Types of Varnishes

Your choice of varnish will affect the final look of your art. However, you should choose your varnish on more than just its appearance. Stability and clarity should also be considered in the choice to ensure that your art lasts a very long time and that it continues to look exactly as you intended.

Mediums and glazes are not final picture varnishes. Mediums and glazes do not have all the same protective qualities of a varnish. This can be confusing because some mediums and glazes unify the surface sheen and can form a layer over the painting that appears to dry to a “durable” finish.

Isolation Varnish
In the case of acrylic gloss medium, it can function as an “isolation varnish”, which is used over layers of acrylic paint, but under the final picture varnish. An isolation varnish becomes a permanent part of the painting. It’s used to seal pigment at the surface of a painting, as well as any underbound washes of paint. It also keeps the painting protected in the event that the removable varnish used on top needs to be cleaned and removed. When adding an isolation varnish to an acrylic painting, it is still very important to add a removable varnish over it.

Retouch Varnish
Retouch Varnish is used when painting with oils either during the artwork creation process, or after the painting is dry to touch. Depending on how long it takes to create a painting, you might have areas on an oil painting that look wet, and some that look dry. In order to compare colors accurately, you can make the dry areas look as if they were just applied by adding a retouch varnish over them. Retouch has only a very small amount of resin so it will still allow the underlying oil paint to oxidize through this very light varnish. You can also use retouch varnish when the painting is dry to touch in order to unify the surface and give a consistent sheen over the entire painting. Retouch serves as a temporary varnish until you can apply a final picture varnish in six to twelve months.

Picture Varnish
A final varnish, or picture varnish, is a fine art varnish that is meant to be used as a final coating over the completed artwork. There are many kinds of final varnishes available. The following information should help you decide which type of varnish is right for your artwork.

Removable vs. Permanent
A permanent varnish is exactly what it sounds like – it will be part of the art forever. For the final varnish layer, it’s most important to choose a product that is removable with mild solvents to allow for cleaning without damaging the underlying paint layers. If the varnish becomes discolored one day (due to dirt, pollution, aging or smoke damage, for example), a removable varnish layer can be easily dissolved by a conservator, removing the dirt and other contaminants for restoration purposes. Once a fresh coat of varnish is applied, the artwork is returned to its original appearance. A permanent varnish that is damaged or discolored remains part of the artwork.
Types of Varnishes (continued)

Flexible vs. Rigid  
A varnish must be flexible enough to move with the painting, while durable enough to resist dust and dirt. Typically, flexible varnishes can be used on any type of painting support, but a rigid varnish is harder and more durable, and should only be used on rigid supports like painting panels. A flexible varnish will not crack as a painting surface, like canvas, expands and contracts with temperature or humidity changes. When looking at fine art removable aerosol varnishes, those on the market today are all flexible varnishes that can be safely used on varying types of supports from stretched canvas to hard panels.

Low Molecular Weight (LMW) vs. High Molecular Weight (HMW)  
The molecule size of the resins used in a varnish affects the aesthetics and physical properties of each varnish. Resins of similar molecular weights have similar characteristics, although they can all be chemically very different.

Low molecular weight resins typically are more brittle, but have greater gloss and provide greater color saturation because of their smaller molecular size and higher refractive index. LMW varnishes level very well because their viscosity is low, which allows them to dry to a smooth, glossy film. Some LMW resins, particularly natural resins and ketones, become harder to remove as they age, requiring stronger solvents.

High molecular weight resins are typically more flexible and durable, and offer more resistance to blooming. Their gloss level and color saturation tends to be lower than that of low molecular weight resins because of their larger molecular size and lower refractive index. HMW varnishes have higher viscosity, so when they are applied to a painting, they conform to the contours of the substrate underneath rather than leveling like a LMW varnish would. Some HMW resins can cross-link over time and become insoluble.

Natural Resin vs. Synthetic  
Traditional natural resin varnishes are made from trees, plants or insects, and have been used by artists for centuries. These varnishes must be filtered to keep the finish as pure as possible, yet even after filtering, they still have a slight amber appearance. As natural resin varnishes age, they darken and yellow rather rapidly unless kept in a museum-quality environment. This can happen within 15 years or 50, but regardless, all natural resin varnishes darken and become more difficult to remove over time, requiring stronger solvents that could damage the paint layers underneath. Additionally, environments with high humidity may cause natural resin varnishes to bloom, which is a white haze that obstructs the clarity of the painting.

Use of modern synthetic varnishes became common around the 1940s and 1950s. Synthetic varnishes are typically based on manufactured resins that have greater clarity and stability than natural resin varnishes. Synthetic varnishes yellow less than traditional varnishes. In some cases, they also provide less saturation and lower gloss. Synthetic varnishes tend to be more durable and less brittle than natural resin varnishes. Additionally, some synthetics can be removed with milder solvents than those required for a natural resin.
Types of Varnishes (continued)

Mastic
Mastic resin comes from a tree found in the Mediterranean. Records show that Mastic has been used as a varnish since the 9th century and was the varnish of choice until Damar was introduced in the 19th century. Although mastic does not crosslink, it degrades rapidly. Mastic becomes much more difficult to remove over time and can begin to yellow, haze and crack in as little as 15 years. This change requires the use of stronger solvents to remove the coating, which can damage the underlying paint layers. Paintings protected with mastic need to be kept in an ultraviolet-free environment to slow the oxidation of the coating, which is possible in museums, but not in most homes and galleries.

Damar
Damar resin also comes from a tree, and most of what is used here in the U.S. comes from Malaysia and Indonesia. Even in the highest quality damar, you will find some impurities that must be filtered out. A damar varnish provides a smooth, glossy film that saturates colors nicely. Unfortunately, damar is a brittle resin that also degrades, yellows and cracks. The thicker the varnish coating, the more yellowing/browning occurs. Like mastic, it also becomes more difficult to remove over time, which results in the need for stronger solvents to remove. Discoloration and other changes show up between 25 and 50 years.

Ketone
Ketone varnishes are modern synthetic, low molecular weight varnishes that saturate colors similar to natural varnishes and have a harder protective finish. Ketone resins are brittle and can yellow and become more difficult to remove over time, although this process tends to happen more slowly and less extensively than damar. The gloss level also fluctuates over time and can develop matte areas. While there are some modified ketone varnishes that are considered more stable, they can still require stronger solvents to remove as the coating ages.

Hydrogenated Hydrocarbons
Hydrogenated hydrocarbon resins are also modern synthetic, low molecular weight varnishes that saturate colors similar to natural varnishes. However, the key is that they are non-yellowing. The most stable of these resins is Regalrez™, which appears to have the best qualities of a natural varnish combined with the best qualities of the most stable modern varnishes, especially when combined with a hindered amine light stabilizer (HALS). HALS makes the varnish and the underlying paint layers more stable. Varnishes using Regalrez are similar in durability to damar, and are more durable than mastic and ketone. Regalrez can be removed with milder solvents than natural resins. Accelerated aging tests have been performed at the National Gallery of Art for Regalrez and it is predicted to be one of the most stable products used in conservation today. Krylon® Gallery Series™ Conservation Varnish is based on Regalrez.
Types of Varnishes (continued)

Acrylic
Acrylic resins are modern synthetic, non-yellowing, high molecular weight varnishes that are among the more durable artist varnishes. Acrylics tend to make thicker coatings that are less glossy and do not saturate colors as much because they conform to the painting surface rather than leveling. These varnishes are less flexible than damar but more flexible than ketone. They do not tend to crack or bloom with age like damar or mastic. The durability of acrylic varnishes make them a good choice for outdoor murals and other artwork. Krylon® Gallery Series™ UV Archival Varnish is a blend of acrylic resins which are commonly used by conservators.

In order to maintain the original intent of your artwork, it’s best to choose a removable clear synthetic varnish that will retain clarity and a strong surface film over time. A spray varnish applies two to three times faster, easier and more evenly than brush-on varnishes, and won’t change the look of your original brushstrokes. Your choice of varnish is just as important as your choice of surface, paint and color. Choosing high quality, long lasting materials now ensure that your artwork can be enjoyed for generations to come.

For more information on Krylon® artist products, visit krylon.com/galleryseries.