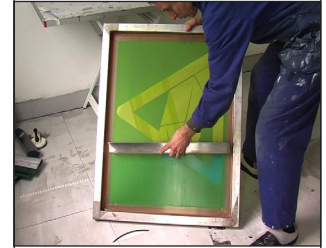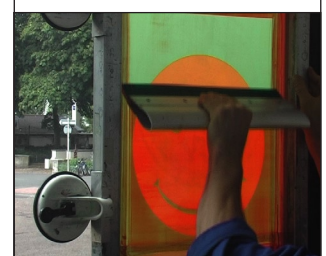**tools**

flooding screen

printing

cleaning

getting started

This guide shows all the essential steps to practice vertical screen printing on windows for nonpermanent purposes.

It doesn't show how make your stencils, burn screens and doesn't teach screen printing basics. If you are a total newcomer to screen printing, you should try printing on paper on the traditional way first. Follow an introduction course or look for tutorials online. Before you start printing check the condition of the glass. If you see cracks somewhere, don't print! Sometimes windows are covered with a very thin transparent film as UV-light protection, or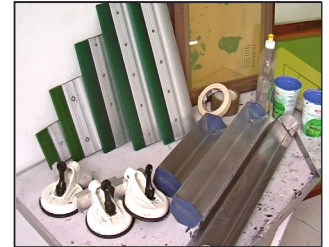 against burglary. You will notice these films by having a look at the edges of the glass. They are very costly and printing might damage them. The adhesion of the printed image can be an issue, these films make it also much more difficult to remove the print later.

In general: Screens have a metal frame. Don't hit the glass with the corners. This can lead to glass breakage. So be careful while printing and protect the corners of of your screen with tape in the beginning.

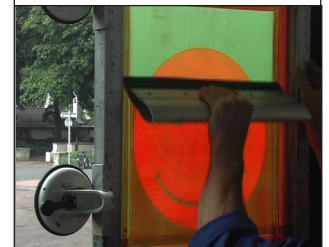**-check the condition of the glass**
-watch out for protective film

Please watch the short video clip showing all the steps described on the follwing pages at: http://www.stefanhoffmann.nl/technical_window/foto0.html

tools

flooding screen

printing

cleaning

setting up cleaning unit

You need a plastic container, some tarps or paper to protect the wall and the floor as well as a trough which fits on top of the plastic container. You have to make the trough yourself. Don't forget to drill a couple of holes in the bottom so that the dirty water can get out. The trough is not absolutely necessary but very useful, because it keeps your screens clean. In the plastic container you collect your dirty water. You don't want the screen to sit in it. You could also place small woodblocks in the container to lift it up above the dirty water level. You further need a bucket with water plus detergent, a sponge and a plastic spatula to clean your screens, squeegees and the scoop coaters.

-plastic container
-tarts
-trough
-bucket
-detergent
-sponge
-spatula

plastic container

trough, tarps

cleaning unit

02

printing tools

You can just use your normal screen printing equipment. Don't use screens with mesh count higher than 230 (inch), or 100 (cm) and lower than 156 (inch), or 60 (cm). Printing is easiest with a lower mesh count. The higher you get and the finer the details you want to print, the greater risk that the ink dries in the screen.
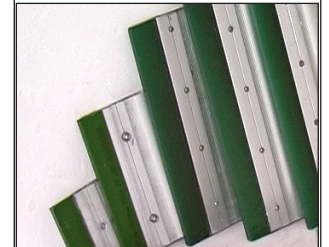Squeegees should be of medium stiffness (75 shore). The most important trick is that you work with your scoop coater, which you normally use to coat your screen with the emulsion, to flood your screen. Suction cups are very helpful tools to keep your screen in position. The larger hardware stores will sell them. They are normally used by people handling large sheets of glass for instance.

-screens
-squeegees
-scoop coater
-suction cups

screens

squeegees

scoop coaters

-**suction cups**

ink

Use acrylic screen printing ink for paper. Speedball ink works fine, as most others. Add a small amount of water to make the ink more liquid. Speedball comes almost in the perfect consistency, it just needs a little bit of extra water. Other companies provide much more solid inks where you have to add more water. Look at the video (again) to get an idea of the best consistency. If your ink is too liquid it will be dropping down from your screen while printing, if it is too stiff, it doesn't move in the scoop coater and you will be unable to flood the screen. Depending on the temperature and the humidity add some amount of retarder to your ink.

ink, water

-add some water
-use acrylic inks
** for use on paper**
-add retarder

use scoop coater for printing

In vertical screen printing you use your scoop coater as a printing tool. It allows you to put just a very thin layer of ink on the screen, which avoids a big mess when you are printing.

It is useful to have different scoop coaters in different size fitting the screen size you are working with, but also if you use several colors. Some scoop coaters come with lids or otherwise you can make a simple one from cardboard. Using lids makes sense because you can leave the color in it and you do not have to wash out the scoop coater every time you change colors.

-fill scoop coater
 with the ink
-keep scoop coat-
 er covered when
 not used to avoid
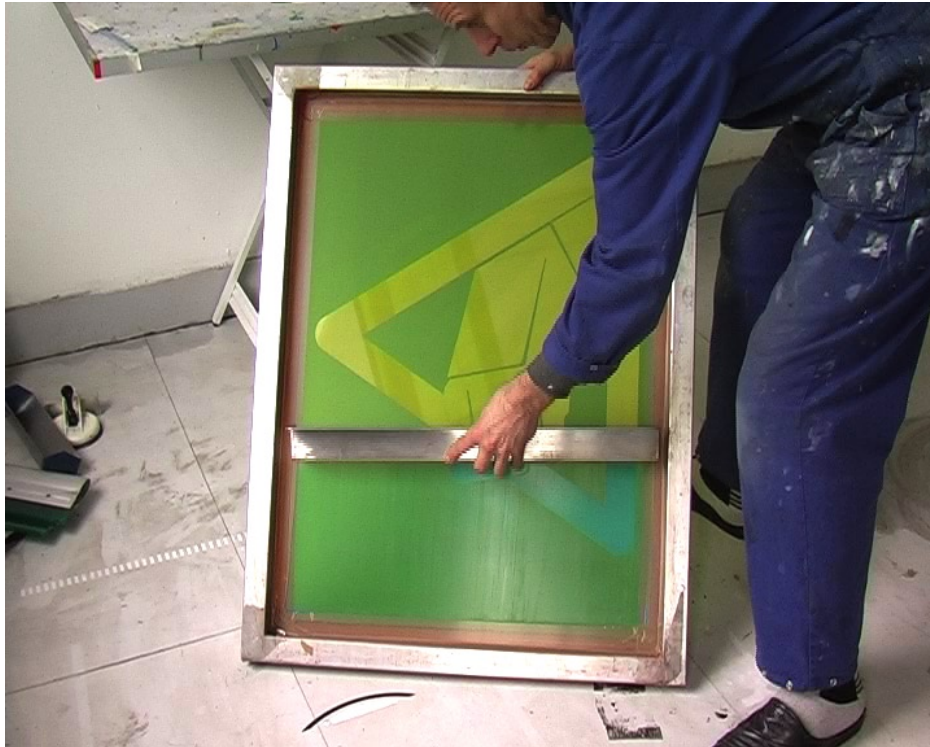 drying out of the
 ink

-tools

-scoop coaters

-flooding screen

flooding the screen

The way you should use the scoop coater is the same as if you would put on the emulsion. Only flood your screen on the front side (squeegee side). Do it twice to have a sufficient amount of ink in the openings of your screen. Try to have a scoop coater that is wider than your image and flood in one steady movement. Overlap will show in the print specially if you work with very transparent inks.
Sometimes scoop coaters come with a round and a sharp edge. If you use the round one, a single flooding is sufficient, if you only have a sharp edge you should flood twice.

-tools

-flooding screen

-fill scoop coater
 with the ink
-flood twice
-keep scoop coat-
 er covered when
 not used to avoid
 drying out of the
 ink

06

using suction cups

These are the only non screen printing tools which are very helpful, specially if you work alone. Small screens up to 20x24'' you can safely hold with one hand and print with the other. But especially for the less experienced vertical screen printer something to keep your screen in position is great. There is a variety of models on the market. You can use them as they are and just put your screen on top. If you want you can modify them by inserting a small metal profile. That allows you to really fix your screen against the window. The larger the screen the more useful such a tool would be. Of course, if you work with more people, a couple of extra hands work as good.

-modified
 suction cup
-a metal profile is
 inserted to
 hold the screen

standard
suction cups
for sale

suction cups
hold screen
in position

printing

Vertical screen printing is in many ways similar to the horizontal way you are used to. The same rules apply as to the angle of the squeegee during printing and the amount of pressure. Having a snap-off distance gives better printing results, but you can also do without and pull the screen off the glass after you're done. Have a close look at the video, all printing there is done without snap-off. Try to hit only once. The second time your screen might have moved just a little bit and this would blur your printed image. It helps if you determine where you want to print the image before you actually start, because you don't want to loose too much time searching for the next spot. A very important thing is to flood your screen again right after printing. If you want to print your image a couple of times, mark the positions of the screen with tape this will allow you to work faster and avoid the drying of the ink in the screen. If use want to use several layers on top of each other, let the previous one dry properly first. A box fan can help to speed this up.

printing from top to bottom

printing from left to right

**-only hit once
-flood screen right
 after printing**

cleaning

Good cleaning is paramount. And you should be quick. Clean the screen first. Squeegee and scoop coater can come later. Make sure you have clean water in your bucket. Warm water works better, if available. Add a small amount of detergent. Remove as much ink as you can from the inside of the screen with a plastic spatula, before you start cleaning with water. Use a soft sponge for cleaning. Clean really thoroughly. Especially if you use very transparent inks it might look clean, but it isn't! For the last cleaning round use windex, or a heavy degreasing kitchen cleaner like 'mr. muscle'. This also works well when your ink has partly dried in the screen.

use windex

At the end wipe your screen down with a shammy. It dries a lot faster and can be used again more quickly.

-**clean thoroughly with water and detergent**
-**use windex at last round**
-**wipe down with shammy**

To remove the prints from the windows in a later stage use a wet cloth and wipe carefully over the printed images. When they start to soften and come off, take a blade and scrape the ink off the glass. Clean with windex afterwards.
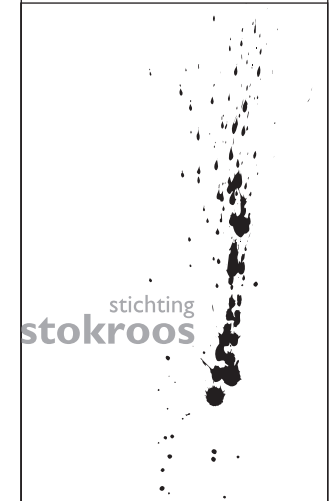
acknowledgement

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