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## *The Virtual Art Academy® Apprentice Program*



## *Materials & Equipment*

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## PIGMENTS FOR BEGINNERS

**Introduction** Here are some pigments to use if you are a beginner. These are enough for your first set of lessons. You can learn more about other pigments later on in the program.

**Pigments for oil and acrylic painters** Several large tubes of Titanium White  
Small tubes of:

- ◆ Cadmium Lemon or Cadmium Yellow Light (*cool* yellow)
- ◆ Cadmium Red Light (*warm* red)
- ◆ Alizarin Crimson (*cool* red)
- ◆ Ultramarine Blue (*violet* blue)
- ◆ Dioxazine Purple (*violet*)
- ◆ Cerulean Blue or Phthalo Blue (*green* blue, dark)
- ◆ Viridian Green (*cool* green, middle value)
- ◆ Black
- ◆ Burnt Umber (*warm* dark brown)

**Pigments for watercolor painters** Look for the following pigments. Examine the labels carefully to find the *Colour Index Number* of each pigment. The Colour Index number is the identifier you should use in combination with the name of the color, rather than just the name of the color alone. You cannot rely on the names of the color to identify a particular pigment, as two manufacturers might use two very different names for the exact same pigment. The names given in parenthesis may or may not be used by any particular manufacturer – they are given only as an example.

- ◆ PY151, or PY154 (Benzimida Yellow Pale) (*pure primary* yellow)
- ◆ PY153 (Nickel Dioxine Yellow)
- ◆ PR108 (Cadmium Scarlet, Cadmium Red Light) (*warm* red)
- ◆ PR206, or PR264, or PR177 (Permanent Alizarin Crimson) (*cool* red)
- ◆ PR122 (Quinacridone Magenta)
- ◆ PB29 (Ultramarine Blue) (*violet* blue)
- ◆ PB15:3 (Phthalo Blue) (*green* blue, dark)
- ◆ PB35 (Cerulean Blue)
- ◆ PG7 (Phthalo Green BS), or PG36 (Phthalo Green YS)
- ◆ PY42 (Gold Ochre), or PY43 (Yellow Ochre)
- ◆ PBr7 (Burnt Sienna), or PR101 (Transparent Red Oxide)

**EQUIPMENT: MIRROR****Description**

A mirror is always useful in the studio to help you evaluate your work. You can use:

- ◆ a small mirror mounted on an easel, or
- ◆ a large wall mounted mirror, or
- ◆ a large mirror mounted on a moveable frame with casters (the best option).

**How to use it**

Look at your work frequently in the mirror. This reverses the image of your painting. It will help you spot:

- ◆ compositional problems
- ◆ drawing errors

You will need to angle it so you can turn around and look at your painting backwards.

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## Oils & Acrylics

## OIL MEDIUMS

### Description

#### Uses

Oil mediums are used:

- ◆ to add to the paint to give it a different consistency or quality.
- ◆ to thin the paint so that it is more easy to apply to the painting support.
- ◆ to provide effects such as gloss.
- ◆ to *glaze*.

#### Note

The term medium can also be used for the substance that is used to bind the pigments together in paint. In oil paints it is a natural substance such as linseed or poppy oil, in tempera it is egg yolk, and in acrylics it is a synthetic substance.

Many art material suppliers make their own range of oil mediums. It is best to check their websites for how to use them, and experiment until you find one you like.

#### Tips

- ◆ Follow the rule “fat over lean”. This means that if you are painting one layer of paint on top of another layer of paint, make sure that each successive layer has more oil in it. The reason for this is that layers with more oil in them take longer to dry. If you have a still wet layer under a layer that has dried, the paint surface will crack.

#### Cautions

- ◆ Do not use solvents (turpentine or mineral spirits) as a medium, except in thin *washes*, since these will break down the paint.
- ◆ Try to use the same manufacturer of oil paint and medium, as they will work best together. Here are the different types of medium you can use, and what they are for.

### My current choice

I am currently using:

- ◆ **dammar varnish (with turpentine & linseed oil)**  
I use this mix in landscapes and still life paintings. I use this because the dammar dries quickly and lets me use wet-over-dry brushwork techniques. This is an advanced technique and not necessary for beginners. I limit my use of this medium indoors because of the harmful fumes, and often do not use any medium since the paints I use (Classic Artist Oils from Triangle Coatings) are mostly fluid enough to use without a medium.
- ◆ **odorless mineral spirits (Gamsol)**  
I occasionally use this in the studio when the paint is too stiff.
- ◆ **liquin**  
I use this for thin dark *washes* in figure and portrait work. I also sometimes use it for *glazes* to modify a color in a painting. Do not use liquin as a painting medium - it is only for glazes and washes.
- ◆ **linseed oil**  
I sometimes add this to my stiffer paints when I am laying out my palette in order to make them flow more easily.

### Alkyd resin

This is a synthetic oil-modified alkyd resin compounded for artists to use as an oil paint medium. Brand names are Liquin, Win-Gel, and Galkyd. This type of resin is useful for *glazes*.

#### Note

I have heard than Liquin can yellow and crack over time, so I limit my use of this medium.



## OIL MEDIUMS (CONTINUED)

### Copal varnish

Copal is a natural hard resin gathered from fossil or living trees. It is extremely strong and has good endurance against humidity. Use it to dilute paints for glazing and thin applications.



### Dammar varnish

Dammar (or damar) is a soft resin gathered from trees in tropical Asia such as Malaysia or Indonesia. I sometimes use a mixture of 85% dammar, 14% turpentine and 1% linseed oil for a wet-in-wet technique in alla prima painting. (Use the dammar in the under layers, so the upper layers stick more easily to it).



### Home-made medium

Here are three alternative mixes for home-made mediums:

- ♦ Mix dammar, linseed oil (or stand oil) and turpentine in equal proportions.
- ♦ Mix dammar (40%), linseed oil (10%) (or stand oil) and turpentine (40%).
- ♦ Mix copal, linseed oil (or stand oil) and turpentine in equal proportions. (Source: Sir Alfred East)

### Linseed oil

Linseed oil is a yellowish drying oil made from the seeds of the flax plant. Cold-pressed linseed oil is a natural oil of low viscosity. It is pressed from flax seeds without the use of heat. Cold-pressed linseed oil offers greater purity and clarity. Use it to improve the flow of paints and slow drying time.



## OIL SOLVENTS

### Description

A solvent is a liquid used to dissolve a solid material. Oil painters must use strong solvents because of the oil binder. The most common paint solvents are turpentine, mineral spirits and odorless mineral spirits. Some artists also use solvents to clean their brushes.

### Uses

Solvents are used for:

- ◆ **Thinning oil colors.** Stiff oil colors relax immediately when a little odorless mineral spirits is added. A little goes a long way.
- ◆ **Modifying painting mediums.** Gamblin's Galkyd line of painting mediums are formulated with Gamsol, so they readily accept Gamsol as a thinning agent. Note: Odorless mineral spirits should not be added to painting mediums made with natural resins (dammar, copal, mastic). They require strong solvents such as turpentine.
- ◆ **Studio clean up:** brushes, palettes, palette knives, etc.

### Cautions

- ◆ Be careful not to thin oil colors too much with solvent alone since it will prevent the paint from forming a paint film properly. I usually use solvents only for thin *washes*.

### Properties of solvents

#### Flash point

Flash point is the temperature at which a substance may ignite. Solvents can create real dangers in terms of storage and disposal because flash points can be as low as 95 degrees Fahrenheit, 35 degrees Celsius for turpentine (see storage and disposal tips below).

#### Comparison of flashpoints:

- ◆ Turpentine - 95 degrees Fahrenheit, 35 degrees Celsius
- ◆ Mineral Spirits - 105 degrees Fahrenheit, 40 degrees Celsius

### Properties of solvents (continued)

- ◆ Odorless Mineral Spirits - 125 degrees Fahrenheit, 51 degrees Celsius
- ◆ Gamsol Odorless Mineral Spirits - 145 degrees Fahrenheit, 62 degrees Celsius
- ◆ Sansodor - 174 degrees Fahrenheit, 79 degrees Celsius

Looking at the examples above, we see that using odorless mineral spirits, Sansodor or Gamsol Odorless Mineral Spirits is far less risky than using turpentine or straight mineral spirits.

#### Evaporation rate

To understand the precautions you need to take when handling a particular solvent, you must know the rate of evaporation. Once a particular solvent-containing material (for example, paint mixed with solvent) is applied to a surface and dries, the solvent in that material evaporates. At that point, nothing remains of the solvent, with the exception of some turpentines and low-end mineral or odorless mineral spirits, which can sometimes leave a residue in the container (or on your surface). The faster the solvent evaporates, the more intense your exposure will be to the evaporating solvents.

#### Comparison of evaporation rates

- ◆ Turpentine - Fast
- ◆ Mineral Spirits - Slow
- ◆ Odorless Mineral Spirits - Slow
- ◆ Gamsol Odorless Mineral Spirits - Very Slow
- ◆ Sansodor Odorless Mineral Spirits - Very Slow

By comparing these solvents, we see that Mineral Spirits or Odorless Mineral Spirits have significantly lower rates of evaporation (For example, you can work with Gamsol/Sansodor Odorless Mineral Spirits three times longer than with turpentine). This means if you are working with a turpentine or turpentine-based product, you need to be very aware of how long you are exposing yourself to the turpentine, as your body can withstand far less.

## OIL SOLVENTS (CONTINUED)

### My current choice

I am currently using:

◆ **odorless mineral spirits (artists quality)**

I use this in the studio as a medium when the paint is too stiff, and also to clean my brushes occasionally.

### Odorless mineral spirits

*Odorless mineral spirits* are petroleum distillates from which most of the aromatic solvents have been refined out, unlike regular mineral spirits. Less than 0.005% typically remains in the high quality types of odorless mineral spirits. Aromatic solvents are the most harmful types of petroleum solvents.

- + Pro: It is less harmful to your health than regular mineral spirits.
- Con: It is at a reduced strength compared to regular mineral spirits.

There are two types of odorless mineral spirits:

- ◆ artists quality, and
- ◆ commercial quality.



### Odorless mineral spirits (continued)

#### Artists quality

These are specifically made for products and processes that come into more close contact with the body, such as cosmetics, hand cleaners, and cleaning food service equipment. These are marketed to artists, under brand names such as *Gamsol*, *Sansodor*, and *Turpenoid*. It is sold in artist stores and from artist mail order websites.

- + Pro: They have less odor than the commercial quality.
- Con: The artists versions are relatively expensive compared to regular mineral spirits.

#### Commercial quality

This type of odorless mineral spirit is used for commercial painting applications where solvent power and cheapness is the main factor in their production and composition. It is sold in hardware and paint stores.

- + Pro: They are inexpensive.
- Con: They have more odor than the artist quality, so it is best to use it outdoors.

### Turpentine

This is a traditional strong solvent made from pine gum. It can be used with dammar varnish and linseed oil to make a home-made medium.

- + Pro: It has a fast drying rate.



#### Cautions

- ◆ Use artist quality distilled turpentine since the variety you can buy in a hardware store contains impurities.
- ◆ Turpentine is a strong *sensitizer* and should only be used in well ventilated areas.
- ◆ It is highly flammable so you cannot take it on airplanes.



## OIL SOLVENTS (CONTINUED)

### Mineral spirits

Mineral spirits (paint thinner) is a strong, low grade petroleum solvent. It contains highly toxic aromatic hydrocarbons. It is cheap, but has a very high health risk.

- + Pro: It is inexpensive.
- Con: It produces more vapors than odorless mineral spirits.

#### Caution

- ♦ Use it outdoors when cleaning brushes because of its toxicity. However, you can still smell the fumes when you are using the brushes indoors, so I avoid using it where possible.

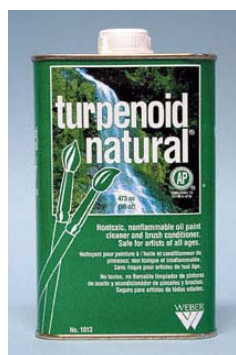


### Citrus thinner

*Citrus thinner*, also going by the name of turpenoid natural, is a medium strength blended solvent, made of cosmetics-grade isoparaffinic hydrocarbons with a small amount of food-grade orange terpenes for improved solvency.

I do not use it because:

- ♦ it is no good for all painting uses, since you cannot use it in a wash (you can only use it in a medium).
- ♦ it does not seem to clean brushes very well.



### Citrus thinner (continued)

#### Cautions

- ♦ **Dammar interaction.** Citrus thinners interact with dammar varnish to prevent paint from drying. It took me a while to make this connection, after discovering that some of my paintings hadn't dried, even after four years.
- ♦ **Toxicity.** Note that citrus oil and d-limonene, two ingredients often found in citrus solvents are not safe substances. While they may have a more pleasant smell than other solvents, both of these substances, particularly d-limonene, are some of the most toxic solvents available, and have been linked to cancer. Check the label and data sheet before using.
- ♦ **Paint mediums.** Use in paint mediums should not exceed 25% to ensure proper drying time
- ♦ **Washes.** Do not use citrus thinners to create washes, glazes or to wet canvas before painting. This is because they contain oils and so can prevent proper drying of the painting.

#### Safety tips: fire

- ♦ **Fire extinguisher.** Solvents are flammable. Keep a fire extinguisher – one that is approved for solvent fires – handy in your studio.
- ♦ **Rags.** Never toss solvent-soaked rags or paper towels in the garbage. They can ignite. Instead, store them in a self-closing *oily waste can* in order to prevent potential fires.
- ♦ **Containers.** Use an *inflammable storage cabinet* for all your solvent and medium containers.

## OIL SOLVENTS (CONTINUED)

### Safety tips: health

- ◆ **Evaporation danger.** As solvents dry and evaporate, they release toxins into the air. The light-headed feeling some people get when working with solvents is because the soft tissue in your brain and your nervous system are two of the first places in your body that are affected by evaporating solvents. Similar to the effects of alcohol intoxication, prolonged exposure to solvents over the course of several years causes long-term damage. The damage can become extremely serious, even leading to a type of permanent brain damage called chronic toxic encephalopathy. This can lead to memory loss and problems with dexterity. Exposure to solvents can also affect internal organs, and has been linked to cancer and birth defects.
- ◆ **Material Safety Data Sheets (MSDS).** Keep a binder filled with the Material Safety Data Sheets (MSDS) for every art material you are using. The MSDS can provide some information to your doctor or veterinarian in case of an emergency.
- ◆ **Storage.** Be sure all of your containers are properly labeled (even the jars you pour your solvents into) and covered. Contact your local government to find out what their requirements are for storage of solvents, but consider an inflammable storage cabinet.

### Environmental concerns

- ◆ **Drains.** Never pour solvents down the drain. This is not only illegal in most areas of the country, but also very unsafe and hazardous to the environment. You do not want solvents contaminating the ground water. Keep used solvents in a closed container and dispose of them per your local government's instructions. Ideally, you should use a container that is intended to house flammable liquids (available from *Dick Blick*), but they are expensive.
- ◆ **Disposal.** Contact your local department of environmental protection, water treatment facility or other appropriate government agency to find out where to dispose of your rags and liquid solvents. Also, check with them about what to do in the case of accidental spills.

## ACRYLIC MEDIUMS

### Description

You can use an acrylic medium to add to the paint to give it a different consistency or quality.

#### Note

The term medium can also be used for the substance that is used to bind the pigments together in paint. In acrylics it is a synthetic substance.

Many art material suppliers make their own range of acrylic mediums. It is best to check their websites for how to use them, and experiment until you find one you like.

#### Tips

- ◆ Do not add more than 50% medium to the paint.
- ◆ Always read the label to see the manufacturer's recommendations for adding the medium.

#### Cautions

- ◆ Try to use the same manufacturer of acrylic paint and medium, as they will work best together.

Here are the different types of medium you can use, and what they are for.

### Retarder or Slow Drying Medium

This is a glycol-based synthetic material used to slow the drying time of acrylic paint so you have more time to blend colors on the canvas. However it does tend to change the color of the paint so do not add more than 10-30% to your mix, depending on the manufacturer.



### Gel

Gel increases the transparency, depth and gloss of the paint. The thickness of the paint is maintained, so it retains brush strokes and palette knife marks for excellent impasto effects.



### Gloss

Gloss increases the depth, transparency and flow of the paint, making it ideal for blending or fine detail work, and dries with a uniform gloss so that it looks like an oil painting.



### Matte

A matte medium improves the flow of the paint making it ideal for blending or fine detail work. It provides an even matte finish and increases the water resistance. When dry it looks like a tempura painting.



### Flow release

Flow release additives increase the flow of acrylic paints by breaking down the surface tension of the water and allowing the paint to soak into porous materials such as watercolor paper and unprimed canvas. It is ideal for the application of areas of flat and even color without changing color strength. It is also effective for hard edge painting techniques, staining and watercolor techniques.



### Iridescent Medium

An iridescent medium is suitable for a variety of surfaces and was developed to provide pearlescent effects when added to paint. It is most effective when used with transparent colors over dark underlayers, or use as a top coat to give pearlescent effects.



## ***PAINTING SUPPORT – CANVAS PANELS***

### **Overview**

These are inexpensive stiff cardboard panels with cotton canvas or a textured paper mounted on to it. They are good for quick sketches and practice.

Tip: You can buy a few of these and use them as *mounting boards* for *loose canvas*.

### **Types**

#### **Cotton canvas panels**

These are cardboard panels with cotton canvas mounted on to them.



### **Advantages**

- ♦ These panels are inexpensive.
- ♦ You do not need a *mounting board* since the canvas is mounted to stiff cardboard.

### **Disadvantages**

These types of panel are not suitable for professional work, because they will easily warp if they are left out in the sun.

**EQUIPMENT: DRYING BOX**

RayMar drying box



Open Box M drying boxes



double rabbet frame



homemade gatorboard boxes



Art Essentials drying box

**Description**

When you are traveling you need to protect your wet paintings in a drying box. There are two categories of drying boxes:

- ◆ **small - for hiking**  
A small drying box for two to three panels that fits in a backpack or over your shoulder.
- ◆ **large - for car use**  
larger drying boxes for six or more panels that you can keep in your car while you are traveling.

**Small drying boxes**

I use these:

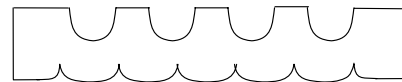
- ◆ homemade gatorboard three panel carriers
- ◆ plastic drying boxes (supplier: *RayMar*). These are the lightest as they are made from corrugated plastic. They have good closures and carry handles.

- ◆ double rabbet frame carrier that holds two paintings face to face. This looks just like a picture frame in which you can put a painting both in the front and in the back. It is simple rectangular frame, with small 2-3cm long blocks of wood in the corners and middle of the sides to separate the paintings. The paintings fit flush with the edges of the frame. You need a clip to hold the paintings in. They come in a variety of sizes from 5x7in (13x18cm) to 12x16in (30x40cm) (supplier: *The Outside Shore*).

**Large drying boxes**

Here are the alternatives for larger drying boxes:





- ◆ **Homemade box**  
Screw mahogany plywood on the front, back and sides of a small piece of molding that has four or five channels.
- ◆ **Off-the-shelf box**  
Many companies make off-the-shelf drying boxes (suppliers: *Open Box M*, *Art Essentials*).








## DECISION: WHICH OIL & ACRYLIC PAINTING BRUSHES TO USE

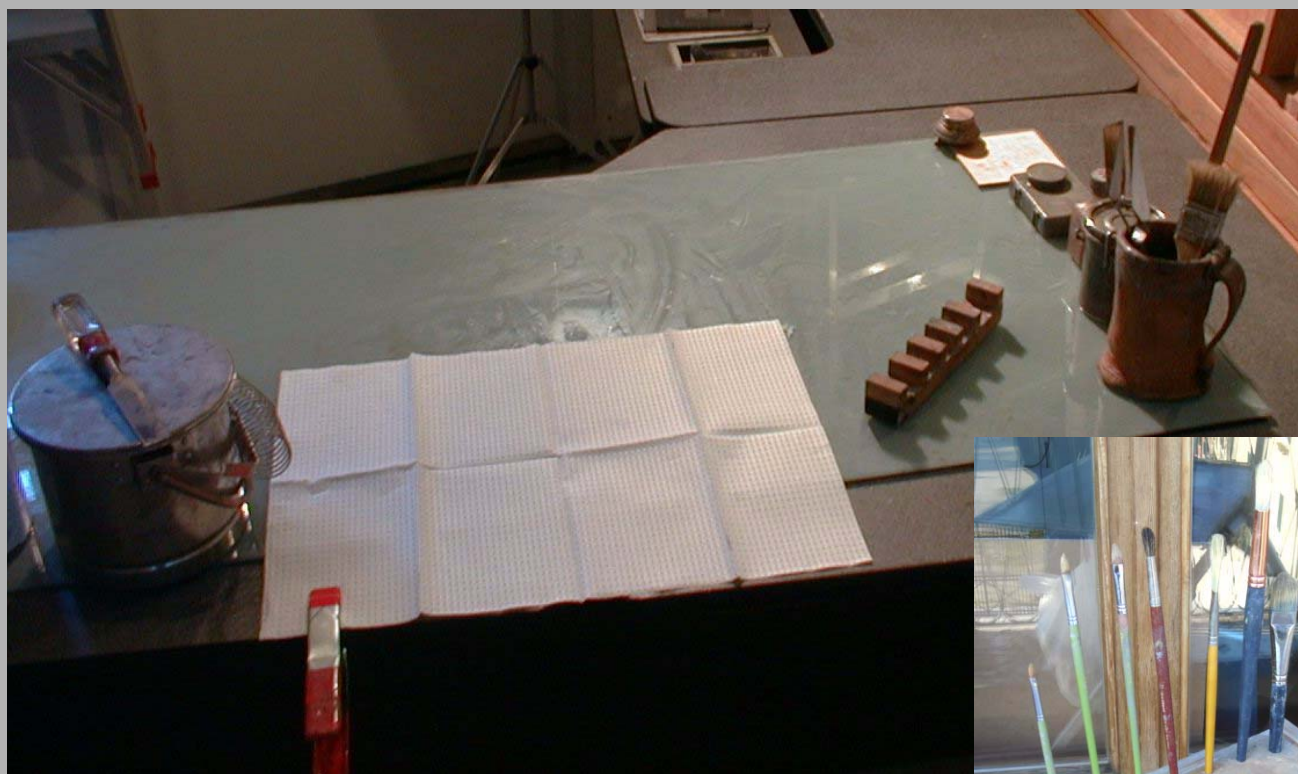
You can choose from a great variety of brushes when using oil and acrylic paints. You can use brushes with either natural or synthetic hairs, but make sure the bristles spring back up quickly when you bend them. Stiff brushes are best for oils, such as those with bristles made of hogs hair. If you are on a limited budget it is best to buy a few high quality brushes because they will last much longer than the less expensive ones

For this work . . .	I use this type of brush . . .	
most of the painting, lay-in, and most details	<p>filberts in sizes 2, 4, 6, 8, and 10</p> <p>You can use the flat side for broad brush strokes or the edge for finer strokes.</p> <p>Sometimes I also use a round, in the larger sizes for a different kind of brushstroke.</p> <p><b>Note</b> I prefer the filberts with longer bristles. See <i>filberts - long bristles</i></p>	 <p>filbert                  round</p>
large canvas lay-in, 16x20in (40x50cm) and larger	1 in (2.5cm) wide and larger. I use house painting brushes here.	
square edged objects such as rocks, and buildings	<p>flat - bristles are long compared to its width (My choice since it holds more paint.)</p> <p>bright - length of bristles is almost the same as their width (Useful if your paint is stiff.)</p>	 <p>flat                      bright</p>
softening edges or knocking down thick paint passages that I want to paint over	fan	

***DECISION: WHICH OIL PAINTING BRUSHES TO USE (CONTINUED)***

For this work . . .	I use this type of brush . . .	
portraits	rounds, small flats in addition to filberts <b>My choice</b> I do not use rounds very often since I can use a filbert on its thin side instead.	
working with stiff paint	brights <b>My choice</b> I do not use brights.	
signing art or painting fine lines and details	rigger	

## EQUIPMENT: PALETTE - OIL & ACRYLIC STUDIO



### Description

A large palette is useful if you are doing very large work and need more mixing space than a 16x24in (40x60cm) palette or a 20x24in (50x60cm) palette.

There are three main choices of materials for making a large palette in the studio:

- ◆ glass
- ◆ *acrylic or polycarbonate plastic*
- ◆ wood

#### Tip:

A glass palette is the easiest to clean.

### Holding your brushes

You can drill holes on one side of your palette to hold your brushes and save space on your palette.



### Using a glass or clear plastic easel

If you use a large piece of glass or a clear plastic (acrylic or polycarbonate) palette, lay it over a piece of hardboard or matting board painted a value 5 or 6 gray. You can use any kind of paint for this, including house paint from your local hardware store.

### Alternative approach

I sometimes use my 20x24in (50x60cm) or my 16x24in (40x60cm) outdoor palette in the studio.

- + Pro: I can put the palette under water at the end of the day so I save time cleaning the paint off the palette by preventing the paint from getting stiff overnight.



**EASEL SYSTEM: HALF FRENCH EASEL**

Half French easel

Full French easel  
(for comparison)**Overview**

The half French easel is a smaller version of the French easel and much lighter than the full French easel.

**When to use**

I use this easel when traveling, as an alternative to a pochade.

**Advantages**

- ◆ Usually strong and sturdy if you purchase a good quality make.
- ◆ You can raise your painting up to eye level.
- ◆ It is inexpensive.

**Disadvantages**

- ◆ Wing nuts can be difficult to undo, particularly when wet.
- ◆ It has a smaller area to support a large palette, compared to the Soltek or Russian easels.

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# Watercolors

## PAINTING SUPPORT: WATERCOLOR PAPER

### Types of watercolor papers

The best *painting support* for watercolor painting is specially produced paper. You can buy either:

#### ◆ individual sheets of watercolor paper

If you buy sheets you usually need to stretch it and attach it to a board so that it does not warp when you paint on it.

- Con: you need to stretch the paper before you work on it.
- + Pro: you can cut the paper to any size and shape you want.
- + Pro: they are lightweight and you only need to carry one mounting board.

#### ◆ watercolor blocks

If you buy blocks, the sheets are glued together so you can work directly on the block, without having to first stretch the paper. You can paint on the top sheet, then remove it with a knife to paint on the next sheet. Watercolor paper blocks usually have 20 sheets of paper in one size.

- + Pro: watercolor blocks are convenient because you do not need to stretch the paper before you start working.



#### ◆ watercolor boards

If you buy watercolor boards they do not need stretching as the paper is mounted to a board about 1/8in, 3mm thick.

## Paper grades

Watercolor paper comes in three grades:

#### ◆ hot-pressed (a fine-grained, smooth surface)

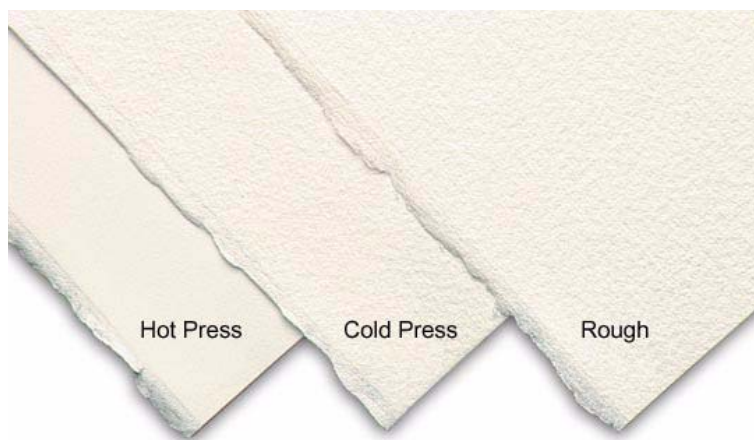
Professional artists use hot press watercolor sheet paper because it has a very smooth painting surface, but it is the least absorbent. Hot-pressed is used primarily for paintings that require fine detail, such as portraits. The smooth surface limits the use of such textural effects as dry-brush work, however, because the brush tends to flow smoothly across the surface.

#### ◆ cold-pressed (a slightly textured surface)

This is the most popular grade of paper. Cold-pressed, or “Not” (meaning “not hot-pressed”) has a slightly textured surface. This is the most popular grade of paper because it is versatile enough to permit reasonably fine detail while providing enough tooth to allow for texturing techniques, such as dry-brush work.

#### ◆ rough (a very textured surface)

Colors settle into the grooves which creates an expressionistic effect and is good for abstract painting. Rough is favored by artists who use a lot of dry-brush work because it allows the brush to skip along the surface peaks, leaving traces of white in the valleys. Because of the rough-textured surface, it is difficult to use for finely detailed work.



It is usually white so that the most amount of light is reflected back through the paint.

***PAINTING SUPPORT: WATERCOLOR  
PAPER (CONTINUED)*****Paper weights**

Watercolor paper is measured either in pounds per ream (lb) or grams per square meter (gsm). It is heavier than drawing paper and its weight is indicated by the number of pounds or gsm in a ream (500 sheets) of 22x30in, 56x75cm paper. The best weights for watercolors are 140lb, 300gsm, to 300lb, 638gsm. The thicker the paper the less you have to worry about its warping while you paint, and with heavier paper you also do not have to worry about stretching it before you use it.

Weights lower than 140lb, 300gsm tend to warp too much to use easily, even when stretched. 140lb, 300gsm is the most popular weight because of its comparatively low cost in relation to its ease of use. Loose sheets should be stretched before use to minimize surface undulations caused by the paper's expansion as it absorbs moisture from the paint. 300lb, 638gsm is much thicker and less inclined to warp but is more expensive and, particularly in larger sizes, is noticeably heavier to handle.





**Tips for beginners**

- ◆ Use 140lb, 300gsm cold press as it is more durable and will withstand your erasing mistakes.
- ◆ If you use 140lb, 300gsm cold press paper, you can paint on both sides of the paper if the first painting does not turn out well.
- ◆ If you want to use sheets, it is best to start with 260lb, 356gsm or over so you don't have to stretch it.

## DECISION: WHICH BRUSHES TO USE

The best watercolor brushes are made of pure sable because they have very fine hairs with a good point, they spring back into shape quickly, and they hold more paint. If you cannot afford pure sable, at least buy a sable and synthetic hair mix. I use Kolinsky sable brushes that have a wide base and a fine point.

Brushes come in several shapes (rounds, flats, filberts) and sizes from #0 and up.

For this work . . .	I use this type of brush . . .	
most of the painting, lay-in, and most details.	rounds with a good fine point in sizes 2, 4, 6, and 8	
erasing and removing paint architectural and man-made shapes	flat, size 4 or 6	
washes	a large round with as much body to it as possible so that it holds a lot of water	
for signing art or painting fine lines and details	rigger	

### Caution

Do not leave brushes standing on their bristles in a water because:

- ◆ it will misshape the bristles
- ◆ it will cause the wooden handle to swell, thereby loosening the ferrule and, subsequently, the hairs

### Tip

Keep a small sponge or piece of toweling in the corner of your palette to control the moisture level in your brush as you work. It can also be used to wipe off the mixing tray and can be wrung out or rinsed in the water bucket as needed. This reduces the need for so many paper towels.

**EASEL SYSTEM: SUN EDEN WATERCOLOR****Overview**

The system consists of:

- ◆ the easel
- ◆ the watercolor attachment
- ◆ the palette shelf
- ◆ the side-mounted plastic box
- ◆ two brush holders (short version)

**When to use**

This system is useful when you have to hike a long distance or travel by air.

It will also let you paint larger paintings from 6x8in (15x20cm) in size to 16x20in (40x50cm) and larger.

**Advantages**

- ◆ This is the lightest system I have ever found.
- ◆ You can clamp on your *Pike palette* to give you a nice large mixing area.

**Disadvantages**

- ◆ The legs of the easel are made of a metal tube that can get dented if a heavy weight rests on it. Mine got damaged in this way while traveling. This should be no problem if you pack it carefully in bubble wrap in your suitcase.
- ◆ The rivets holding the clips on the brush holders and rear mounted tray come loose and can fall out. If this happens, get the rivets drilled out and replaced with a nut and bolt. That works well.

**EASEL SYSTEM: SUN EDEN MODIFICATIONS & TIPS**

Weighting down



Brush holders



Trash bag



Tent pegs



**EASEL SYSTEM: SUN EDEN MODIFICATIONS & TIPS (CONTINUED)****Weighting down**

Attach your backpack with a camping clip to the center of the easel to provide extra weight.

**Trash bag**

Use a camping clip and the clip of the palette tray to attach a paper bag for your trash.

**Brush holders**

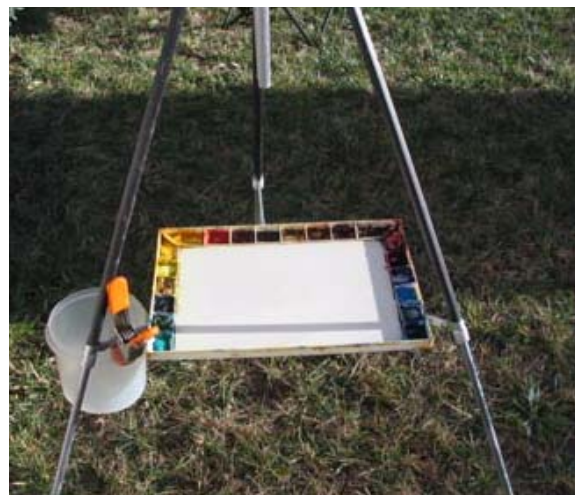
Attach the two brush holders with the Sun Eden system onto the legs of the easel for easy access to your brushes.

**Tent pegs**

In high winds, use the tent pegs that come with the Sun Eden system to tie down the legs.

**Alternative setups**

As an alternative setup, you could use a Stanrite WC15 watercolor easel and attachment, but still use the Sun Eden accessories.



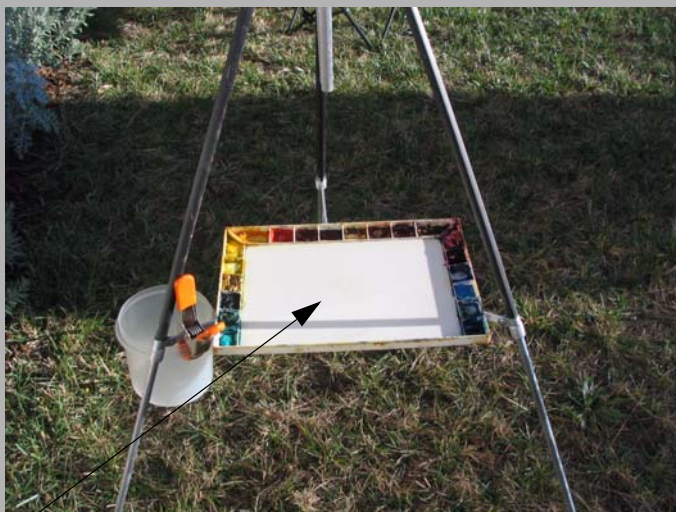
Instead of the Sun-Eden shelf, you could place the Pike palette directly on the central three leg supports. You will need to attach it with bungee cords to keep it secure. This works but can be awkward to set up, as the bungee cords can easily catapult your palette into the air if you are not careful! Also you will need a separate table for your water container and to put your brushes on.



## EQUIPMENT: PALETTES - WATERCOLOR



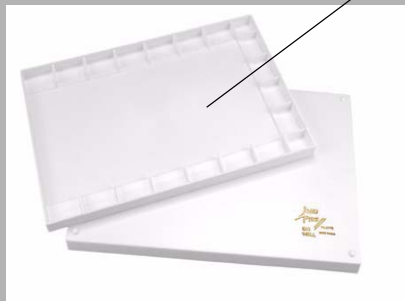
Color wheel palette



Pike rectangular palette with lid



Dupre watercolor bucket



Winsor & Newton  
Cotman field box



### Description

#### Pike palette

In the studio, you can use a large palette made by Pike (the *Pike palette*). This palette has channels for each of your colors and a mixing area in the middle. It also has a lid so you can close the box between painting sessions without your tube paint drying out too much, and you can also use it as an extra mixing area. I use this palette both in the studio and outdoors because of the large mixing area available.

#### Tip

You can put a damp sponge inside the closed palette to help the paint retain its moisture between painting sessions or for up to several days.

#### Cotman Watercolor Field box

When I am travelling very light and doing very small color sketches, I use the Winsor & Newton Cotman Watercolor Field box. It has a built-in

water bottle, water well, fold out palette sections and pull out red sable brush. It also has 12 half pans of paint. It is very lightweight and easily fits into a pocket or small bag.

### Alternative

The Dupre watercolor bucket includes two half size water basins for holding two huge water supplies, a handle with a wide variety of holes in it that rests on its side for holding brushes in their upright position and a deep well palette with 12 perimeter and four interior wells.

Some people prefer to use a circular palette so they can arrange their colors around the color wheel.