



MAKING CASEIN PAINT

Casein painting practical sheet 20100327

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Casein paint

Making your own paint has for a long time been a craft, even family, activity. The recipe was transmitted orally and used as much as possible the raw materials available in the surrounding area. The preparation of a healthy product in the home was probably not a high-profile topic like today, but certainly at the time, the application of a product presenting a danger to one's health would not have been tolerated. nor conceivable... Now it's our turn!

Health :
 Its application makes it possible to avoid the emanations of products toxic to the body at the origin of allergies and modern epidemics (formaldehyde, toluene, styrene, glycol ester *...) both for residents and for applicators.

Budget :
 Manufactured in progress and by sourcing from a short circuit, the cost is very reasonable and often well below that of general public paints.

Quality :
 Homemade casein paint has nothing to envy of petroleum products except the already prepared mixture and the quick opening of the can. Its incomparable velvety feel and the reassuring atmosphere it gives off provide invaluable comfort for people who respect their health and the environment.

Warning to those in a hurry:
 Doing it yourself requires sourcing raw materials and then preparing them in the workshop or on your site according to a precise recipe, which inevitably increases the preparatory work time.
 It is also strongly recommended to have taken measurements of the surfaces to be painted and to have calculated the ratio between the number of layers envisaged per piece and the number of liters of paint to be manufactured progressively.

The values below provide a total value of 1 liter of ready-to-use liquid paint:

Supplies :		For 1 liter	X.(b)	=For liters	Purchases
charge	fine marble powder 5 to 25 microns	650g		=	
pigment	titanium white or color pigment	100g	=	
adjuvant	industrial casein	40g	=	
lime	aerial lime	10g	=	
clay	bentonite	30g	=	
water	clean water	400ml	=	
water + adjuvant	gelled water = 3 g of xanthan gum + 200 ml water	200ml	=	
oil	mint or clove leaf essential oil	¼ drop	=	
	volume of paint obtained	1 litre	=	
	yield	8 M2	= M2(a)	
			2° Indicate then the multiplier (M2(a): 8)	1° Start with indicate the number from total M2 to to paint	

Using the table above to calculate your needs: Start by indicating the total number of m2 to paint (a).
 Please note, if 2 coats of paint are planned, you must double the m2 of existing surface area. If necessary, use the practical sheet "calculate its surface » available on the website www.grandordy.fr.

Find and indicate the multiplier (b) by dividing the total m2 to be painted by 8.(M2(a): 8)
 Now calculate the requirements for each product by multiplying the basic quantities already indicated for 1 liter by the multiplier. Then choose the most appropriate quantities on the website www.grandordy.fr

Preparation of the dry mixture:

1/ Mix the dry powders (marble powder, casein, lime, bentonite and pigment) in a large bucket, except xanthan gum. Mix in a mechanical mixer for 2 minutes or in a closed box for a small quantity. The mixture can then be stored in airtight bags or boxes for later use.

2/ The day before the liquid preparation, swell the xanthan gum in water at a rate of 1.5% of the weight of the water. (ex: 15 g for 1 liter of water or to make only 1 liter of paint: 3 g for 200 ml of water)

Preparation of liquid paint:

3/ Pour the necessary amount of clean water into the bottom of a bucket then sprinkle the corresponding powder mixture on top (without the added water of xanthan gum).

4/ Mix gently for 2 minutes with a mechanical mixer, checking that there is no more amalgam on the walls.

5/ Incorporate finally the volume of gelled water added with xanthan gum and the necessary value of drops of essential oil. Mix to make the paint homogeneous.

6/ Leave to settle for around 10 minutes then briefly mix again one last time without excessive speed so as not to create foam. If necessary, sift the paint through a paint filter or a fine strainer to retain any grains.

Application :

The paint is applied with a brush and roller on clean, matt and fixed bases. Like any other product, avoid applying it with a spray gun to avoid misting and the risk of ingestion of particles into the lungs.

It is not suitable for varnished or closed surfaces such as glycerol, cellulose or acrylic satin lacquer type paints and of course for heavily waxed surfaces. (waxing emulsions for large surfaces often contain only a small part of wax, which makes them directly recoatable after carrying out a scraping adhesion test).

Do not try to overload or double the coats too hastily because the opacity of the paint and its rendering are only revealed the next day after it has completely dried.

The paint film becomes irreversible and washable approximately 3 weeks after application.

Repainted rooms can be re-entered immediately after application, walls still fresh, without risk to health!

Advice:

The dry preparation can be kept indefinitely but the liquid mixture with water is done over 24 to 48 hours depending on the surface needs. The yield is 8 m² per liter of paint. It is advisable to provide a little more to maintain comfort and peace of mind during application.

For careful work, keep a bucket of lukewarm water with a sponge on hand to remove any traces of paint on the plinths and frames as well as stains on the floor. This avoids having to carry them all over the house.

The paint can be tinted in light pastel colors with pigments. To directly obtain strong colors, you must replace the value of titanium white directly in the recipe with pigment. The better quality and finely ground the pigment, the greater its opacity and coverage of the paint.

Yield :

8m² per liter

Warning :

As casein paint is not a tension-free paint, it is imperative to wash away old floury whitewashes and in the case of a fragile support, to reduce the value of casein in the composition. Applying with a brush helps the paint to penetrate and fix the background, while the roller pulls the surface, sometimes risking tearing off the background.

Conservation :

Avoid an overdose of essential oil because the effect can quickly become heady and annoying. Also avoid using clove essential oil because its potency easily generates phenols. The paint can be stored for a few days in an airtight container and stirred before each use.

Responsibility :

The information given in this practical sheet is intended to inform the reader of the characteristics and properties of homemade casein paint. This information is given in good faith and for information purposes only. It will be up to the reader and applicator to establish a precise description of the nature and condition of the background as well as to respect the implementation process, the standards and DTU in force.

The author's responsibility is also excluded from the result of the implementation as well as any consequences relating to the implementation of the recipe, techniques and products used.

***Harmful effects of glycol ethers contained in water-based paints.**

Glycol ethers are used in paints, varnishes, inks, glues, detergents, anti-corrosion treatments, household cleaners (windows, ovens, etc.) and maintenance products, in shampoos, dyes and other cosmetics. France consumes some 30,000 tonnes per year.

There are two large families, type P ethers (propylene glycol), which would be harmless according to the current state of knowledge, and type E ethers (ethylene glycol).

Four of the E series are recognized as testicular toxic (decrease in sperm production), toxic for the ovary and for the development of the fetus (malformations, miscarriages). A decree taken on August 7, 1997 prohibits the marketing of products intended for consumers containing more than 0.5% of one of these four glycol ethers.

Therefore, serious risks exist, particularly for pregnant women. As for the non-toxicity certificate with which certain brands of paints and varnishes adorn themselves, it is primarily an advertising statement: it takes into account the speed of evaporation of the solvents (between 24 and 48 hours) after application of the paint, and no risk during application.

Happy painting!