

Supports, Sizes and Grounds

The basic substructure of painting, such as **paper, wood, cloth**, etc. is called "**support**". For oil painting, linen or canvas on a stretcher is the most common. Supports made from wood or plywood are called **Panels**.

But if you put paint on a support directly, the paint soaks the support and the fabric of the support is eroded by acid of oil in the paint. Therefore, painters

paint a glue solution or the like on the surface of the support to prepare for painting. It's called "**SIZE**". Solutions of **animal skin glue, gelatin, casein, synthetic resin** and so on are used as materials for sizing.

For oil painting or acrylic, painters paint the next layer over the size. This layer covers up grains and color of woods or clothes, and offers bright opaque base color for subsequent painting films. This layer is called "**GROUND**" or sometimes also called "**Primer**".

Size

Before an oil painting ground is applied, the canvas is sealed with a size. The size seals the porous fabric and isolates it from the ground and/or oil paints. Linen and cotton will prematurely rot without a size layer. Only fabric supports need sizing. Panels only need to have a ground. Acrylic gesso does not require a size.

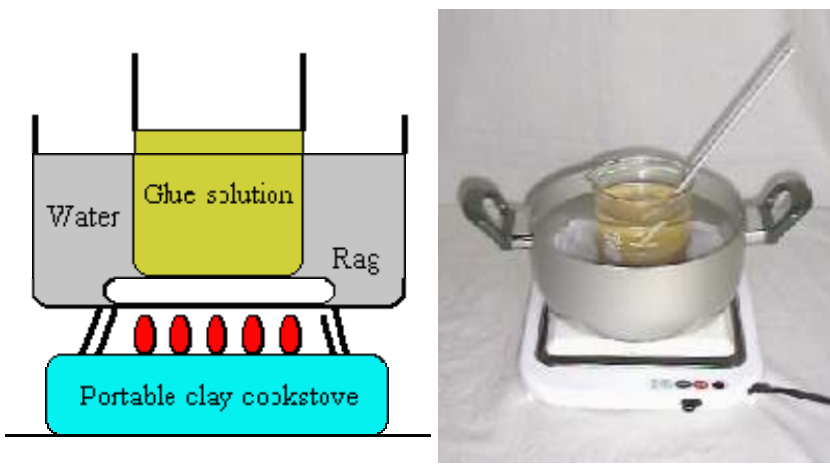
PVA Size (poly vinyl acetate glue), diluted with distilled water, is a contemporary size for fabric support. Conservation scientists recommend painters use neutral pH PVA size on linen and canvas instead of rabbit skin glue. PVA provides a good size layer that seals the fabric but does not re absorb atmospheric moisture, swell and shrink like rabbit skin glue does. Painters who want to paint directly on a size, apply one layer of PVA Size to the front and back of the fabric.

Rabbit Skin Glue is the traditional size for fabric support. Conservation scientists caution painters that rabbit skin glue absorbs atmospheric moisture on damp days and swells; gives off moisture on dry days and shrinks. This movement of the size layer can cause aged oil paintings to crack, according to the Smithsonian Center for Materials Research and Education.

For Rabbit Skin Glue size, soak one part of Rabbit Skin Glue grains in twelve parts of water overnight. Heat the mixture in a double boiler and apply warm to a stretched canvas. Make sure the Rabbit Skin Glue soaks into the fibers, sometimes the solution has a tendency to sit on top of the canvas. Repeat application.

Preparing Glue Size

- Soak one measure (by volume) of glue to 12 measures of cold water
- Allow glue to soak preferably overnight
- Heat glue mixture in a double boiler bath
- Do not let the glue boil
- Apply glue while warm with a flat brush



A Ground is a product that provides a desired surface on which to paint.
Gesso can be thought of as the bridge between the support and the paint.

Traditional Gesso: Gesso is Italian for gypsum (calcium sulphate dihydrate) which occurs naturally near salt deposits. Calcined gypsum, also called plaster of Paris, when mixed with animal glue, makes a luminous painting surface for egg tempera and for paintings on wood panels. Medieval painters applied as many as ten layers of gesso on wood panels. By painting alla prima with tempera on gessoed panels they could create "portable" frescoes. Gesso on wood panels makes a good surface for paintings that include burnishing and gilding techniques.

Gesso was not used as a ground for oil painting. The traditional primer for oil painting is an oil ground. Modern "gesso" was formulated by manufacturers of acrylic polymer primer about fifty years ago. Why they decided to call acrylic primer "gesso," a conservator suggested that the marketing department wanted to associate new acrylic primer with painting tradition so oil painters would use it. Whatever the reason, the name "gesso" continues to cause confusion.

Gesso/Acrylic Canvas Ground: Acrylic gesso is by no means a true gesso. It is water dispersed in synthetic latex paint. The binder is a thermo-plastic emulsion of superior adhesion, and it is pigmented with titanium dioxide extended with calcium carbonate.

It is buffered to a non-acid pH level and may be safely applied directly to canvas and other supports. The use of an initial acrylic sizing greatly improves the quality and appearance of the acrylic ground.

This ground is more absorbent than an oil ground and can be used with both oils and acrylics. Also Acrylic paints are emulsions that adhere to the surface other than penetrating into the surface like oil paints. It is then desirable to maintain a somewhat porous tooth to provide maximum adhesion.

Books in the Library to check out:

The Artists Handbook- Ralph Mayer, ND1500.M3

The Painters Handbook- Mark David Gottsegen, ND1500.G6155

Formulas for Painters- Robert Massey, ND1540.M3