

Brushing Guidelines

Article for the Master Skier by Ian Harvey

Brushing is one aspect of ski preparation that seems unqualified, unproven, unscientific, and misunderstood. My advice regarding brushing is based on some comparing ideas with other professional technicians, but mostly based on my own testing and experiences. It is possible to test the effects of brushing and this is how I form my opinions and methods. I will describe 4 kinds of brushes: nylon, horsehair, nylon polishing, and metal.

Nylon is the all purpose brush. This is the brush that a person would buy if they were to own only one brush. It is extremely gentle on the ski base and can be “scrubbed with” (brushed in both directions in an aggressive manner). The nylon brush has the thickest bristles of the brushes. These thick bristles are not able to reach down into structure and remove much wax. For this reason, this brush leaves much wax on the ski base, which is not really a good thing. The more of the other brushes one has, the less Nylon a person would use.

Horsehair was originally introduced as an “antistatic” brush. Since this introduction, we have learned that static build up from brushing is not an issue - nylon brushes don’t create static build up either. However, horsehair brushes are still useful. The bristles are very fine, but still pretty stiff. This makes the horsehair brush excellent for the final removal of very hard waxes typically used in cold conditions. In these conditions, one wants to be especially careful to remove all wax from the surface of the ski base. In very cold weather, it is also common for a person to brush skis indoors then go outdoors and ski a bit and find “white bases”. This whiteness can be additional wax that has been squeezed out of the base by the cold. Another brushing outside before the start with the horsehair brush will fix this problem. Many people also use horsehair to finish fluorocarbon applications. I have found the nylon polishing brush to be a little better.

The nylon polishing brush has recently become a much used brush. This brush is preferable for finishing all waxes. It shines the base up and is very delicate on the base. This brush can also be “scrubbed” with. When a base is brushed out well, but still shined up, this is a result of having a microscopic coating of wax on the surface of the base which is especially preferred in new falling or newly fallen snow. So, use the nylon polishing brush for finishing all paraffin based waxes (hydrocarbon, low Fluorinated waxes, and high Fluorinated waxes). Also use this brush for brushing out and finishing Fluorocarbon applications. When Fluorocarbons (liquids, powders and blocks, NOT Fluorinated waxes such as HF!) are applied, they do not go into the base. They stay on the surface of the base. We do not want to brush Fluorocarbons out too aggressively because then they won’t be there anymore! The nylon polishing brush is perfect for exactly this. It removes the residue, but doesn’t strip the base of the positive effects of the Fluorocarbon application the way a metal brush would, for example.

Metal brushes are really misunderstood. Much of this is due to the evolution that has taken place over the past 20 years. Years ago, we used brushes for structuring bases. Yes, they caused hair in the base, but after time and fibertexing the hairs went away and we were left with structure created by dragging hard metal brushes over the surface of the soft plastic base. Since then, we have progressed; brushes should no longer be used for applying structure on Nordic skis. For this purpose, we have stonegrinding and hand structure tools. Brushes are to remove wax and to “open” the base. For this reason, a very soft metal brush is necessary. The softest metal brush on the market is copper. It does all of the good things that a coarser metal brush would do without the negative things that go with it (hair!). When a base has hair on it and a hot iron passes over it, the hairs melt and “seal” the base. So a hairy base doesn’t just glide slower, it also leads to long term damage of the ski base.

Some stonegrinding specialists use steel brushes in their post stonegrinding treatment. These specialists generally use the steel brush to wear the grind in and make it less aggressive.

In Alpine, steel brushes are used commonly for brushing out wax after ironing and scraping. This is because hair does not play much of a role due to the high speeds and generally coarse snow. For treating Nordic skis, a steel brush is not recommended for post waxing and scraping treatment. Steel brushes can be effective for opening up the base before waxing though.

A soft metal brush such as copper is extremely useful. This will be the most commonly used brush. Every time after skiing and before waxing the brush should be used to knock off dirt and old wax and “open” the base. This makes the ski more ready to take wax. Also, use the copper after hot waxing, letting cool, and scraping as your first brush. The copper brush removes wax quickly without creating “hair” like the more aggressive metal brushes. Brush until very little wax comes out of the base. Then switch to horsehair if using cold waxes or nylon polishing if using warmer waxes.