



# SIZING PAPER

WITH  
GESSO



Photo: [Stickpen](#)

René Smets - January 2023

## **I. SIZING**

All papers are prepared with a treatment to make them more or less waterproof and to prevent the paper fibres from unraveling and disintegrating too quickly. This treatment, called sizing, is usually done in the mass, i.e. during the pulp manufacturing process.

When one wants to use watercolour paper "as is" for a print made with one of our old photographic techniques, this original sizing often proves insufficient: the emulsions and their pigments are absorbed by the fibres of the paper, and the many baths used end up attacking the support.

Additional treatment is then necessary. Traditionally, this is done with a gelatine-based solution, as described here: <https://www.picto.info/Egendoc/sizing.pdf>

This method works very well, but has some disadvantages, especially in winter:

- the solution has to be kept at a certain temperature to stay liquid, so that it can be poured to obtain a smooth and even layer
- It is usually necessary to apply several coats, and wait first for the previous coat to dry.
- after applying these coats, the gelatine must be hardened to give it sufficient strength, which requires the use of more or less toxic products and therefore to work in a sufficiently ventilated room or in the open air
- during the drying process, the paper will tend to warp

These drawbacks led me to try other methods and I finally opted for a Gesso sizing. I used this already in my student days, 60 years ago, to give the paper and canvas to be painted a base layer on which you could then paint with watercolour, acrylic or oil.

## **II. GESSO**

Gesso, a term inherited from a Latin word derived from the Greek γύψος, meaning plaster or coating, was originally a plaster and animal glue-based coating used as early as the Middle Ages to prepare wood panels for painting.

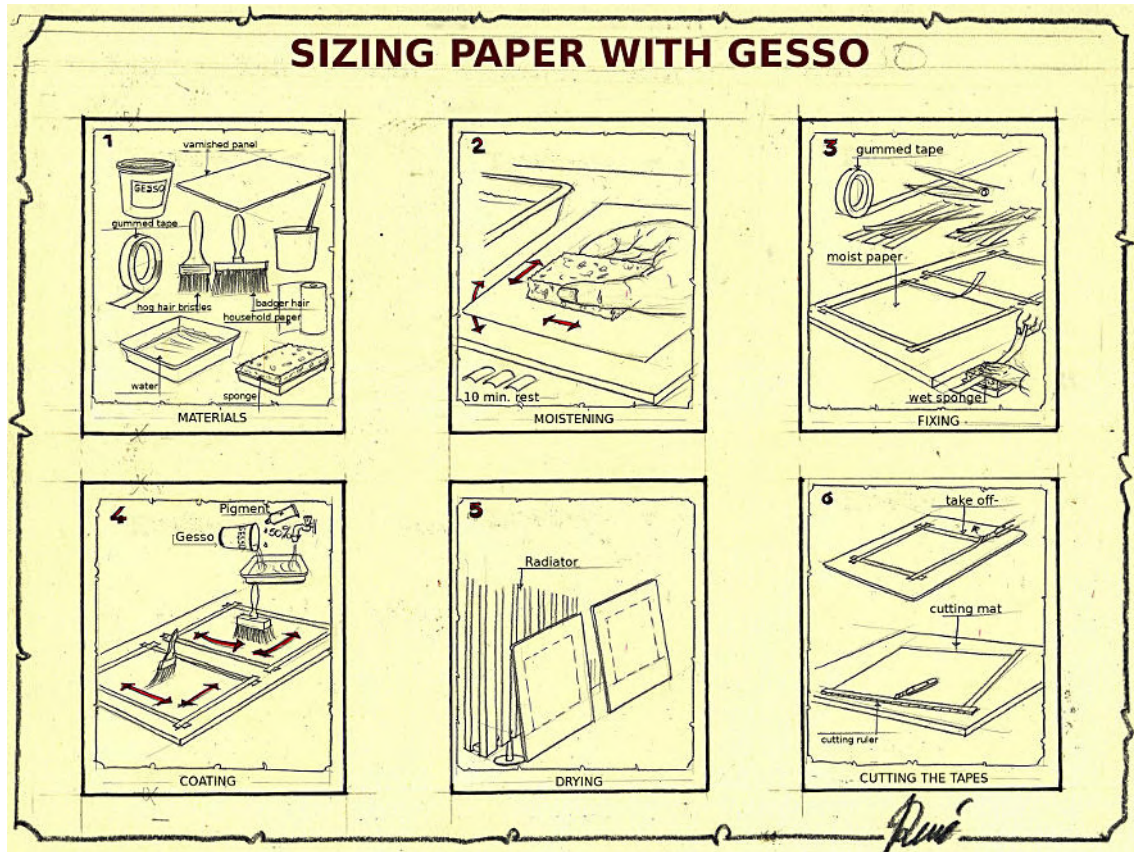
Today, the term refers to a synthetic primer that can be used on various surfaces (wood, cardboard, canvas). This coating makes the surface smoother and more adhesive and reduces the absorption of paint by the substrate.

Modern Gesso is a combination of calcium carbonate (CaCO<sub>3</sub>) with an acrylic polymer, a latex medium, usually also an opaque white pigment and other additives to ensure flexibility and long term preservation.

It is sold ready to use for coating and priming various substrates (canvas, heavy paper, paintboard, wood). Although it contains calcium carbonate to increase the absorbency of the primer, another opaque white pigment can be added (titanium white/titanium dioxide, zinc white, lithopone white) as a bleaching agent. Today, there is also transparent and black Gesso.

Gesso can be applied directly to paper and wood.

### III. MY METHOD



#### 1 – Materials needed

- Gesso is sold in drawing and painting supplies shops.
- A wooden panel that has been well varnished (boat varnish)
- Gummed paper, paper tape coated with a layer of water-activated glue
- A flat, wide hog bristle brush
- A soft badger hair brush for smoothing
- A small container with water
- A sponge
- A roll of household paper

#### 2 – Moistening:

Wet the paper well on both sides with the sponge, and let it expand for about 10 minutes.

#### 3 – Fixing:

During this time, cut strips of gummed paper and pass them one by one over the damp sponge in a small container with water.

Glue these strips so that they overlap the edges of the paper and the wooden panel (5 mm overlap) and wipe them with the absorbent household paper.



## Sizing Paper with Gesso



### 4 – Coating

The Gesso is mixed with an equal amount of water, to obtain a 50% solution. Enough Gesso is spread to completely cover the still wet paper. One coat is sufficient. Make sure you get as even a coat as possible: I use a wide flat hog bristle brush to spread and a soft badge hair brush to even the layer out.

### 5 – Drying:

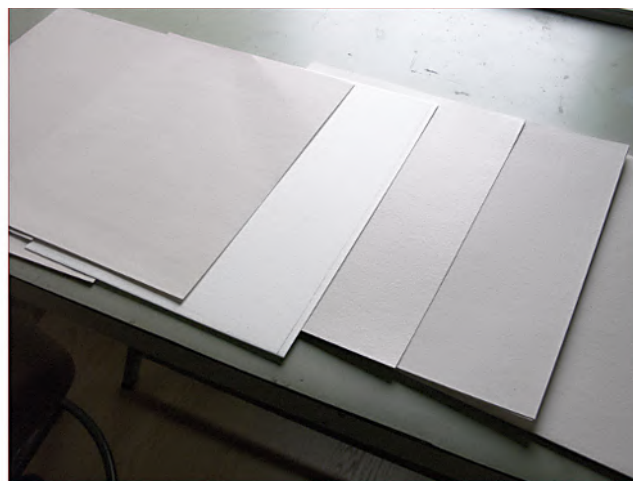
Press firmly the tapes and put the panel to dry along a warm radiator. Drying will shrink the paper to its original size; with the tape holding everything in place, the paper will be perfectly smooth and flat when dry.

### 6 – Remove the tape

When everything is dry, lift a corner of the gummed tape with a knife and detach the whole sheet from the wooden panel in one go. The adhesive tape comes easily off the panel.

The paper is then trimmed by cutting the four adhesive tapes along the sides that stick to the paper.

The paper is now as smooth and flat as it was when it came out of the package.



#### IV. THE BENEFITS

1. Everything can be done indoors.
2. The paper can be lightly tinted by adding a little pigment to the Gesso.
3. The paper is perfectly flat after drying.
4. The Gesso layer must not be hardened, so no toxic substances such as formaldehyde have to be used.
5. The Gesso layer not only protects the paper from the emulsion and its pigments, but also protects the emulsion from the alkalinity of the paper (some techniques, such as palladium printing and iron salt techniques, require a neutral or slightly acidic base).

#### V. ANNEX : TALENS GESSO



Here are some details about the TALENS brand Gesso, which I currently use.

Of course, there are [many other brands](#) that are just as usable. Some of them are transparent, so you can fully respect the colour and structure of the surface if you wish. It is important to use a modern version (acrylic Gesso) and not the classic Gesso based on plaster and animal glue. After drying, Gesso Acrylic forms a very effective intermediate layer that adheres particularly strongly to the substrate.

Excerpt from the technical description of **Royal Talens 1001 Gesso Primer**:

- Gesso is used to make a universal preparatory coat on various absorbent grounds.
- Composition: Acrylic resin dispersion, titanium dioxide
- Provides good adhesion for oil colours, acrylic colours, gouache, etc.
- Suitable for absorbent grounds that are free of dust and grease, such as artists' canvas, wood, plywood, hardboard, cardboard and paper
- Suitable as preparation for murals on (alkaline) grounds such as fresh concrete, stucco and bricks
- Thinnable with water
- Dries within a few hours, after 24 hour it can be painted over with oil colour
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- Clean utensils with water