

Miniature-Painting.net

The Hitchhikers Guide to the World of Brushes

This little guide is about the single most important tool of the miniature painter - the brush. First I give you a small overview of brushes in general, describing different hairs and shapes used by artists for different applications. Afterwards I discuss which brushes are of special interest for the miniature painter and what to consider when you are going to buy new brushes. Then I finish with hints about how to handle and to take care of your brushes.

Basic facts

All brushes basically consist of three major parts, the hair, the handle and the ferrule.

The first and most important part of the brush is the hair. The kind of hair, how much hair and into which shape the hair is formed are the main characteristics of a brush, and determine its quality and area of application. The different shapes and hair types will be discussed in detail later. For now, I would like to warn you. If you are browsing brush catalogues, keep in mind that the notation of the brush sizes is not uniform. This is especially interesting if you want to order brushes by mail or compare prices. Look to see if the diameter and visible length of the hair is listed. Some internationally operating companies have come to an standardized notation, but a lot of European manufacturers will use different sizes. For example a typical British size 2 brush may be the same as a German size 3 brush.

You may have noticed, that some brushes have their point "glued together" when you buy them. This is done to protect the hair and shape during the shipping of the brush. The glue used for this is gum arabic, a binder for aquarelle colors. So, clean your brushes with water before the first use. The brush maker binds the hair into its basic shape and will never use scissors to cut the shape. Some brushes consist of different layers of hair. A core of hair with good color transporting properties and around this core, a layer of different hair to define the shape of the brush.

If you are dealing with natural hair, it can be useful to know how it is built. A hair consists of a fine core, and this core is enclosed by tiny scales. Soaking the brush in water for a long time will cause these scales to open up like a fir cone. This way the brush loses some flexibility and its ability to hold enough paint. After thoroughly cleaning the brush in water and curd soap, giving it back its natural fats, and a drying, the brush can regain its initial properties.

The second major part of the brush is the handle. Quite obviously, this is the section of the brush you will hold in your hand. Therefore brush makers have invented many different shapes for the handle. Some of them are even patented and may only be used by the patent holding company. There are brushes with short or long handles. They may be round or triangular in shape. The main purpose of all these, and a lot more variations is to

make the brush handling more comfortable and ergonomic. A long handle, suitable for painting on a large canvas from some distance, can get in your way when you are painting a miniature. But it is largely a matter of personal taste which shape to choose.

The third common part of every brush is the ferrule. It keeps the hair and the handle together. The ferrule is often made of brass tubing, plated with nickel, so be careful if you are allergic to nickel. The glue used inside the ferrule is resistant to most solvents, but hot water can sometimes be hazardous to it. Also don't try to speed up the drying of a brush with heat. This can lead to a shrinkage of the handle's wood and the ferrule will come loose.

Hair types

A lot of different hairs are used to produce brushes. Sometimes brush makers have been quite creative with the naming of the different types. This creative name giving can be very misleading when you don't know what the names really mean. Additionally there are differences in the quality of the hair which are differentiated by the name. This applies especially for sable brushes, which are quite important for the miniature painter. I will now try to clear up some of these "mysteries" by listing and describing a selection of hair types.

- **Kolinsky sable.** The red sable "*mustela sibirica*" lives in east Siberia and northern China. The **Harbin-Kolinsky** is named after a city in northern China close to the border to Russia. This sable lives on the banks of the Ussuri, the border stream to Siberia. The tail of this sable is a bit smaller than the tail of his Siberian cousins. It is bushy and has strong hair with a fine tip. The terms **Tobolsky-Kolinsky** and **Ussuri-Kolinsky** describe the Russian red sable that lives on the banks of the streams Lena, Amur, Ussuri and Tobol. It has a splendid tail with strong hair with a fine tip and a good spring. It makes excellent brushes. The best Kolinsky brushes are made from the winter hair of the tail of the male red sable. The color of this hair is golden.
- **Red sable.** Brushes under this label consist of second grade Kolinsky sable hair or are made of weasel hair. The weasel hair has this reddish shine.
- **Black sable** and **Russian sable** are two terms used for **Fitch Hair**. The Fitch hair comes from the polecat. It has similar qualities to red sable, but is more coarse. This limits its application to oil based colors.
- **Brown sable** brushes are made from the hair of sable tails that are dyed with the rest of the fur by the furrier. This hair is used for simple quality brushes.
- **Sable.** Brushes that are simply labeled sable without anything else will be made of any hair listed above that doesn't meet the quality requirements for the other labels. Sometimes some lower grade squirrel will be mixed in too. The quality of these brushes can range from trash to good.
- **Sabeline** is a sable imitation made from ox hair. For this kind of brush, the white hair from the oxen ears is used. It is dyed to look like red sable. It has similar properties to sable, but the hair has blunt tips.

- **Bristle.** This is a stiff hair from a hog, boar or pig. It is well known for its so called flags. The term flags describes the split tips of the hair. They increase the paint capacity and volume of the brush. It is used to spread heavy paint evenly over a surface. These brushes can be applied in drybrushing.
- **Camel hair.** The term camel hair is very misleading. Camel hair brushes actually consist of various inexpensive hair types like Asian pony, bear, sheep or lesser grade squirrel hair. There is not a single hair from a real camel in a camel hair brush.
- **Sheep hair** and **Goat hair** is long and can hold a good point. But it has no spring. This hair is mainly used in calligraphy.
- **Horse hair** is used for calligraphy too, but it can not hold a good point when it is wet. So often a second layer of sheep hair is put around a core of horse hair to get a good brush.
- **Squirrel.** Canadian and Russian squirrels provide thin, soft absorbent hair. Squirrel hair brushes can form a very sharp point but they have no spring. They are used for watercolor wash and lettering.
- **Synthetic** hair is a modern development to replace the expensive and rare natural hairs. It has a good spring and can form a sharp point. But usually they can't hold color as good as natural hair and the color will come to the surface faster. A very popular fiber is **Nylon**. The golden taklon nylon brushes are a cheap alternative to sable brushes.

Brush Shapes

There just a few brush shapes that are interesting for miniature painting. Most of the time you will need round brushes with a sharp point. The three shapes that are most useful are the **pointed brush**, **riggers** and **spotters**. The basic shape of these brushes is the same. They are simple round brushes forming a fine point. But the difference between the brushes is the visible length of the hair.

- The shortest brushes are the spotters. They are used as retouch brushes for example. They have a very limited capacity to hold color. But their short hair provides a good control over the brush. This makes them ideal for tiny details like eyes.
- The normal pointed brush is the standard tool for the miniature painter. It can hold a fair amount of color and provides good control.
- Sometimes you will need a brush that can hold even more paint and can be used to draw long fine lines. Then the rigger is the perfect brush for you. Some special techniques will require a long hair. There are also riggers with extra long hair, or special liners which are broad at the ferrule and form a fine point at one side.

Drybrushing may require another shape. Round blunt or flat brushes will do a good job here.

Which brushes do I need ?

If you are just starting and don't have any experience with painting, I would recommend that your first set of brushes should be of good but not of the finest quality. Go for good nylon or red sable brushes to get the feeling for the brush. But don't buy too cheap brushes, because they will soon be useless and you will get frustrated and think that the problems you have are your fault. But you are simply using a very poor brush.

If you have already done some painting, you surely should invest some money in fine Kolinsky brushes or very good Nylons. If you take care of them as I will describe, you will be able to enjoy the brush for many years.

A good starting set of brushes consists of a size 2, 1, 0 and 5/0 brush. You can add bigger brushes for larger areas and color mixing and smaller brushes for fine detail work later. But remember that a 20/0 brush hasn't got a finer point than a good 10/0 or 5/0 brush. Most of the time simply the color capacity will get smaller as does the size and your paint will be dry before it reaches the miniature. This is no universal law of course. Use the sizes that work best for you.

How to buy a brush

Basically you go into some shop, take a brush you like, pay the price and go home. But there are a few points to consider when you choose the brush you want to take home.

First of all, think about what brush you need, think about what hair, shape and size you want. Even if you are using water based acrylic paint, the special water color brushes will most likely be made of squirrel hair or something like that. This is too soft for miniature painting in most cases. You can make some tests in the store to make sure that you get quality brushes. Don't buy brushes that have bent over hair, and take care not to bent over the hair yourself when you are putting on the brush protector.

- **The snap test.** Bend the hair gently over to one side. The hair should snap back into position after releasing the pressure.
- **Test the point.** Ask for a glass of water and a paper towel. Take the brush you are interested in, swirl it through the water for a moment and try to form a sharp point. You do this by dripping off the excess water and pulling the brush from the ferrule to the tip over a paper towel or your fingers. Turn the brush slightly while you are pulling. If you can't form a good point this way, put the brush back and try another one. The results of this test can differ even for brushes that look identically. A good shop will provide you with a glass of water for this test. If they don't understand you, they haven't really learned their business. Of course you could use your own spit to do this test when nobody is watching, but take care. Some brushes have their point "glued" together with a binder that will dissolve in water. You don't really want to swallow that.
- **Test the ferrule.** If the ferrule is loose or bent, you will have a hard time painting with this brush.

Don't buy the "2\$ for six brushes" set. These brushes could only be used for base coats or paint mixing. Also most brushes from miniature companies are not really of high quality. The only exception I encountered are the special Games Workshop drybrushing brushes. These are a great tool for, yes you guessed it, drybrushing. I didn't like the other brushes from GW though.

How to clean a brush

To clean you will need a solvent liquid. Which solvent to use depends of the medium of your color. For water based colors like acrylics some water in a glass will be fine. If you are using oils or enamels you will need a special thinner. Usually this is a turpentine replacement.

Independent of the solvent, the cleaning process is basically the same. Take care that the paint never dries on your brush. Dip the tip of your brush into the solvent and swirl it around. Then you gently push the head of the brush sideways against the glass. There you start to turn your brush slowly back and forth while pulling it up, following the natural direction of the hair, to get the paint away from the ferule. Don't slam the point down on the bottom of the glass. This will ruin your best brush. If the brush stops to produce a cloud of color, take it out and pull it over a clean paper towel. If this leaves some paint on the paper, go back and repeat the last step. Finally you should squeeze out remaining liquid and give the brush back its original shape. This can be done while pulling and turning the brush over the towel, with your fingers or by using your wet lips. **Warning !** Brush licking is basically a bad habit. Never ever do this with brushes used for oils or enamels. These paints are toxic. Only do this if the used water color is non-toxic and the brush is completely clean. I am not responsible for any ill effects caused by any brush licking you do.

The above cleaning process is what you do all the time while painting. When you have finished your painting session you should thoroughly clean all your brushes - **always!** You additionally can clean your brushes with lukewarm water and curd soap (or special brush soap). If you have some dried paint left on your brushes use a special brush cleaner and conditioner like orange terpene. This will dissolve the paint but also give the brush back some of its natural fats and spring. I don't recommend acetone or dish washing soap for brush cleaning. These will clean the brush but also remove the natural fats, make the brush brittle and eventually ruin it. Also you should avoid getting solvent on the handle. This will destroy the lacquer of the handle and can cause the handle to come lose the ferule.

More tips

- Always work with the natural direction of the hair.
- Only put on the protective cap, when the brush is completely dried or mold can develop.
- Only load the tip of the brush. Color at the ferule will ruin the point of your brush and is hard to remove.

- Don't let the handle soak up liquid for hours. The wood can swell and cause the ferrule to come loose.
- Store your brushes upright, with the hair up, or flat. But make sure the hairs are not touched. By no means let your brush stand on its head in your cleaning water. If you want to store your brushes upright, make sure that they are dry, else the water can run into the handle and cause it to swell.
- Use different brushes for different painting mediums. Use one set of brushes for acrylics, one for oils and one for enamels. A brush can't stand a constant switching of the medium.
- Use a separate brush for metallic paints and rinse it in a separate glass of water. If you don't, the metal flakes will come into all of your paints.
- Use a lesser quality brush to get the paint on your palette and to mix the color. This is heavy duty work. Fine Kolinsky brushes are over qualified for this.