C with old and transformed crystal and mixed with artificial snow.

Air humidity from 70% to 100%.



### **APPLICATION WITH MERINO WOOL ROLLERS**

1. Spray at least 20 shots of wax on the 12mm merino wool roller while it is slowly rotating on the drill;
2. Then roll the ski base from tip to tail with forward and backward movements at a drill speed between 500 and 1000 rpm, according to the applied pressure. It's necessary rolling till complete saturation of the ski base;
3. Wait at least 15 minutes for the wax to harden;
4. Polish the ski base with a different 12mm. merino wool roller with forward and backward movements at a drill speed around 1500 rpm applying gentle pressure;
5. Then carry out a final polishing passage from tip to tail.



### **APPLICATION WITH MANUAL CORK**

1. Spray at least 4 shots of wax to cover 20 cm of ski base with at a distance of nearly 5 cm, and spread the liquid wax on the ski base rubbing and pressing it with manual cork (useful the cork/nylon brush MTO111);
2. Repeat the same procedure on the whole ski base and wait at least 15 minutes for the ski wax to harden;
3. Brush the ski base with forward and backward movements pressing with manual hard nylon brush;
4. Brush the ski base with manual or roto soft nylon brush;
5. Polish the ski base with 12 mm merino wool roller

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## **SOLID**

Perfluorinated solid waxes for racing. Excellent as accelerants and correctors at the start on powder waxes or on fluorinated paraffins.

### **FP4 COLD**

Use for snow from -22°C to -8°C with with new and conserved crystal, fine and abrasive.  
Air humidity from 30% to 70%

### **FP4 SUPERMED**

Use for compact snow from -16°C to -2°C with in-trasforming and transformed crystal and with artificial snow.  
Air humidity from 40% to 80%. Good also on springtime icy hard snow.

### **FP4 MED**

Use for any type of snow from -9°C to -2°C but not moist or wet, polished and icy.  
Air humidity from 60% to 100%.

### **FP4 HOT**

Use for wet snow from -3°C to 0°C with old and transformed crystal and mixed with artificial snow.  
Air humidity from 60% to 100%.



## **COLD APPLICATION WITH MANUAL CORK**

1. Spread the wax evenly on all ski base by rubbing yhe solid tablet;
2. Then rub and press the wax into the ski base with the manual cork (useful the cork/nylon brush MTO111);
3. Brush the ski base with forward movements pressing with manual hard horsehair or nylon brush;
4. Polish the ski base with manual soft horsehair or nylon brush.

## **YELLOW FLASH**

Fluorinated liquid polymer with spray dispenser to be used in overlapping perfluorinated waxes FP4 for racing.  
Use with rotten, granita icy snow from -3°C to 0°C with totally transformed crystal with medium and coarse grain.

It's successful both on abrasive icy snow and on rotten snow and in all intermediate conditions when the sun heats gradually the snow. It's also excellent with rain conditions but only if on totally transformed snow, as mentioned above, whereas it should not be used if it snows wet or mixed rain on new moist and polished snow. Air humidity from 60% to 100%.

It must be used only at the last minute as a starting accelerant or corrector on perfluorinated waxes or on fluorinated paraffins and it must be left in the liquid state on the ski base.

Cold application with the cap-applicator with felt.



## **COLD APPLICATION WITH FELT CAP-APPLICATOR**

1. Spray at least 1 shot of polymer every 5 cm of ski base to cover it all;
2. Then spread uniformly the polymer on the ski base that has to remain wet by the product;
3. Use immediately without waiting for the polymer to dry on the base.

## CLEANING OF THE SKI BASE AFTER RACING USE

The snow, because of the air pollution and the use of snowcats, is dirty: therefore, after the use of the racing equipment and the subsequent preparation of the edges, it's necessary to clean the ski base before a new waxing.

Two cleaning operations are always carried out in order to completely release the impression and the superficial micro-cavities of the ski base from the residues of the wax used and from the dirt collected during the descents.

In case of previous waxing with perfluorinated FP4 waxes, the first cleaning is carried out with the detergent specifically designed for fluorine FLUORCLEAN; the second cleaning, instead, is performed with the paraffin detergent CLEAN.

In case of previous waxing with base paraffins or with fluorinated paraffins, both the first cleaning and the second are carried out only with CLEAN.

In cleaning operations, the direction must always be from the tip to the tail of the tool.

### FLUORCLEAN

Fluorinated liquid cleaner to remove residuals of any type of perfluorinated waxes FP4 and the dirt collected during activity.

### CLEAN

Liquid cleaner to remove residuals of paraffins, fluorinated paraffins and the dirt collected during activity and the preparation of the ski base and the edges.



### APPLICATION

1. Spray or drip the detergent over the surface of the ski;
2. Spread the detergent evenly over the entire surface of the ski using a paintbrush;
3. Brush the ski using a soft brass brush to improve the action of the detergent and wait 2 minutes so that it plays its action, without letting it dry;
4. Remove the dirt and wax residues with fiberlene or blotting paper wrapped around a plexiglass scraper, repeating at least twice;
5. Dry the ski with fiberlene or blotting paper.

It is necessary to wait until the base is completely dry to do a new waxing.

Maplus Cleaner evaporates completely in about 20 minutes at an ambient temperature of about 16°, but you can speed its evaporation using a jet of hot air.

*The experience of Maplus World Cup Testing Team is available to everyone  
in Racing Wax Chart on the catalogue  
in the app "SKIMAN ON-LINE" usable on the website [www.maplus.it](http://www.maplus.it)  
in the videos of the YouTube channel "Maplus"*



## SPORTS TOURIST-RECREATIONAL WAXING

As previously said, waxing is essential to having fun and improving in safety. It is true that, at amateur levels, it must be able to achieve anywhere with extreme ease and possibly without dirtying. In addition to offering traditional waxing with solid products, Maplus has therefore developed a line of liquid products of simple application. Performance Line liquid products offer excellent sliding and durability in all snow and temperature conditions, so much to be used by many club coaches also for racing waxing for the high saving of time and work that they can take in preparing a ski for race.

The products for sports and tourist-recreational waxing and for the waxing of rental equipment are divided into the following product lines:

- **Performance Wax – Liquid waxes**
- **Sport Wax**
- **Super Glide Wax**
- **Universal Wax**

### PERFORMANCE WAX LINE

Liquid paraffins and fluorinated liquid paraffins in three temperatures for sports, training and racing use, to be used with any type of snow.

Cold application with cork and brush pad is recommended.

#### BP1 – LIQUID

Liquid paraffins for sports, training and racing use.

##### **BP1 COLD**

Use for any type of snow from -22°C to -8°C Racing use with air humidity < 40%. It can be used as universal training product.

##### **BP1 MED**

Use for any type of snow from -9°C to -2°C but not wet.

##### **BP1 HOT**

Use for any type of moist or wet snow from -3°C to -0°C.

#### LP2 – LIQUID

Liquid fluorinated paraffins for sports, training and racing use. For racing use they can be used as final product or as a base before applying fluorocarbon waxes FP4.

Air humidity from 30% to 60%.

##### **LP2 COLD**

Use for any type of snow from -22°C to -8°C.

##### **LP2 MED**

Use for any type of snow from -9°C to -2°C but not wet.

##### **LP2 HOT**

Use for any type of moist or wet snow from -3°C to -0°C.

#### HP3 – LIQUID

High fluorinated liquid paraffins for racing use as final product or as a base before applying fluorocarbon waxes FP4.

Air humidity from 60% to 100%.

##### **HP3 COLD**

Use for any type of snow from -22°C to -8°C.

##### **HP3 MED**

Use for any type of snow from -9°C to -2°C but not wet.

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## HP3 HOT

Use for any type of moist or wet snow from -3°C to -0°C.



## COLD APPLICATION WITH MANUAL CORK AND BRUSH

1. Drip the ski wax or spread it with a paintbrush to cover about 20 cm. of the ski base;
2. Allow the still liquid wax to penetrate into the dispensing area with rubbing and pressing action with a manual cork and repeat the same procedure on the whole ski base ( useful the brush cork/nylon MTO111);
3. Wait at least 15 minutes for the ski wax to harden;
4. Free the side of the ski and the side face of the edges from the soled paraffin with the plexyglass scraper;
5. Brush the ski base with forward and backward movements by pressing with a manual hard nylon brush;
6. Brush the ski base with a manual brush or hard horsehair roto brush;
7. Polish the ski base with a manual or soft nylon roto brush.

## SPORT WAX LINE

Low fluorinated solid paraffins and without fluorine in three temperatures for sports, tourist-recreational use, to be used with any type of snow.

Hot application with waxing iron.

### BP10 – SOLID

Solid paraffins for training and sports use. Racing use with air humidity <50%.

#### **BP10 VIOLET**

Use for any type of snow with air temperature from -19°C to -9°C.

Waxing iron at temperature of 140°C – 150°C.

#### **BP10 RED**

Use for any type of snow with air temperature from -9°C to -3°C. It's an excellent product for the protection of the racing ski bases and it can be used as a universal base for racing and training.

Waxing iron at temperature of 130°C – 140°C.

#### **BP10 YELLOW**

Use for any type of snow with air temperature from -3°C to +9°C. It's an excellent base product for the saturation of racing ski bases.

Waxing iron at temperature of 120°C – 130°C.

### LP15 – SOLID

Low fluorinated solid paraffins for training and sports use. Racing use with air humidity >50%.

#### **LP15 VIOLET**

Use for any type of snow with air temperature from -19°C to -9°C.

Waxing iron at temperature of 140°C – 150°C.

#### **LP15 RED**

Use for any type of snow with air temperature from -9°C to -3°C. It's an excellent product for the protection of the racing ski bases and it can be used as a universal base for racing and training.

Waxing iron at temperature of 130°C – 140°C.

#### **LP15 YELLOW**

Use for any type of snow with air temperature from -3°C to +9°C. It's an excellent base product for the saturation of racing ski bases.

Waxing iron at temperature of 120°C – 130°C.



## APPLICATION WITH WAXING IRON

1. Let the paraffin block drip on the ski base for 20 cm, putting it in contact with the waxing iron base, at the temperature indicated for each specific product;
2. Then spread the wax with a regular forward movement (from tip to tail). Repeat the same procedure on all ski base and then carry out a final passage from the tip to the tail (about 3 cm per second for BP10 and LP15 VIOLET, about 4 cm per second for BP10 and LP15 RED and about 5 cm per second for BP10 and LP15 YELLOW);
3. Wait at least 15 minutes to allow the wax to harden and to cool down;
4. Remove the excess wax with a very sharp plexiglass scraper doing light pressure;
5. Free the side of the ski and the side face of the edges from the soled paraffin;
6. Free the impression with a hard steel manual brush;
7. Brush the ski base with a manual brush or hard horsehair roto brush;
8. Polish the ski base with a manual or soft nylon roto brush

## SUPER GLIDE WAX LINE

Universal liquid paraffins, cream or solid, with high sliding and durability for tourist-recreational use, to be used with any type of snow.

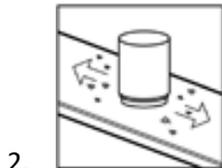
### **SUPER GLIDE WAX – UNIVERSAL FLUORO LIQUID 75ml**

High quality universal liquid paraffin for tourist-recreational use. Use for any type of snow. The product has a cap applicator with felt to allow a quick waxing operation "last minute" with high sliding and durability. Use cold application.



## APPLICATION WITH FELT CAP-APPLICATOR

1. Let the wax drip on the all ski base;
2. Then spread the wax rubbing and pressing with the cap applicator and wait at least 10 minutes for the ski wax to harden.



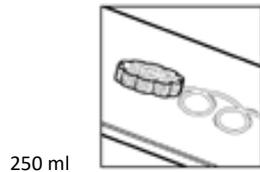
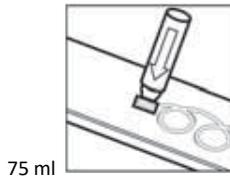
### **SUPER GLIDE WAX - UNIVERSAL FLUORO CREAM 75ml e 250ml**

High quality universal cream paraffin for tourist-recreational use. Use for any type of snow. The product has a sponge applicator inside to allow a quick waxing operation "last minute" with high sliding and durability. Use cold application.



## APPLICATION WITH SPONGE APPLICATOR

1. Spread the ski wax on all the ski base with the sponge applicator supplied;
2. Wait at least 10 minutes for the ski wax to harden.



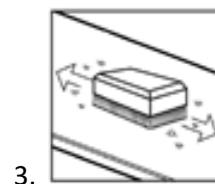
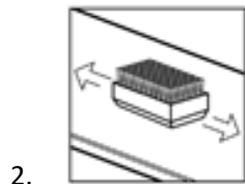
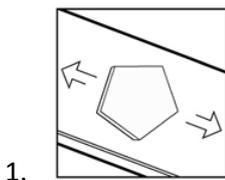
## SUPER GLIDE WAX – UNIVERSAL RUB ON

High quality universal solid paraffin for tourist-recreational use. Use for any type of snow. Cold application with cork/nylon brush (MTO111);



## APPLICATION WITH CORK/NYLON BRUSH (MTO111)

1. Rub with pressure the solid block on the all ski base;
2. Allow the wax to penetrate into the ski base with action of rubbing and pressing using the cork part of the cork/nylon brush (MTO111);
3. Polish the ski base with the nylon part of the cork/nylon brush (MTO111).



## **UNIVERSAL WAX LINE**

Universal solid, granular or liquid paraffins reserved for laboratories and rentals for tourist-recreational use. Use hot application with waxing iron or with professional waxing machines.

### **UNIVERSAL SOLID RED**

Universal solid paraffin used for any type of winter snow from -15°C to -5°C. Waxing iron at temperature of 130°C – 140°C.

### **UNIVERSAL SOLID YELLOW**

Universal solid paraffin used for any type of spring snow from -5°C to 0°C. Waxing iron at temperature of 110°C – 120°C.

### **UNIVERSAL SOLID FLUORINATED RED**

Universal fluorinated solid paraffin used for any type of winter snow from -15°C to -5°C. Waxing iron at temperature of 130°C – 140°C.

### **UNIVERSAL SOLID FLUORINATED YELLOW**

Universal solid paraffin used for any type of moist and wet snow from -5°C to 0°C. Waxing iron at temperature of 110°C – 120°C.



## **APPLICATION WITH WAXING IRON**

1. Let the paraffin block drip on the ski base, putting it in contact with the waxing iron base, at the temperature indicated for each specific product;
2. Then spread the wax with a regular forward and backward movement and then perform a continuous passage from tip to tail at constant speed (about 4 cm per second);
3. Wait at least 15 minutes to allow the wax to harden and to cool down;
4. Remove the excess wax with a very sharp plexiglass scraper as doing light pressure;
5. Free the side of the ski and the side face of the edges from the soled paraffin;
6. Free the impression with a hard steel manual brush;
7. Brush the ski base with a manual brush or hard horsehair roto brush;
8. Polish the ski base with a manual or soft nylon roto brush.

### **UNIVERSAL GRANULAR COLD**

Universal solid paraffin used for any type of winter snow from -15°C to -5°C. Use hot application with professional waxing machines.

### **UNIVERSAL GRANULAR HOT**

Universal solid paraffin for tourist-recreational use. Used for any type of spring snow from -5°C to -0°C. Use hot application with professional waxing machines.

### **UNIVERSAL LIQUID**

Universal liquid paraffin for tourist-recreational use. Used for any type of spring snow. Particularly suitable for rental and laboratories.

Cold application with paintbrush and manual cork.



## **APPLICATION WITH PAINTBRUSH AND MANUAL CORK**

1. Spread the ski wax with a paintbrush on the ski base;
2. Allow the wax to penetrate into the ski base, still liquid, with action of rubbing and pressure using manual cork;

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3. Wait at least 15 minutes to allow the wax to harden;
4. Brush the ski base with forward and backward movement doing pressure with manual hard nylon brush;
5. Brush the impression with manual or roo hard horsehair brush;
6. Polish he ski base with manual or roto soft nylon brush.

## **SKI-ALP WAX LINE**

Sliding and anti-hoof paraffin for ski mountaineering skins, for universal and racing use.

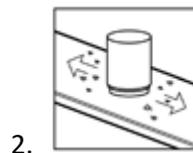
### **UNIVERSAL TOUR LIQUID 75ml**

High quality liquid paraffin for sports use on ski mountaineering skins and on ski bases with any type of snow. The product has a cap applicator in felt that allows a quick cold waxing "last minute" with high sliding and durability.



### **APPLICATION ON SKIN WITH FELT CAP-APPLICATOR**

1. Let the wax drip on skin for about 20 cm and distribute it immediately on the surface with felt cap-applicator with rubbing and pressure action. Repeat the operation on all skin then wait at least 10 minutes for the ski wax to harden.



## **BOOST**

Fluorocarbon special solid mix to wax ski-alp racing skins. The skin is going to acquire greater sliding and it is going to become completely waterproof avoiding the formation of any type of snow hoof. Recommended cold application by rubbing the tablet on the skin. To obtain a greater impregnation and a longer duration during the race, it's possible to make quick passes with the waxing iron at 150° C. (exclusively on pure mohair skins).

### **BLUE BOOST**

Use for any type of cold snow from -20°C to -5°C.

### **RED BOOST**

Use for any type of hot and wet snow from -5°C to 0°C.



### **APPLICATION ON SKIN WITH WAXING IRON**

1. Rub the tablet on the skin, impregnating it with the product so that it acquires a whitish color;
2. Quickly pass the waxing iron from tip to tail at a temperature of 150 ° C. with a speed of about 5 cm per second, by melting the wax in the skin and then repeat the operation at least 3 times to guarantee an excellent impregnation and a longer durability of the product.