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ASK THE EXPERTS

Studio Craft: Benchmark Tests for Paint



Test 1: Mass Tone

Use this test to reveal clean, intense color with the classic characteristic appearance of the component pigment.

Objectives:

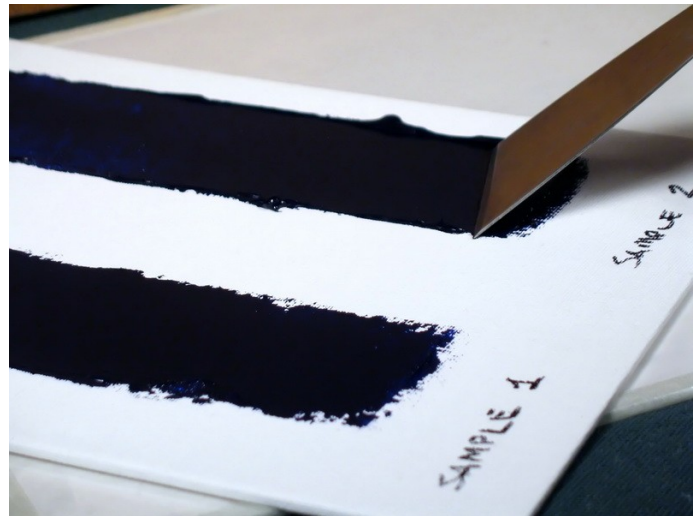
- Learn to compare colors between brands
- Objectively define the properties of paint
- Gain better overall familiarity with materials

Supplies:

- Two brands of the same test color
- One standard mixing white

In addition to test colors, you'll need:

- Glass palette
- Palette knife
- 1 1/2" metal putty knife
- Plastic measuring spoons
- Paper towels
- Appropriate solvent for cleanup

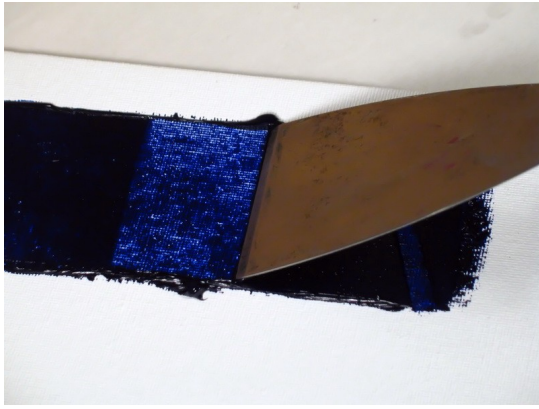


Mass Tone is the appearance of a color straight from the tube or jar.

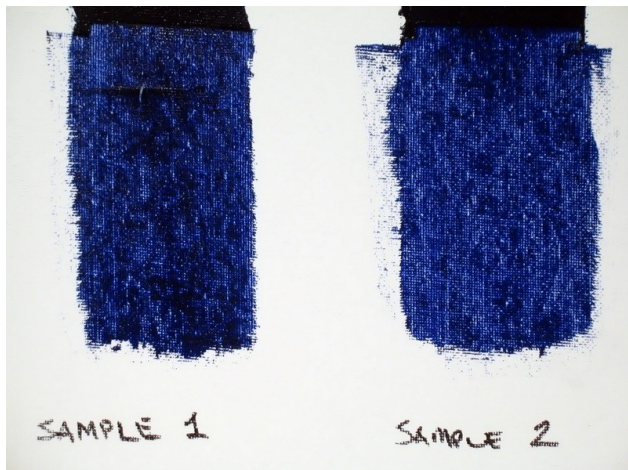
To examine mass tone, deposit a small amount of paint on the glass palette and gather it on the putty knife. Perform a draw-down on a canvas board, creating a uniform stripe that fully obscures the white primed surface.

Clean instruments thoroughly, then repeat with a second test color, placing the two samples close together on the board.

Test 2: Undertone



Undertones are subtle color variations that become apparent in mixtures, glazes, and when a color is deposited in a thin layer over another which reflects through. These variations can be revealed by mixing with white or scraping thinly over a white support. This test is also useful to reveal a difference in covering power between two test colors.

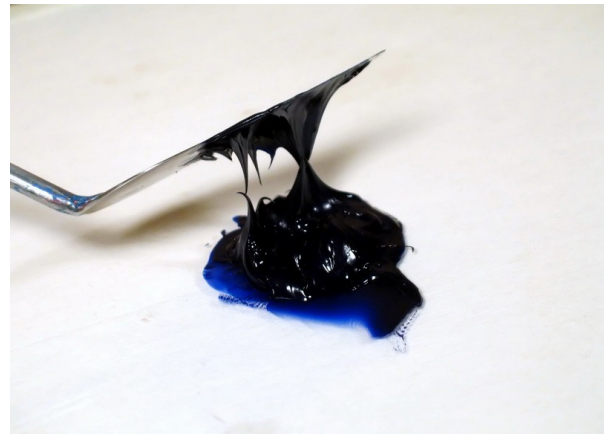


To reveal undertone, perform a **draw-down** using the putty knife to create a stripe of color on a canvas board. Firmly scrape down the bottom half of the sample so the canvas is visible.

Test 3: Workability



Workability generally describes a set of physical properties (rheology) that determine how well paint can be moved and distributed, how well it facilitates brushstrokes, and what surface finishes it can produce. This test reveals essential physical behavior when paint is manipulated with brush and knife.



Distribute a small amount of paint on the glass palette. Press down with a palette knife and lift. Note the “length” of the sample, whether it pulls in strings or breaks short.



Spread the sample thinly on the palette, noting viscosity. Gather with the putty knife and observe how well the paint forms and retains peaks; note any slumping of the pile.



Rub paint against the glass with the flat of the palette knife; feel for grit or irregularities. Look for visible pigment grains and undispersed clusters.

In evaluating working properties, observe and compare each sample in terms of the following:

- Smooth or Grainy
- Buttery or Ropy
- Stiff or Loose
- Oily or Waxy

Test 3: Tint Strength



Pigment load and careful processing are the two most significant factors in determining the cost of paint, and therefore key to understanding whether a given brand represents a good value. The amount of pigment in paint can't be determined by stiffness or mass-tone appearance. **Tint strength**, the degree of change a color is able to induce in a mixture, is a strong indicator of the amount of pigment. High tint strength indicates good pigment load and thorough processing. Poor tint strength reveals lower pigment levels and might also indicate the presence of fillers.



To compare tint strength in two versions of a color, measured samples of each version are mixed with an equal amount of a single brand of white paint. For a successful comparison, it's essential that both test colors have the same pigment composition. This can be determined by the Color Index Name printed on the tube. (PB 29 Ultramarine Blue is the test color in this document). Any single brand of titanium white can be used as the standard mixing white, provided it is of similar quality to the test colors.



Measure one level $\frac{1}{4}$ teaspoon of each color and two level tablespoons of the standard white. Take care to eliminate any air pockets in the measuring spoon. Select sample #1 and one spoon of white; set aside sample #2 and the remaining white.

Place the white paint on the glass palette along with the first sample of color.



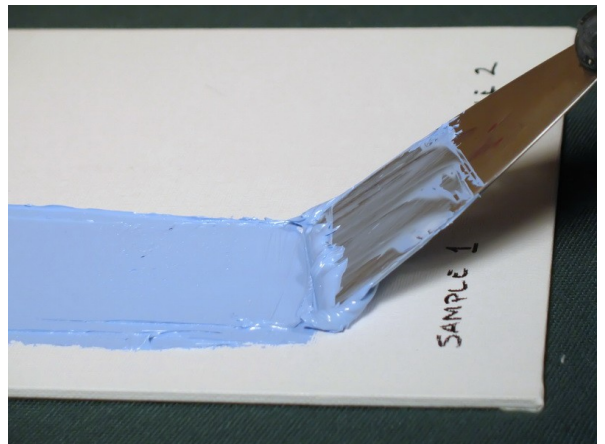
Use a palette knife to remove as much paint as possible from each spoon.



Use the putty knife to combine the sample color and white, alternately spreading and gathering.



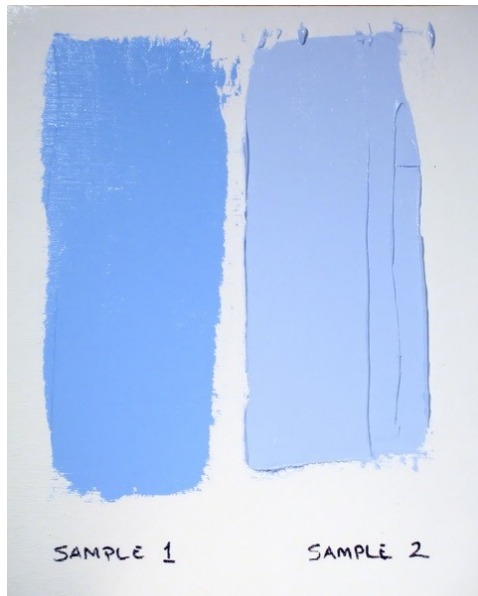
Use the palette knife to scrape down the sides of the putty knife so no unmixed color remains.



Gather the blended sample with the putty knife and spread an even, opaque stripe on the canvas board.

Clean knives and palette thoroughly so no trace of the first test sample remains.

Once the palette and instruments are clean, proceed to the second sample.



When a homogeneous mixture has been achieved, use the putty knife to place a stripe of sample #2 on the canvas board, as close as possible to the first without mixing or touching.



Observe the contrast between the two samples. The sample with better dispersed, more heavily pigmented paint will exhibit a greater degree of color change, and will appear more intense and dark. Firmly scrape down the bottom half of each sample to reveal undertone.

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