

Mordant Gilding AKA Oil Gilding

Today we are going to discuss the gilding technique called mordant gilding -- better known as oil gilding -- and highlight a new gilding size now available in the USA. Oil gilding is a gilding technique in which genuine or imitation leaf is adhered to a surface with an adhesive (called "size"). Traditionally, as the name implies, the size was made of an oil varnish consisting of linseed oil, resins and a drying reagent.

Oil size is available in a quick version, which sets up or comes to **"tack"** in 1-3 hours, and a slow version which comes to tack in about 12 hours depending on brand and environmental factors like temperature and humidity. The **"open time"** (the amount of time you have to apply leaf before the size dries) is roughly the same amount of time it takes for the size to come to tack. For example, if a size comes to tack in 1 hour, you will have about 1 hour of gilding time before the size dries.

One of the benefits of slow oil size is that since it spends time settling out, it gilds brighter than quick size. It is also recommended for exterior projects. Some quick oil sizes cannot be used for exterior projects, check the manufacturer's label. Quick size is good for small projects or projects that need to be finished quickly. The only disadvantage to oil size is it cannot be burnished with an agate stone like traditional water gilding. However, the sheen of your gilding can be altered by how you prepare your surface. The shinier the surface, the brighter the gild, duller surfaces produce duller-looking gilding.

Today you will also find water-based sizes made of acrylic copolymers and drying additives. Most water-based sizes set up in about 15-30 minutes and remain open indefinitely. Water-based size's strong tack makes it ideal for imitation leaf, but it can also be used with genuine leaf. Also, most water-based sizes are only for interior gilding projects. Water-based size sets up quickly without leveling out much, hence it won't gild as brightly. This size should not be confused with "water gilding" which uses gesso and bole made from rabbit skin glue.

Let's go over how to prepare your surface and apply gilding size. To begin with, you want to work in a clean, dust-free environment. Apply your size to a non-porous surface. If you are using oil-based size you should use an oil primer/paint or shellac. For water-based size you should use a water-based primer/paint or shellac. Remember, any imperfections in the surface such as brush marks, dust, etc. will be greatly exaggerated after the leaf is applied. Therefore, take the time to make your surface as smooth as possible. After your primer is properly prepared, it's time to apply your size.



All sizes can be applied by brush, roller or sprayer. You want to apply the size as thinly and evenly as possible. Avoid pooling in corners and creases. For water based size which sets up quickly, it's important not to over brush the size as it will leave brush strokes. When the size reaches the proper tack you are ready to gild.

Knowing when you have the proper tack takes a little practice. As the oil size begins to dry it becomes tacky. Tack is the sticky condition of varnish that is no longer wet and cannot be smeared but is not completely dry. The proper time to apply the gold leaf is when the size is almost dry. The open time is dependent upon relative humidity and temperature. If the size is too dry, the gold will not stick. If the size is too tacky the gold will appear dull or have a drowned look. Determining the proper tack is a matter of judgement and the gilder's experience. Usually, in a moist cool atmosphere, the size will take a long time to set up. Conversely, if the weather conditions are hot and dry, the proper tack will be rapid. Take care to periodically check the tack with the hairs on the back of your hand. If there is a slight pull, the tack is ready. However, if there is a definite tug, and/or residue comes off on your skin, it is still too wet and you must wait. Another technique experienced gilders use to check tack is to draw a bent knuckle across the surface which will produce a squeaking noise. If this procedure is done too soon, the surface can be damaged, so be careful.



Now we are ready to gild. Leaf is extremely thin and must be handled with exceptional care. Leaf is available in basically three forms: loose leaf, transfer/patent leaf, and rolls. For the beginner, patent leaf or rolls are easier to apply. The gold is pressed onto a thin, white tissue during the final stages of the gold beating process and all that is required to apply it is to pick up the edges of the tissue and place it, face-down, onto the sized surface. Rub the back of the tissue with a clean cotton ball or the side of the hand and the leaf is transferred to the surface. For loose leaf you need to pick up the leaf with a special brush called a gilders tip. Be sure to overlap the leaf ($\frac{1}{8}$ "") to avoid any holes or "holidays" in the gilded surface. Loose pieces may be dusted off with a soft brush or piece of cotton wool. Be careful not to brush too vigorously over the freshly gilded surface, as this may scratch the gold. When you are finished gilding it's best to wait until the size cures before top coating. Most quick oil sizes can be sealed in 1-5 days. For slow oil size its best to wait 3-30 days before top-coating, depending on which size you choose. For water-based size it's best to wait 2-3 days before top coating.

New Gilding Size Available:

It's been some time since we've had any major news about oil size. Over the past decade or so, the significant changes for gilding adhesives include the re-formulation of LeFranc & Bourgeois 12-hour oil size, and the introduction of [Dux quick and oil-based sizes](#), which function like the old Rolco sizes.

So it's with excitement that we announce a gilding size we are now bringing to the U.S. market. This size is produced in Italy for Giusto Manetti Battiloro of Florence. [Manetti's oil size](#) was formulated in 2001 to match the strict quality standards Manetti applies to its gold leaf.

[Manetti oil size](#) is available in 3-hour and 12-hour formulas. These are made from a combination of high quality resins and turpentine that flows out well and levels nicely.



[Manetti's 12-hour size](#) has been used in a number of noteworthy outdoor projects. In 2016 this 12 hour size was used by Carolina Izzo on the multi-karat ceiling of the Bishop Selwyn Chapel of the Holy Trinity Cathedral in Auckland, New Zealand. In 2017 master gilder Michael Kramer of The Gilders' Studio Inc. used the 12-hour size on several large exterior fiberglass lions for the MGM Hotel and Casino in Cotai, China. Kramer had accelerated testing conducted on the Manetti 12-hour size to make sure it would last over time and meet his stringent requirements. Kramer said that the Manetti 12-hour size held up extremely well during testing. In his opinion, performance-wise "it's like the old LeFranc 12-hour size." When properly applied, both produce a radiant gilded finish.

Both sizes should be stirred to combine all components. The [3-hour](#) and [12-hour](#) sizes can be combined to achieve intermediate tack times and open gilding times. Both sizes can be used for interior and exterior projects.

The size works well over shellac, oil primers, zinc chromate primer, and epoxy paint. [Manetti oil size](#) can be thinned up to 20-30% by volume with turpentine on interior projects. For exterior projects use the size at package consistency. You can apply the size by brush, roller or spray with HVLP spray gun. Ideal condition for application is 65 to 75 degrees Fahrenheit and 40% to 60% relative humidity. Do not apply size under 60 degrees Fahrenheit.

[Manetti 3-Hour Size](#) reaches tack in 2-3 hours and will remain open for 2-3 hours depending on dilution, temperature and humidity. For exterior gilding the size can come to tack in less than 1 hour on warm sunny days. Allow the gilded surface to cure for a minimum of 3-5 days depending on how much you thin the size before top coating. Do not top coat exterior gilding.

Manetti 12-Hour Size reaches tack in 12-18 hours and will remain open for about 8-12 hours, depending on dilution, temperature and humidity. For exterior gilding projects the size can come to tack in as little as 2-3 hours on warm, sunny days. Allow the surface to cure for a minimum of 5-8 days depending on how much you thin the size before top coating. Do not top coat exterior gilding.

Store size in a cool dry place, in tightly sealed original packaging. The percentage of dilution and method of application can significantly affect the working time. Always test substrates, primers and topcoats to be used with the size prior to beginning the gilding project.

This SeppLeaf Technical Guide and others may be found online at

http://seppleaf.com/technical_help

If you have questions or need clarification, please contact our knowledgeable staff via that link.

Products used in this Technical Guide

Manetti Oil based Size

<http://seppleaf.com/search?q=manetti+size>

Manetti 3-hour Oil based Size

<http://seppleaf.com/search?q=manetti+3+hour+size>

Manetti 12-hour Oil based Size

<http://seppleaf.com/search?q=manetti+12+hour+size>

Dux Quick and Oil based Size

<http://seppleaf.com/search?q=dux+size>