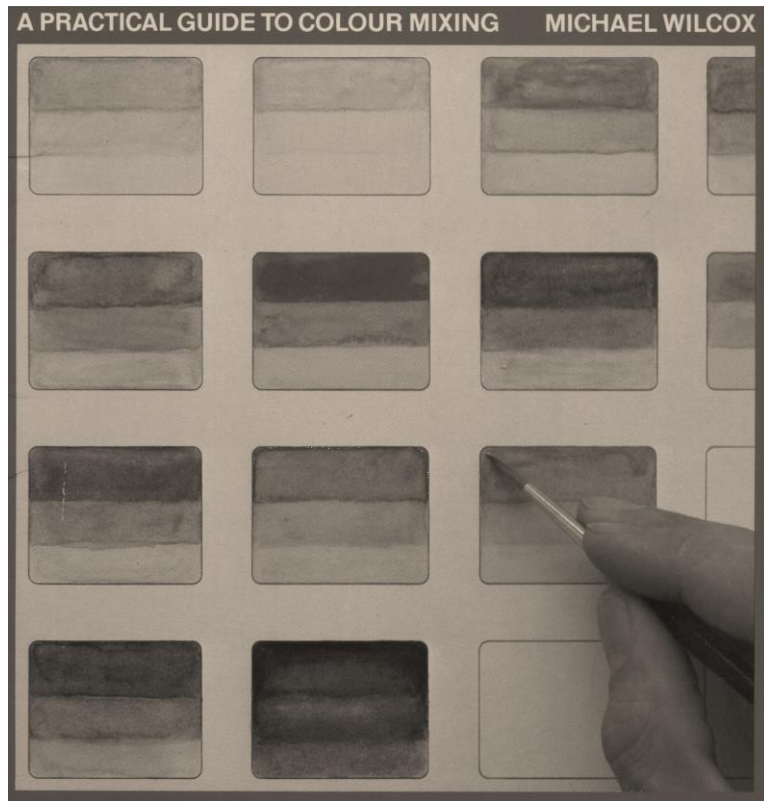


Colour Mixing System for Watercolours (Part One only)

A Practical Guide to Colour Mixing By Michael Wilcox



The book is in three parts:

Part 1 Color Range: enables you to take a close look at the range of standard colors used throughout the book.

Part 2 Color Reference: will become your future color reference, starting from the palest yellows and working through to the deepest shadow colors. As you work through these pages you will discover the way in which colors interact.

Part 3 Color Experiments: the last part of the book is for your own color experiments.

Dear Fellow Artist,

As an amateur painter, I spent years trying to learn color mixing from textbooks, charts and continual practice. No matter how much I studied and practiced I never felt sure of my colors or my palette's range.

Colors I'd mixed before and been pleased with were difficult to re-create. I used to spend hours mixing colors only to start all over again with each new painting. The clear, subtle color I sought often turned "muddy." In the process I wasted a lot of expensive paint.

Am I outlining some of the problems you, as an artist, have faced?

If so, we've probably also shared the bewildering predicament of what colors we need to buy and use in our palette. There seem to be hundreds of colors to choose from, most of which can be easily mixed from **standard** colors. But which are they?

I have gradually worked out my own system which I invite you to try. I'm sure that in using it you will be able to expand your range and improve your color mixing skills. When finished, the book will also provide you with a permanent color reference upon which to build new colors.

COMPLETING THE BOOK IS NOT A SUNDAY AFTERNOON EXERCISE—IT WILL REQUIRE YOUR DILIGENCE AND TIME. I MAKE NO APOLOGY FOR THIS SINCE I AM CONFIDENT YOUR FUTURE PAINTINGS WILL BE SO IMPROVED AS TO MAKE IT WELL WORTHWHILE. ENJOY YOUR COLORS.

Michael Wilcox

Colour Notes

Quality

Where possible I suggest you use artists' quality colors, as many of them are more permanent and brighter than the cheaper grades. However, many pigments, mainly the natural earth colors, are just as permanent in the cheaper as the more expensive grades; these are indicted in the Color Range notes.

Hue

Where you find the word "Hue" after the name of a color, i.e., Cadmium Yellow (Hue), it means the pigment used is as near as possible to the traditional artists' pigment found in the higher quality paints.

Permanence

With each color heading I have given a rating as to the degree of fastness to light of that color:

- A) Possesses a high degree of resistance to fading.
- B) May fade slightly if used as a glaze.
- C) Tends to fade quicker than A or B but not considered "fugitive," i.e., possessing a low degree of permanence.

I can only give an average assessment as different manufacturers' ratings may vary. Also my rating only applies to the artists' quality paints and is for guidance only.

Fading

All watercolor pigments will fade if exposed to too much direct sunlight, some faster than others. Treat the book as you would any watercolor, and don't leave pages exposed to harsh sunshine for too long.

Black

When used in mixes, black can only deaden your colors, and when used unmixed, will create "holes" in your picture.

You will see in the book the beautiful soft "blacks" that can be produced by mixing colored darks that won't destroy the overall effect of your painting. Subtle grays can also be obtained by mixing complementary colors.

White

White has no place in the palette of a watercolorist; it will destroy the brilliance and transparency of your colors. Create any white required by leaving untouched paper, and lighten colors by allowing the whiteness of the paper to show through.

Water

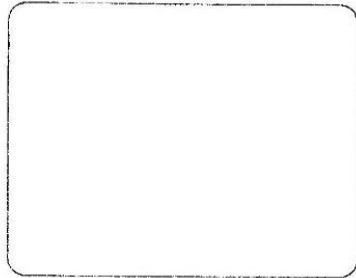
Try to use distilled or boiled water both in your work and in this book. Tap water is very often hard and full of lime; you may find that in time, its use will cause your colors to flake.

How to Complete the Boxes

1 Where two colors are specified mix as near as possible an equal amount of each.

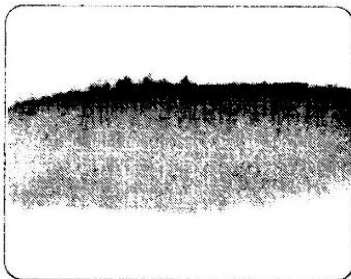
With a clean brush and water dampen the area inside the box.

Wash in the smallest amount of paint to give an even coat of very pale color. (If only one color is called for, use straight from the tube.)

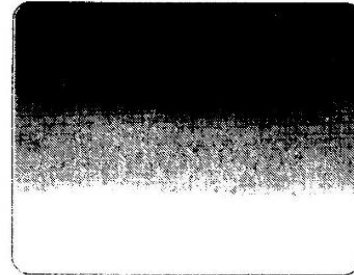


2 Pick up a little more color and, starting about a third of the way down, paint in the center area a little darker than the base.

Do not add more color to the lower third, but allow the first wash to blend in.



3 Load the brush with color and paint in the top of the box. Bring this color down to blend in with the top edge of the center band (fig. 2).



The book cover will indicate the results to aim for, don't worry about trying to split the boxes exactly into thirds, near enough is fine.

Similarly, the exact degree of difference between color bands isn't important, you will readily begin to see the effects of using varying amounts of water with your colors.

An alternative method is to first dampen down the box with clean water. Starting at the top with a heavy amount of color, create a wash that becomes gradually weaker toward the bottom of the page—this technique will require considerable previous experience in creating watercolor washes.

If using watercolors for the first time, practice on spare paper before starting the book.

Mixing

Paint quantities for mixing are easier to judge if you use tube colors.

The use of a palette knife for mixing will prolong the life of your brushes, give a more even mix, and prevent paint clogging the brush and contaminating the next mix.

Display

If you work from a studio you may find it useful to pin the pages to a board or wall for easy reference.

Do always mix colors together with a **CLEAN** palette knife and **ALWAYS** use a clean brush and water.

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Burnt Umber

Part 2 Color Reference

The colors are loosely grouped into yellows, browns, reds, greens, blues, etc., for ease of reference. I have left the individual page contents for you to describe here in your own way.

For example, I might describe a page as “dull greens” which you might prefer to call “brown-greens” and “forest greens.” Similarly, some of the warm browns could be easily described as “skin tones.”

Make a note here of any color you find particularly pleasing. Do make use, also, of the blank pages for your observations as you work through the book.

Part 3 Color Experiments

Having completed the main body of the book you will want to experiment with different color combinations and quantities. Part 3 will outline the way to start. When you find a color you especially like, make a note of it here.

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Part 1 Color Range

Complete these boxes following the instructions on the inside front cover

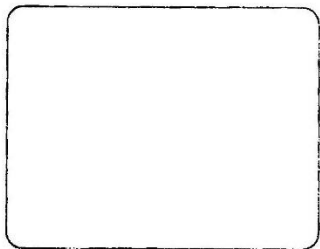
Naples Yellow (Cadmium pigments and White) Permanence B

This was originally produced from lead, but is now usually only available as a mixed pigment. With much experimenting it is possible to mix it yourself, but this is very time consuming.

Excellent in mixes as it softens all other colors, adding warmth and mistiness. It has quite strong covering power and, although not classed as a pure color, to my mind is one of the most useful in the range.

As you use it in mixes throughout the book you will find that even the strong bright colors are softened, with some very beautiful results. It is very popular with artists because of its versatility.

Resist the temptation to over use this attractive color in your work.

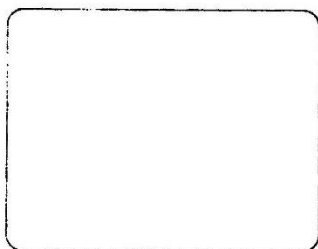


Lemon Yellow (Composition Arylamide Yellow or Chromate of Barium) Permanence B

A pale, cool, durable color that retains its brightness very well, even when applied thinly. Transparent and very delicate, it gives clean greens in mixes with the blues, especially Cerulean or Cobalt Blue. Between Lemon Yellow and Cadmium Yellow Pale lies the basic primary yellow.

The name is often used indiscriminately for a light yellow containing a variety of ingredients. I find the most reliable Lemon Yellow is that based on either Arylamide or Barium. It is best to avoid other varieties, especially Chrome Lemon Yellow, which turns green quite quickly.

Do bear in mind when painting, that of all colors the eye is most sensitive to yellow; it will "advance" in a picture, drawing the eye.



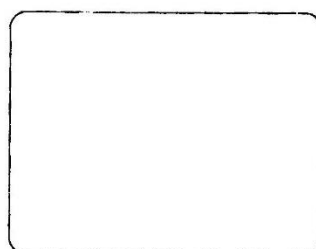
Cadmium Yellow Pale (Sulphide of Cadmium) Permanence B

An intense, brilliant, pale yellow which is slightly on the red side when compared with Lemon Yellow, which is a little bluish.

In mixes with the blues and greens some very interesting subtle effects are obtained, when combined with Cobalt Violet it gives a delicate neutral color.

It is preferable to use the same make of paint for the Cadmium Yellows, as the pale version of some brands is nearly the same as the medium of others. There should be a distinct difference between the two.

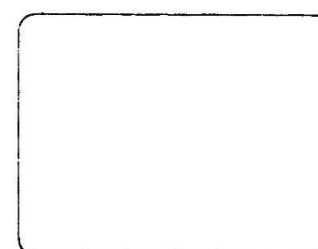
As with the other Cadmium colors, it is rather expensive owing to the pigments used, but its brightness and permanence makes it well worth the money.



Cadmium Yellow (Sulphide of Cadmium) Permanence B

Cadmium Yellow, or Cadmium Yellow Medium as it is sometimes referred to, is a strong, bright warm yellow, very useful in mixes. One of the purest of light fast pigments. Quite opaque with a fairly high tinting strength, it is the ideal yellow for producing strong sunny oranges when mixed with either Cadmium Orange or Cadmium Red, gives beautiful warm greens when mixed with Viridian, Cerulean or Cobalt Blue. A versatile, cheerful color that will add life to any mix.

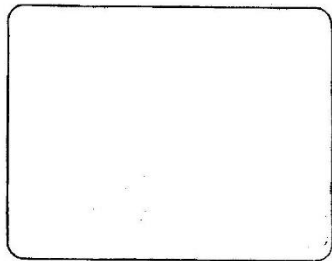
A fine yellow with a useful range of values. Now justifiably considered by many artists to be the most important bright yellow of the palette. Avoid the cheaper imitations, they can never give the same results.



Cadmium Orange (Cadmium Sulphide and Selenide)
Permanence B

A clean, opaque and extremely intense orange. Strong in covering power. Although it is fairly easy to mix most oranges that are required, no combination of any yellow or red can equal Cadmium Orange for intensity or purity.

When mixed with its complementary, blue, to create what are known as neutral colors, (those containing all three of the artist's primaries, red, yellow, and blue) much will depend on the blue selected. You will notice that when it is combined with relatively weak blues, such as Cerulean or Cobalt Blue, a range of browns result, but when mixed with the more powerful Phthalocyanine Blue an intriguing mysterious green is produced. When quieted down this way it becomes a very useful landscape color.

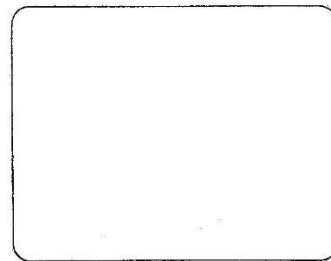


Cadmium Red (Cadmium Sulphoselenide) Permanence B

I suggest that you use the artist's quality as it is brighter and more permanent than the substitute pigments used in the cheaper ranges. A pure, intense yellowish red which will provide a wide range of bright clean colors.

When mixed with Alizarin Crimson the result is a strong vibrant red which is less distracting in a painting than pure Cadmium Red. This mix is also more suitable when applying the paint in thin layers, as Cadmium Red alone often tends to granulate when diluted.

Stable and light resistant under normal conditions, it has since the 1930's gradually replaced Vermilion, an inferior pigment prone to darkening.



Alizarin Crimson (Alizarin Lake)
Permanence B

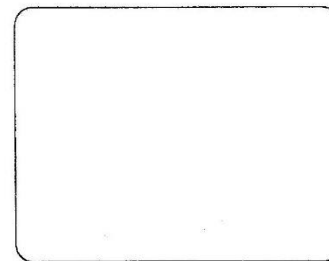
Just as Cadmium Red has substituted Vermilion, so Alizarin Crimson has become a perfect replacement for the Madder reds, Magentas, and Carmines which are so prone to fading. It is a rich, dark, slightly bluish red which yields soft delicate rose-pinks when diluted.

A particularly clear and transparent pigment, yet with quite strong tinting power; it must be used carefully.

When combined with French Ultramarine it gives the purest mixed violet of the palette.

If laid on too thickly in a painting, this beautiful luxurious color will lose its deep glow and tend to dominate surrounding hues.

An indispensable color for the artist seeking a full range.



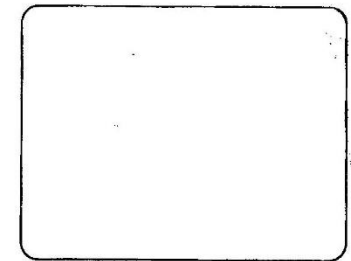
Cobalt Blue (Cobalt Aluminate)
Permanence A

This is the standard blue of many artists, bright and clear with a slightly greenish undertone. Very transparent, it is often applied as a thin layer over other colors when glazing.

Although it is easily swamped when mixed with other pigments, as it is not strong in tinting power, it has clarity and permanence and adds subtlety to many colors.

It is close in hue to a true primary blue and can be used successfully to mix both violets and greens. Often used by artists to give depth to a painting.

Do buy the best quality, no substitute can match the true pigment.



Phthalocyanine Blue (Copper Phthalocyanine) Permanence B

Sold under a variety of names, including, Winsor Blue, Monastral Blue, Monestial Blue, Bocour Blue and Thalo Blue. A very powerful, deep, intense greenish blue that is gradually replacing Prussian Blue, which is less reliable. Both pigments are very similar in color and handling properties.

Transparent and vibrant, it must be handled carefully as it has a very high tinting strength.

It is best used lightly; if laid on too heavily, it will lose all of its subtlety. If used indiscriminately, even in mixes, it will tend to dominate a picture, yet when handled carefully, it will combine with other colors to give a particularly useful range, especially of the deep forest blues and greens.



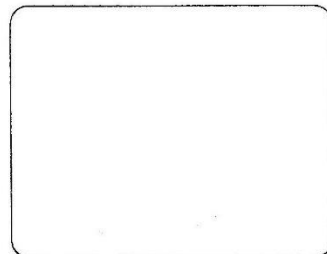
French Ultramarine (Compound of Silica, Alumina, Sulphur, and Soda) Permanence B

So named, after the French Government, in 1828 had given a prize to the creator of synthetic Ultramarine, which replaced the very expensive natural pigment, blue stone, lapis lazuli. The invention of an artificial Ultramarine was a major breakthrough in the history of artist's pigments.

A pure durable color unaffected chemically by other pigments. It must be used carefully as it has a high tinting strength.

Makes a range of attractive dull greens when mixed with the; yellows, and a beautiful blue-green with Viridian.

Another of the colors that many artists find indispensable.



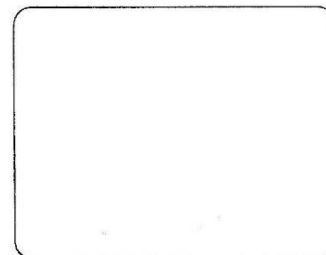
Cerulean (Cobaltous Stannate) Permanence A

A clean, strong, light blue, often used to depict clear sunny skies.

As with other pigments produced at high temperature, it is extremely permanent, possessing a very high degree of fastness to light.

Due to the high cost of the genuine pigment, cheaper grades labeled as Cerulean Blue are most likely to be either imitations or have small amounts of the true material mixed with cheap inert filler.

Cerulean has a greater opacity than the other blues, which gives it good hiding power; although the darker blues will cover well, they rely on their depth of color rather than their "body." Cerulean possesses a beautiful greenish hue, which is most noticeable when it is applied diluted.

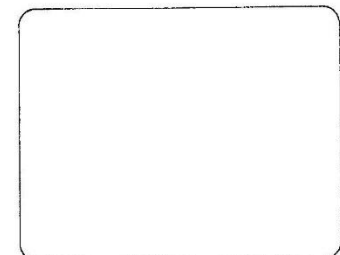


Paynes Gray (Usually a mixture of Ultramarine, Black, and Ochre) Permanence B

A very useful opaque blue-gray which has a soft, darkening effect on other colors. Produces mysterious dull murky greens when mixed with the yellows.

It is one of the few blended colors worth buying; although it can be duplicated on the palette many artists value the convenience of purchasing it ready prepared. If you find it useful in your work, why waste a lot of painting time mixing it?

The small amount of black will not unduly "dirty" other colors in mixes. However, unless thinned, use sparingly in your work, even in mixes, as it can quickly dominate and unbalance a painting.

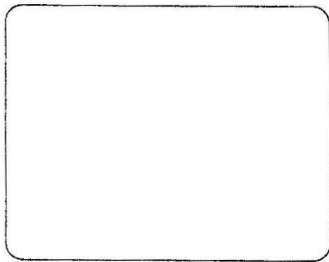


Cobalt Violet (Phosphate of Cobalt)
Permanence A

A clear clean transparent violet, available in two shades: a reddish, labeled simply as Cobalt Violet, and the bluer Cobalt Violet Deep. I find the redder version the most useful.

Although an almost pure violet can be mixed from Alizarin Crimson and French Ultramarine, it will not be quite as bright or clear. This is an expensive pigment, but by using the completed book as a reference for your future color blending, you will avoid the waste of constant remixing. This will allow for the economical use of this and the other rather costly pigments.

Very soft, subtle neutral colors are produced when it is mixed with any of the yellows, its complementary color. Avoid the cheaper impermanent grades.



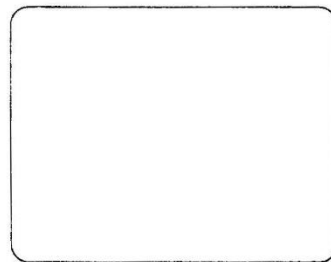
Chromium Oxide Green
(Chromium Oxide) Permanence A

A pure, cool green, completely unaffected by light and compatible with all other pigments. (Not to be confused with Chrome Green, an entirely different and very inferior material consisting of a mixture of Prussian Blue and Chrome Yellow).

Provides soft muted greens when mixed with the blues and Cadmium Yellows, and a dull rather murky green with Raw Umber.

An opaque pigment that must be used carefully unless well thinned.

Although low in tinctorial power, it will successfully soften and cool other colors. It has for a long time been popular with artists due to its very pleasing cool hue.

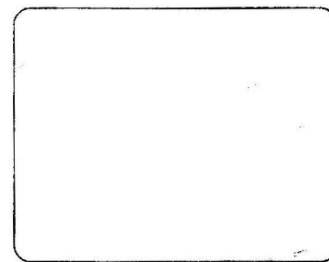


Viridian (Hydrated Chromium Hydroxide) Permanence A

The artist's quality may be a little expensive but it is well-worth the money. One of the most important of the green pigments, it retains its brilliance even in mixes. Ideal for cooling reds and browns, it gives a beautiful soft green with Naples Yellow, and a useful shadow color with Raw Umber.

Slightly bluish, it makes a good basis for cool bright greens.

Often used lightly in the underpainting of flesh tones. Viridian's brilliant emerald hue is at its best when it is applied in a very thin layer. Avoid the cheaper grades, they often contain harmful impurities that may affect other pigments.



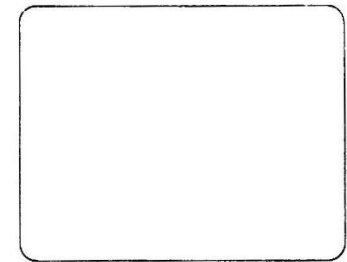
Yellow Ochre (Natural earth containing Iron Oxides)
Permanence A

Dates from the early cave painters; one of the oldest inorganic pigments still in use.

A soft, golden muted yellow, extremely permanent and cheap. A must in any palette; has a calming effect on other colors in mixes; is a useful underpaint, and is excellent for covering or even glazing.

Springs to life when applied diluted and gives a soft, rich gentle brown with Burnt Umber.

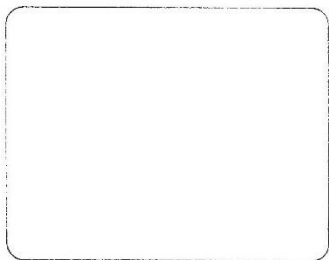
The artificially produced version, Mars Yellow, although brighter and a little purer, has failed to replace Yellow Ochre, as many artists find it a little brash and prefer the gentle, delicate subtlety of the traditional native earth color.



Light Red (Oxide of Iron)
Permanence A

There are quite a few similar colors to Light Red on the market and there is much confusion as to what to buy and use. Pigments such as Venetian Red and Spanish Red usually contain impurities and are best avoided. Of greater purity are Indian Red and Light Red. The former, when mixed with white, produces rosy pinks; the latter, when reduced with white, becomes a soft salmon pink. I have used Light Red in the range as it is slightly brighter than Indian Red and gives a better range in mixes. Permanent in both the cheap and expensive grades.

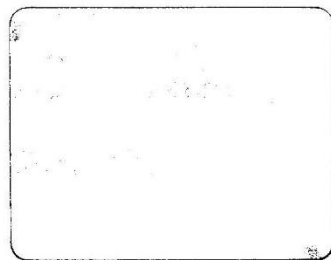
Use sparingly; it is a powerful color with strong covering ability. You will find that the results of mixing it with the other colors can sometimes be very unexpected.



Burnt Sienna (Calcined natural earth containing Iron Oxide)
Permanence A

One of the most valuable and important browns, it is gentle, dark, and very permanent.

Often used for glazing, giving very rich effects. Compared with the other earth colors, it is the most brilliant and transparent when it is applied thinly and is the least chalky in mixtures. Combines well with the other pigments in this range, giving subtle clean colors. Softens very nicely with the yellows, especially Naples Yellow.



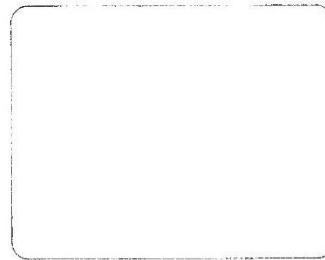
Raw Umber (Natural earth containing Iron and Manganese)
Permanence A

A pleasant, cool dark brown used extensively for shading and neutralizing other colors.

Has only a moderate tinting strength, but is a valuable color in mixes.

Beware of the temptation to over use in landscapes, even in mixes, it will quickly stamp its identity on a painting.

Raw Umber usually has a slight greenish tinge. In the cheaper grades this is often pronounced and indicates an excess of humus matter in the pigment. Such grades are less stable and are liable to fade. If you purchase a good quality it will be absolutely permanent and a very valuable addition to your range.



Burnt Umber (Calcined earth containing Iron and Manganese)
Permanence A

As the name implies, Burnt Umber is the result of roasting the same colored earth from which Raw Umber is obtained. The material becomes darker and reddish in the process.

A rich, heavy, versatile brown; the classic color used for shadows, perhaps relied upon too heavily by many artists. It is reddish in tone and considerably more transparent and warmer than Raw Umber.

Ideal for darkening all colors. Mix with French Ultramarine or Phthalocyanine Blue for a rich deep colored dark, much softer and cleaner than any black.

Take care not to use it too heavily, even in a mix, as it may upset the balance of your work.

