

# JUST PAINT

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## Testing for Your Application

*Sarah Sands*

“Test for your application.” So runs the common coda that ends many of our emails and closes our conversations. At the most fundamental level, it simply means trying out a new material or technique in a way that closely mimics how you hope to use it. Other times it requires being something of sleuth and a forensic scientist of the fine arts. In the pages that follow we will examine some of the basic concepts behind testing and explain how it can help plan your procedures, solve problems, and increase your knowledge.

Perhaps the first question is why we would ask you to test in the first place. After all, don't we already generate Tech Sheets for almost everything we make? And doesn't our crack Tech Support team stand ready to answer any question you might have? The truth is, no matter how thoroughly GOLDEN's Technical Support and Labs put materials through their paces and develop best practices, unique situations inevitably arise and possible combinations of materials and techniques constantly expand beyond the horizon of what we safely know. In those instances it is important to have the ability to examine choices and weigh consequences. There is also an element of education and ownership at play here. By becoming involved with your materials at this level you gain more control over your processes and a greater command of your materials.

Certain basic features run throughout any type of testing and it is important to establish these at the outset. One of the most essential is the concept of a 'control.' Put simply, a control is a standard or primary condition used for measurements and comparisons; for example, an unmodified state of a material,

the initial starting condition of a surface, or even a desired result you can judge other trials against.

A second feature is record keeping. Keeping accurate records is essential so tests can be repeated, solutions recreated, or to help us understand your procedures should you need to contact us. Common items might include:

- A timeline and accurate description of each step in an application
- Precise list of materials, including any relevant batch codes (see illustration on right) or purchase dates
- Ratios used in mixtures
- Environmental conditions at the time of testing
- Size of the pieces
- Personal observations

All too often the essential variable will be a small detail the artist has overlooked or dismissed, so be as thorough as possible. Along with written notes, other documentation such as photographs, retained wet samples of the products, and physical examples of any problems or test results, can all be crucial. And of course, make sure to label everything accurately and keep all these materials together and stored safely for future reference. By which point you must be thinking we are simply out of our minds. “We want you to do what?” Even remembering to floss one's teeth might be an easier task. But don't give up yet! Doing even a small amount of the above will still put you well ahead of the curve.

The third task is to design the actual tests themselves. Before starting, decide on your goal and parameters:

- What do you hope to achieve by the end?
- Is the undertaking meant to be open-ended and exploratory or does it



*Batch codes are located either on the bottom of a container or printed along the side of the product's bar code.*

need to be extremely focused with a great deal of precision?

- What are the known variables or properties you intend to test?

Make sure to write these out, being as exhaustive and thorough as possible. Conversely, are there ones that need to be minimized or ruled out? For example, you might find you need to control the temperature or have a surface be perfectly level. These and other questions are essential to setting the limits and scope of the test. A common mistake is to rush through this stage. Don't. Taking time at this level will save significant effort later on and your results will only be useful if the tests leading up to them have been well thought out and planned. Still unsure of the best way to proceed? Feeling absolutely convinced your original hunch that we were completely bonkers is confirmed? Contact us – we would be more than happy to help you with your plans.

Inevitably the moment will come when you will need to create some surfaces to paint on. Fortunately they do not have to be fancy or elaborate and usually simple, well-prepared panels or canvases will do (see our Tech Sheet on

“Preparing Painting Supports”). However, there are times when these will also need to reproduce the qualities or procedures you are testing as accurately as possible. In either case, before starting, create a checklist of materials and each step you will need to take. And plan ahead for any supplies. It is often critical to use the same materials and follow the same procedures for each piece in order to limit any variables as much as possible. In addition, having access to the exact products used in a problem area – ideally from the same container or batch – can be invaluable for troubleshooting. Scale is another factor not to overlook. Can you get the information you need at the scale you are working? Testing something on a 12" square panel, for example, might not give you the information you need for planning a mural. Lastly, when tests get complicated or take a lot of time it is easy to lose track of the process, so remember to check off each item only after it is completed.

In the end, keep in mind the very real limits of reliability. Unless willing to undertake extremely controlled and thorough testing, over a long period and under various conditions, the tests will not always guarantee perfect results or

dependable solutions. However, they will still play an invaluable role in uncovering problems, narrowing down possible solutions, and providing new insights.

### Some Basic Tests

In our contact with artists certain topics are constantly repeated. What follows are some of the most common and useful tests for tackling these issues, grouped under the following broad headings: General Materials and Applications, Adhesion, Varnishing, New Media, and Troubleshooting.

#### *General Materials and Applications*

Wondering if you can roller-apply a gel on top of a finished mural? Curious how a texture will look on a piece of furniture? Ready to apply an isolation coat for the first time to a painting?

#### Stop for a minute and ask yourself:

How important is this piece to me? Do I know what can go wrong? Do I need to be confident about the results or do I thrive on the unexpected and experimental? Deciding on the level of risk you are comfortable with is crucial at these moments.

Or perhaps your questions are simply about the materials themselves. What is the difference between these two mediums? How long will it take for a 1/2" layer of Molding Paste to dry? Regardless of the type of question, whenever trying a new process or product it is important to familiarize yourself with the properties of the materials. And taking the time to create practice panels will not only allow you to uncover unforeseen problems or unexpected results, it will help make sure everything meets your expectations before launching into an often irreversible process. They will also form an invaluable reference for future use.

These panels can take many forms, depending on the materials and applications you are exploring. A useful starting point might be creating a board displaying the basic qualities for each medium and gel you use; or what us lab folks have officially dubbed a ‘Product Review Board.’ To do this, start with a properly prepared substrate painted with alternating black and white bands, placing a sample of each gel or medium you use so it extends over both the black and white areas (see picture). This will allow you to better gauge the degree of



A portion of a Product Review Board showing the alternating black and white bands with samples of GOLDEN Mediums and Gels, both by themselves and mixed with color.

transparency once it's dry. Take note of its thickness, rheology, leveling, and hardness when fully cured, etc. Next to this, place a sample of the same product mixed 10:1 with a color. Remember to label each pair carefully. As you acquire new products you can add to this board or start a new one. In the end you will have a useful, quick reference for the basic properties of each material.

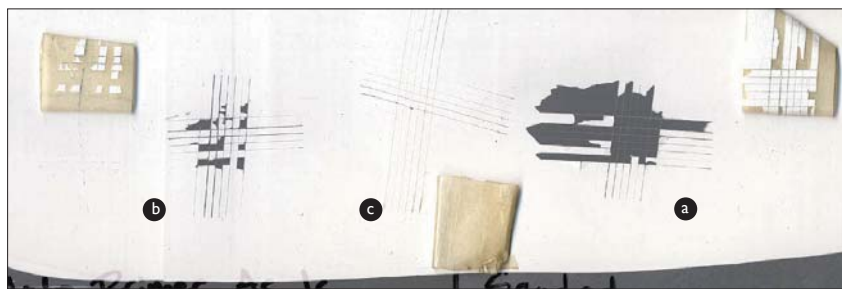
Another simple and practical guide is to create a card for each color you use. Using a palette knife, apply the color full-strength to show its mass tone, and then scrape the paint over the surface to reveal the undertone. Next, mix one part color to ten parts Titanium White and apply this to another section of the card. Not only will this show how the color looks in a tint but will indicate its relative tinting-strength as well. Lastly, mix one part of the color to ten parts of a Gel or Medium, placing this on the card as well to show how the color appears when made more transparent.

Beyond these sample boards and color cards there are many occasions when creating practice panels will help avoid disappointment or even disaster. Too many large murals, extensive faux finishing projects, or important paintings are irrevocably ruined because the artist did not take the time to understand a new material, tool, or procedure beforehand. When generating these panels it will be important to create the same conditions you will be confronted with. Working on a smooth absorbent surface, for example, might not provide the information you need for a sealed rough texture. Doing small pours on a stretched canvas will not be the same as large ones on wood.

#### *Adhesion*

'Will this stick to that?' is one of the most frequently asked questions, and almost always involves points of transition, places where different materials come together. These areas can include the adhesion of the primer to the substrate, the paint to the primer, and ultimately the varnish or topcoat to the paint. It can also concern the adhesion of various materials being used in the artwork itself, especially in collages and multimedia pieces where disparate materials are often brought together. All of these represent junctions where pieces are at their most vulnerable to delamination.

Most testing for adhesion can be



*Cross Hatch Adhesion Test showing GOLDEN White Gesso mixed 3:1 with GAC 200 on an automotive primer. Area on right (a) was tested after 24 hrs, the left (b) after 48 hrs, and the middle (c) after 72 hrs. Results show greatly improved adhesion over time and why you need to take this into account.*

done with a very straightforward and simple procedure called the Cross Hatch Adhesion Test. This method is adapted from the ASTM Standard D3359 and requires a minimum amount of preparation and tools. You will need a single edge razor or X-Acto™ knife, masking tape, and a test piece or representative surface. Prepare your support and apply the materials in the same manner they will be used. If applying layers that might prove visually indistinguishable, such as white paint over a white primer or gloss varnish over a glossy layer of gel, you should also lightly tint one of the products so you can tell them apart. Let dry for a minimum of 72 hrs. In a space of approximately 2 square inches, score a series of parallel lines about 1/8" apart. Then score another series (perpendicular) across the first ones, creating a crosshatch pattern of little squares. By far the most difficult and critical part is making sure you only cut through the topmost layer of material. Finally, take a piece of ordinary masking tape, place it over the section and burnish it well with a fingernail or the back of a spoon, then peel the tape straight back upon itself at a 180 degree angle (see above image). If no squares lift off, you have excellent adhesion between all layers. If a few squares come off but the majority remains, you may have sufficient adhesion. However, you might want to retest with a longer period for drying or look to other means to increase adhesion. If most or all of the squares come off, this suggests adhesion failure and significant steps are needed to remedy this.

As an example of how this might be used, let's focus on the adhesion of acrylics to a non-porous surface like glass when varying percentages of GAC 200 are added to the paints, which is one of the more common questions. Start with a thoroughly cleaned piece of glass similar to the one you will work on. Divide this

into five equal sections and in the first section apply the paint 'as-is.' This will be our control. In the other sections apply the paint mixed with additions of 10%, 25%, 50%, and 75% GAC 200. Let dry for at least 72 hrs, since we know acrylics only reach maximum adhesion over time. Afterwards conduct the Cross Hatch Adhesion Test to each section and record the results. Did any of them have sufficient adhesion for your needs? If so, does this solution need to be tested for additional factors, such as the ability of the adhesion to survive changes in temperature or exposure to chemicals? If not, try the test again using similar glass that has been etched, sandblasted, or coated with a specialty primer made for slick, non-porous surfaces.

Common cases where failure to test has led to problems include working on surfaces that have been previously coated with an unknown primer or varnish, working on an unfamiliar material, or not taking into account environmental, chemical, or other conditions that could adversely affect an initial bond. For example, simple adhesion to glass is one thing; adhesion that is dishwasher safe is something else. Paint that sticks quite well to stone might fail if this is part of a fountain that will be submerged in water.

#### *Varnishing*

Varnishing is by far the most common subject we are asked about – either with inquiries about procedures or when there is a need to troubleshoot or fix. While GOLDEN continues to conduct testing around this subject, there are many things you can do to increase success.

An often overlooked area for testing are the visual changes caused by the application of an Isolation Coat or Varnish, especially in regard to the surface texture, sheen, and the resulting value and saturation of the colors. All of these will



Test panel with rows of various colors and textures. One section was left untouched as a control. Other areas show affect of MSA Gloss, Satin, and Matte Varnishes applied over an isolation coat.

inevitably be altered when using either or both of these materials, so understanding the degree and manner of change will help you decide which process and product is right for you and what level of change is aesthetically acceptable. Another major area is the method of application. There are a variety of techniques and tools to work with, so figuring out which ones are best can take time and practice. It is critical these questions are explored and answered before varnishing anything of importance.

To understand how the appearance of your artwork will be affected, create several test panels composed of parallel bands of typical colors and surfaces found in your work (see image above). Eventually you will be applying a second set of rows perpendicular to these that can explore whatever variable or method you want to test. Of course, make sure to always leave one area untouched and clearly mark each section for later reference. It is also essential to try and limit any variation to the one variable you want to test. For example, when exploring the effect of different sheens, don't vary your method of application. That way you will feel more confident the changes you see are caused solely by the sheen and nothing else. The same would hold true if testing application methods. If wanting to see which type of brush works best, or how varying the dilution of the varnish might effect open time and leveling, keep other variables at a minimum.

Let's start by testing how different sheens might affect your work. Take one of the panels you created and divide it into four equal areas. Remember, one area should be marked as the control and left

unvarnished. Over the other three areas apply either a layer of Gloss Varnish or an Isolation coat, as discussed in our Varnishing Guidelines. This will assure that the surfaces are fully sealed and no longer absorbent. Let dry for 24 hrs. Now apply a Gloss, Satin, and Matte Varnish respectively to each of these areas. After these fully dry divide each section in half and carefully apply a second coat of each varnish. You now have a useful guide showing a range of sheens created by 1 or 2 coats of each varnish. Similar test and practice panels can easily be set up that focus on isolation coats, varnish removal, comparing spray to brush applications, etc.

### New Media and Techniques

In the ever expanding world of digital prints, book arts, collage, and multimedia work, materials are often employed that have unexpected or unknown properties. Compatibility becomes an ongoing concern as these newer processes and products are combined with traditional mediums. Very often, because little or no previous testing has been done, you are forced to deal with many unknowns.

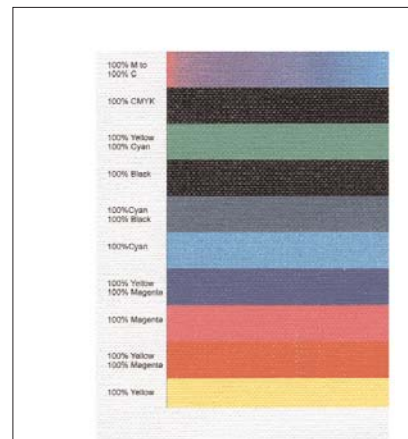
One popular medium many artists are using now is digital inkjet and Giclee prints. An area often in need of testing is the sensitivity of the ink or substrate to various products, in particular water or solvents like Turpentine and Mineral or White Spirits. To accomplish this, create a test print using the same substrate and inks as the finished work. To standardize your test and make examining changes easier, we recommend making a print using bands of the individual inks your printer utilizes. For example, most common inkjets use a minimum of four colors – Cyan, Magenta, Yellow, and Black – while a Giclee usually has up to seven distinct inks. If space allows, you can also include rows of blends and mixtures that might be more representative of your palette. It is also important to create crisp sharp edges between each of these areas so you can judge if any bleeding or blurring of the inks occur. Once this has suitably dried, apply the materials you are anticipating using, prepared and applied in a representative manner, again in distinct rows but this time working perpendicular to the first ones – always remembering to leave one section blank for your control (see image on right). After these layers

have dried examine the print for any evidence of bleeding, blurring, or discoloration. Also note any changes to the value, particularly of darker colors where a gloss or matte coating can create significant shifts in appearance.

A related test involves seeing how many layers of a particular coating is needed to seal the print so one can work on top of it without fear of disturbing the underlying image. In that case, you would first generate your test print as before. Mask off one area for your control and then apply one coat of the varnish or protective coating to the rest of the print. After this is fully dry, mask off an additional section and apply a second coat to the remaining areas, repeating this process for however many layers you wish. Once everything is dry you can apply whatever materials you hoped to use on top and gauge which number of coatings provided adequate protection.

Other mediums besides digital prints also need testing, such as watercolors, drawings, collages, traditional photographs, oil pastels, and fabrics. Each of these might require you to adapt the above procedure differently, although the principles will always be the same: create a test piece, save or mask an area to act as a control, then create a series of precise variations involving one variable or material. Some of these tests will be simply to see how applying a new technique or material affects the look and nature of the medium. This is especially true with something like watercolors or pastels, where application of a varnish or other materials is non-removable and can significantly alter the traditional appear-

(Continued on page 8)



Digital print on inkjet canvas cloth showing the rows of Cyan, Magenta, Yellow, and Black along with various mixtures.

## GOLDEN Custom Lab

As part of the Custom Lab's efforts to increase visibility of and experimentation with new materials, we are pleased to share with you some of the products we have recently developed. As these are experimental products, availability may require longer lead times. Mike Townsend of GOLDEN Technical Support has reviewed these new products to give starting point suggestions for possible applications and uses. However, keep in mind these are only starting points, as we usually learn from artists that the products have many more uses than we initially envision. The GOLDEN Technical Support Department looks forward to your feedback regarding these materials.

### Experimental Product Review by Mike Townsend:

#### GELS AND FIBER PASTES

*Glass Bead Gel* – This translucent textural product blends glass bead solids into acrylic medium. The reflective quality of the inert barium titanate glass generates a luminous effect through the film. Underlying colors will affect the reflectance and look of this product. Iridescent Pearl and Silver create more light play with the Glass Bead Gel, especially when the gel is applied thinly, as when trying to achieve a uniform monolayer of the beads.



*Natural Fiber Paste* – Containing a fibrous silica/aluminum compound which imparts a greenish brown hue, Natural Fiber Paste feels like lightly pressed handmade paper pulp. It is easy to apply and upon drying, develops into a highly textural surface not unlike a cold pressed watercolor paper. The textural organic surface accepts color washes and glazes readily.



## Twenty-five Years of Collaboration

In our first issue of *Just Paint* in 1987, I shared the following story:

*A new employee was hired on a construction crew to paint the yellow line in the center of the road. On the first day, with great zeal, he painted 10 miles of line. On the second day he managed to paint only 6 miles of line. And by the time the third day was over, only two additional miles of line were painted.*

*The Foreman, noticeably upset, came over and demanded, "What's going on, you started off with such great drive and energy, what happened to you?" The painter replied, "Oh, I still have the same enthusiasm - even more - but, every day, the run got longer back to that can of paint!"*

I wrote in our first newsletter about the struggle to continue to grow Golden Artist Colors, Inc. and in my belief that we could be "one of those special businesses that gets better as it gets bigger" — that we could provide even greater access to Technical Support and education and to continue to improve and develop new materials for the professional artist — that we could be a resource of truly meaningful support to artists.

Well, it has not been easy, but through the work of an incredibly dedicated staff, who are now owners of Golden Artist Colors, Inc., we have made every effort to remain true to that commitment to grow a better business — a business committed to all the employee owners, one committed to our local community and environment and one significantly committed to artists around the world.

Our mission statement shares the desire to provide tools and support and to be the assistants for those visual artists that have inspired us for 25 years now.

*"To grow a sustainable company dedicated to creating and sharing the most imaginative and innovative tools of color, line and texture for inspiring those who turn*

*their vision into reality."*

This company is the sum total of so many people through the years who, with their talent, drive and heart have taken this mission to be their own. They are people who truly delight in making art materials that have contributed in some small measure to the history of painting in our times. They enjoy making this a company they can be proud of. This company is the product of so many talented artists who have become friends and mentors for us and have been willing to speak out and continue to guide us during all the twists and turns in this journey.

To this point, I have not yet learned to carry the pail with me as I paint the line; I am as eager and excited as ever about the future. Thankfully, for me, the road I've been painting is a circular one; a road that takes me back to a very familiar role in this company. I remain as committed as ever to guiding the vision of this company, but I will also be taking on a new responsibility in leading the GOLDEN Custom Lab — our company making and designing unique products to meet the needs of individual artists, artisans and conservators. Nothing is more exciting to me than to get back to the origins of this company and to share in that incredibly unique collaboration that is our Custom Lab.

During the next few months we are creating new processes to be able to meet the custom requests of customers. We hope to be in full operation by late fall of 2005. I look forward to this new twist in our journey together.

Sincerely,

Mark Golden

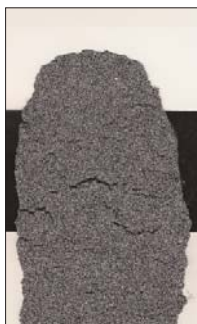
*Opaque Fiber Paste* – White fibers add strength, absorbency, texture and a unique woven feel to this product. Opacifying solids increase hiding power. It is readily tintable and can be spread on with a palette knife. The dried paper-like surface accepts drawing media and color washes for some interesting multi-media effects. Temporarily applied onto polyethylene plastic sheeting, Opaque Fiber Paste can be used to create paper-like “skins” to be used in mixed media and sculptural applications.



*Ceramic Micro Sphere Gel* – Unique warm gray micro spheres give this opaque gel a grainy, stone look. Dapples of its varied valued solids can be mixed with paint to yield interesting effects. The film hardness is not as solid as the GOLDEN Molding Paste, but is not as spongy as GOLDEN Light Molding Paste.



*Granite Micro Granular Gel* – Visually similar to the Ceramic Micro Sphere Gel, the darker Granite Micro Granular Gel feels grittier and more cement-like. Its strong textural film has a variety of multi-colored grays, producing a strikingly similar look to granite rock.



*White Micro Granular Gel* – This white version creates a surface which is bright, white, textural and somewhat translucent. It accepts color additions readily in a much different



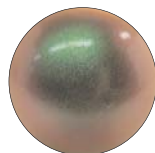
manner than adding a white paint. The roughness is similar to the feel of GOLDEN Coarse Pumice Gel, but without the light gray quality.

*Translucent Long Fiber Gel* – This product’s clarity allows it to be readily tinted with paint or used over painted surfaces. It offers a hazy, wax-like look unlike any other textural gel. Tiny “hairs” protrude from the dried surface, imparting an organic aspect.



## SPECIAL EFFECT COLORS

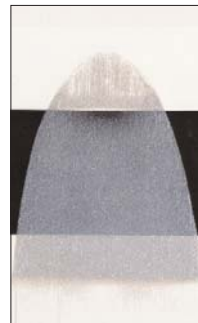
*Interference Fluid Colors* – The next generation of Interference pigments have arrived, and this time the multiple tone color travel is even more dramatic. The Turquoise-Violet, Gold-Green, and Violet-Green single pigment colors can be applied to give a soft transition over lighter colors and whites, or a more intense color travel by mixing with a dark color or applied over a dark background.



Top to bottom:  
Turquoise-Violet,  
Gold-Green and  
Violet-Green  
Interference Pigments  
available in  
Fluid & Gel forms

*Interference Gels* – The new Interference Fluid Colors have been used to create some pre-blended gels in a GOLDEN Regular Gel (Gloss) consistency, at a very low pigment load. This concentration allows more light waves to surround each pigment particle, enhancing the color travel aspect while retaining a translucent quality. Intermixed or underlying colors affect the intensity of the gel applied over them.

*Fluid Iridescent Translucent Pearl* – This new sparkly pearl has a visible particle size with a natural pearlescent quality, pigmented with coated glass flakes. Mix this unique pearl with a gloss gel medium to be able to disperse it sporadically or use as a base layer for translucent glaze colors.

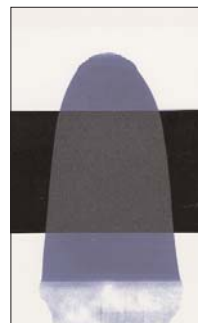


## HEAVY BODY COLORS

*Slate Gray* (PBlk 19 – CI# 77017) – Crushed slate powder produces a translucent gray color, of less green and a darker value than traditional Davy’s Gray quarried in England. It can be used to slightly dull a high chroma paint mixture or as a great underpainting color. Its weak nature tends to work well with transparent paints as it doesn’t overpower them like the more opaque Neutral Grays can.



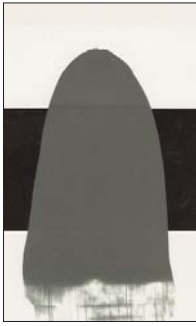
*Lapis Lazuli* (PB 29 – CI# 77007) – Before Ultramarine Blue (chemically the same pigment) was ever synthesized, colormen would scour the earth to find clean veins of precious Lapis to grind into a permanent blue pigment for artists. Some artists believe there was something lost in translation, making Ultramarine Blue inferior to Lapis Lazuli. GOLDEN’s Lapis Lazuli – a deep translucent blue pigment – comes from a recently discovered vein in South America. Try it full strength for a texturally satin paint layer, or mix it with a favorite acrylic medium and create deep glazes.



### *Chromium Oxide*

#### *Dark*

(PG 17 – CI# 77288) – Creating middle greens normally requires either the manufacturer or the artist to create a blend. This single pigment provides an earthy, yet fairly clean opaque green to the artist. Landscape artists may find it particularly useful.



### *Brown Ochre*

(PY 43 – CI# 77492) – One of a select few natural pigments (goethite is a naturally occurring inorganic iron oxide) available. This muted, medium dark brown earth color is in the Umber family. It has excellent permanency and opacity.



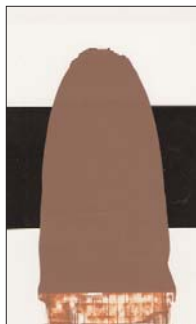
### *Transparent Brown Iron Oxide*

(PBr 6 – CI# 77492) – This color most closely resembles a dark Burnt Sienna, but breaks the rules of how an Earth Color is supposed to look and act. For artists who already embrace the Transparent Yellow and Red Iron Oxide colors, this is a must have. For those who have always found browns to be boring, this color should change that opinion.



### *Mars Orange*

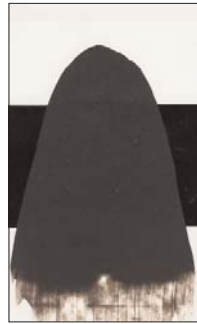
(PR 101 – CI# 77491) – Coloristically, this opaque yellowish-red pigment marries Mars Yellow and Red Oxide. It has a decisively Venetian Red aspect about it. For a mars (iron oxide) pigment, this Mars Orange has a very high chroma.



### *Mars Brown*

(PBr 6 – CI# 77492) – This dark chocolate brown pigment is deeper in value than either Raw or Burnt Umber. Like most Mars pigments, it has excellent opacity and the near black aspect makes Mars Brown a worthy color to use instead of a true black to lower value and chroma while mixing paints.

If you are interested in purchasing one or more of the products described above, please call GOLDEN Customer Service at 607-847-6154.



Disclaimer: The above information is based on research and testing done by Golden Artist Colors, Inc., and is provided as a basis for understanding the potential uses of the products mentioned. Due to the numerous variables in methods, materials and conditions of producing art, Golden Artist Colors, Inc. cannot be sure the product will be right for you. Therefore, we urge product users to test each application to ensure all individual project requirements are met. While we believe the above information is accurate, WE MAKE NO EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, and we shall in no event be liable for any damages (indirect, consequential, or otherwise) that may occur as a result of a product application.

## *Mark Golden Receives Two Prestigious Awards*

Mark Golden, CEO of Golden Artist Colors, Inc., was recently recognized by the Manufacturers Association of Central New York (MACNY) with a 2005 Wall of Fame Award. MACNY represents the interests of hundreds of employers, mostly manufacturers, in Central New York. Mark accepted the award at the 92nd Annual Dinner & Awards Ceremony, which was held at the Convention Center at Oncenter in Syracuse, N.Y. The award recognized Mark Golden's commitment over the last 25 years to grow a better business — a business committed to all the employee owners, one committed to its local community and environment and one significantly committed to artists around the world. Also receiving awards were the late Jacob Steigerwald, founder of Cathedral Candle in Syracuse, N.Y. and John Vensel, recently retired from Crucible Steel, also in Syracuse.

Mark also received an award from the New York Foundation for the Arts (NYFA). NYFA helps artists turn inspiration into art by giving more money and support to individual artists and arts organizations than any other comparable institution in the U.S. NYFA recognized Mark with the first annual Arts Patron Inspiration Award. The Inspiration Awards recognize individuals and organizations that have made significant achievements as artists or in support of artists. Over the last 25 years Mark has worked with hundreds of artists and art organizations, inspiring them to share their dreams about the tools they needed to paint and encouraging them to push the boundaries of their art. Mark has always found a way to give back to the community of artists, whether it is through The Sam and Adele Golden Foundation for the Arts, through efforts of his company or personally. In addition to Mark's award, 2 others were given by NYFA. The corporate Inspiration Award was presented to Nokia for its outstanding "Connect to Art" program that commissions leading and emerging international artists to bring art to mobile devices. Brian Alfred received the artist Inspiration Award in recognition of his innovative multi-disciplinary artworks.

(Continued from page 4)

ance and nature of these media. Fabric might need to be tested to see if the dyes are prone to bleeding or how a medium might change its texture. While oil pastels will need testing for compatibility, adhesion, and whether materials like varnishes can ever be safely removed without affecting the wax content.

### Troubleshooting

Troubleshooting has special requirements that can differ from the examples we have seen so far. In those cases you generated test panels to explore a material or process beforehand and to avoid unforeseen problems. Here, however, the problem has already occurred and you need to discover a possible solution or understand the root cause so an alternative procedure can be worked out. Some common examples might be:

- You have applied a matte varnish and are unhappy with how the picture looks. Would applying a layer of gloss solve the problem by returning the painting to its original state?
- You sometimes get hazy areas when applying a clear coat of a medium, but it

seems to happen mostly in the winter. Could this be caused by changes in the temperature or humidity?

- You notice some underlying colors lift whenever applying washes on top. Would waiting longer or adding additional medium to these colors help?

All of these are very real situations you might have experienced at one time or another. When they happen you will need to try and reproduce the problem as closely as possible. This can be a challenge in itself and recalling whatever you can about the procedures, environmental conditions, and the materials you used will frequently be the first step. Afterwards try to mimic the troubled area as faithfully as you can, creating several copies whenever possible so you can begin to isolate variables, compare different solutions, or perfect a particular remedy before implementing it. Most importantly, have patience; these tasks can be demanding, difficult, and time consuming to execute.

### Conclusion

As a manufacturer committed to the lasting legacy of art we continually

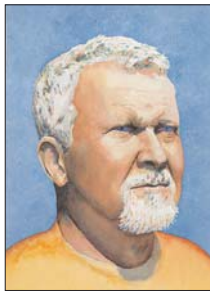
undertake extensive original research and create guidelines for best practices. But there will always be an equally critical role for you to play in testing your own applications, where success and failure is often about aesthetic issues as much as technical ones. And of course, new techniques and materials will present the artist with their own learning curves and skill-sets to master. In addition, even when the testing of our own products has been very thorough, other materials are constantly changing. The primer that worked wonderfully under our paints last year might have been reformulated since then and is no longer suitable. Our hope is by giving you the resources and support to conduct your own testing we can allow you to have more control and be more involved with the choices you confront. Finally, if you have decided none of this is for you, that this issue of *Just Paint* is destined for the dustbin, still keep our Technical Support number handy. It will serve as a reminder that, no matter what, we will always keep “testing for your application” and be happy to help in any way we can.

## Web Resources for Artists *WWW.*

We are proud at Golden Artist Colors, Inc. to be toolmakers for some of the most talented visual artists in the world. We have worked hard to produce innovative and imaginative tools for artists dedicated to preserving the legacy of our times. Our goal has been that by simply listening to artists and providing tools to meet their needs we will remain a valuable resource to the artist community. Our mission statement shares the desire to provide tools and support and to be the assistants for those visual artists that have inspired us for 25 years now. We understand the importance of being able to bring members of our arts community together in order to share valuable information with one another.

*Just Paint* editors asked experts from three different areas of interest to contribute (in their own words) their picks for Web sites and Internet resources that would be useful for artists. Bruce MacEvoy is an artist who is widely knowledgeable about color — color theories and the material aspects of color — and who

publishes a Web site: [www.handprint.com](http://www.handprint.com). Elizabeth Jablonski is a practicing fine arts conservator and has also been a significant researcher in the field of acrylic conservation. Monona Rossol has an eclectic background in art and chemistry and for decades has been a prolific author, activist and advocate who has defined safety standards in the arts. Not surprisingly, these three generous personalities offer a wealth of information for artists, couched in varying attitudes toward the usefulness of the Internet for their respective interests and disciplines.



*Bruce MacEvoy obtained his doctorate in Psychology at Cornell University and then went on to teach at the University of California Irvine. After that, he worked for a decade as an International Business Consultant at SRI*

*International, founded a dot com research company, Personify, and was a director of research at Yahoo! for three years. He then decided to retire in August 2000 to Sonoma County, California, where he practices painting and drawing full time. Detailed below are resources on the Web that MacEvoy uses in his career (in his own words): Color is usually discussed from three different perspectives: as (1) the perceptual psychology that shapes color sensations; (2) the material sources of color in pigments and paints; and (3) the color combinations that are useful for design purposes (“color theory”).*

### 1. COLOR PERCEPTION.

Color perception is a significantly underestimated aspect of an artist’s training. Many of the great painters, from Leonardo to Turner to Seurat, studied color science in order to understand the effects of light and representation on the eye. The most accurate and in depth source I know of is my own Web site: <http://www.handprint.com/HP/WCL/wcolor.html>. Much of the discussion is



specific to watercolor media. However, color perception is universal, despite the media.

The Web and the computers that connect to the Web have a tremendous potential for color education and experimentation. Some of this potential lies in the generic programming language Java, which can create color tutorials on any computer display. In color perception, there are educational applets at Brown University, collected at [http://www.cs.brown.edu/exploratories/freeSoftware/catalogs/color\\_theory.html](http://www.cs.brown.edu/exploratories/freeSoftware/catalogs/color_theory.html). Another instructive and very entertaining set of color vision demonstrations is available at the Dale Purves site, <http://www.purveslab.net>.

Even if the artist leaves color perception as an unexplained black box, color still has a structure or perceptual form that various color models try to describe. These are fairly well represented on the Web. My favorite physical model is the color cube (<http://www.colorcube.com>). The color cube Web site has a pretty good collection of color "articles" (Web pages) <http://www.colorcube.com/articles/articles.htm>, including an overview of color terminology, color theory and a menagerie of historical color models (<http://www.colorcube.com/articles/models/model.htm>). My favorite source for color models is <http://www.colorsystem.com>, which attempts to narrate the historical progression of models and link them all to the underlying problems of color representation.

## 2. COLOR MATERIALS.

Information on pigments and their color properties in paints is still sparse on the net, although there are some interesting exhibits at <http://webexhibits.org/pigments>, showing for example, the step-by-step method for extracting natural Alizarin from the Madder plant. Unfortunately, Web sites of this type emphasize antiquated color lore and sometimes-erroneous pigment information. (At one site, Alizarin is described as having "outstanding lightfastness.")

Paint manufacturers are now more forthcoming about their product ingredients: Winsor & Newton, GOLDEN, Daniel Smith, M. Graham & Co., and Maimeri Fine Arts now post online the pigment recipes for their watercolor, acrylic or oil paints. In watercolors, for

example, Daniel Smith (<http://www.danielsmith.com>) allows the purchaser to display or hide pigment information during purchasing. In acrylics, the GOLDEN Web site (<http://www.goldenpaints.com>) provides a generous technical description of each acrylic paint, including color index name and index number, Pantone, Munsell and CIELAB color descriptions, drawdown samples of tinting and hiding, pH range, tinting strength and gloss. The GOLDEN site also offers a technical section that addresses many practical issues in conservation and painting technique.

Many artists rely on simple "color wheels" to anticipate or understand color mixtures. I present a simple comparison of the different color circles in common use at <http://www.handprint.com/HP/WCL/vismixmap.html>, primarily to display the variety in color representations and emphasize that there is no one *right* or *best* model of color, though visual complementary colors provide the best framework for color design problems.

Aside from these sources there is little reliable information on the Web regarding the actual manipulation of paints, or the importance and measurement of pigment lightfastness, or the effect of pigment particle chemistry, particle size, refraction index, laking process, tinting strength, oil index and other attributes on the color characteristics of paints and their uses in painting. I am especially disappointed that none of the art schools or institutes in the United States has seen the need to be filled here.

## 3. COLOR DESIGN.

Computers also have a tremendous potential to teach color design. As one example, consider the nifty Java applet at <http://www.mundidesign.com/webct/webct.html>, which allows users to drag and drop color samples from a palette array into color design swatches or into the text, background and image elements of a generic Web page.

There are a large number of sites that offer the rudiments of "color theory" (which is merely a kind of color design dogma), and this is perhaps the most widely reproduced content for artists on the Web. Perhaps the best overview is at <http://www.wetcanvas.com/ArtSchool/Color/ColorTheory/>.

The most useful design guidelines emerge through the discussions at com-

munity Web sites. The best of these is perhaps [www.wetcanvas.com](http://www.wetcanvas.com). It is a community discussion site boasting a contributing membership of more than 10,000 artists. Participants include nationally recognized curators and many experienced artists, with a large number of amateurs. The benefits of a community site are collegial encouragement and advice in what is often a lonely activity, as well as stimulating, often insightful answers to practical painting questions. The trick to using these sites is to refrain from abusing them as idle chat forums and to learn to recognize the trustworthy members through the kind of answers they offer and the justifications they offer for their advice (personal experience is most valuable). A request for information may take a few days or weeks to draw useful answers, but the unfolding discussion is usually illuminating.



*Elizabeth Jablonski earned her graduate degree at the Master of Art Conservation Program at Queen's University, Kingston, Ontario, Can. She completed internships at numerous institutions and was an*

*Andrew Mellon Fellow in Paintings Conservation at The Menil Collection, Houston, Texas. She is currently an assistant conservator in the Paintings Conservation Department at the Museum of Fine Arts, Boston. Below are resources that Jablonski turns to in her field (in her own words):*

The American Institute for Conservation of Historic and Artistic Works (AIC): <http://aic.stanford.edu/> AIC is the national organization for art conservators. This Web site can answer basic questions about art conservation, such as its goals, ethics and the training paths for conservators. See the About AIC link: AIC Core Documents on the home page. There are also free downloadable brochures on the care of art objects. And, if you have specific concerns and need to consult an art conservator, this Web site can guide you through the process of selecting a conservator.

On the home page, choose Public Info (<http://aic.stanford.edu/public/index.html>) to find the downloadable brochures. Look under the headings, Caring for Your Treasures (including

paintings), Outreach Materials and Selecting a Conservator.

Canadian Conservation Institute (CCI): <http://www.cci-icc.gc.ca/html/>  
The Canadian Conservation Institute is located in Ottawa, Ontario, Canada. CCI engages in the treatment, research and scientific analysis of art materials. There are many links on the home page. Start at the top left with About CCI: Who We Are. Back on the home page, further down the left side, you will find Resources with links to a variety of technical conservation information. Also, at the right on the home page, under Spotlights, there is a link to Protect Your Outdoor Murals, which includes a sample condition report for keeping records of the condition of your murals from year to year: [http://www.cci-icc.gc.ca/headlines/murals/index\\_e.aspx](http://www.cci-icc.gc.ca/headlines/murals/index_e.aspx). Finally, check out the link at the lower right to Preserving My Heritage, a fun, interactive Web site. It includes a section on how to care for a variety of art objects: [http://www.preservation.gc.ca/index\\_e.asp](http://www.preservation.gc.ca/index_e.asp).

Conservation Distribution List (Cons DistList) and Archives:  
This is an online information exchange for practicing conservators regarding conservation treatments and research on art materials and techniques. Questions and comments from artists interested in materials are always welcome. The list is moderated and is issued approximately once a week. It is free to join and to search the archive of past entries.

This link will tell you about the Conservation DistList and give specific instructions for joining: <http://palimpsest.stanford.edu/byform/mailling-lists/cdl/aboutcdl.shtml>

This link will take you to the archive of past postings: <http://palimpsest.stanford.edu/byform/mailling-lists/cdl/>

National Park Service: Conserve-O-Grams: <http://www.cr.nps.gov/museum/publications/conservoogram/conserv.html>  
This site, though geared toward museum professionals, can also help artists, particularly with the packing, storage, transport and display of their artwork and health and safety issues. There are many Conserve-O-Grams and here are some specific files that could be useful to artists:

2. Security, Fire, and Curatorial Safety: *2/1 Hazardous Materials Health and Safety Update*: <http://www.cr.nps.gov/museum/publications/conservoogram/02-01.pdf>

*2/7 Fabricating Secure Hangers for Framed Works of Art*: <http://www.cr.nps.gov/museum/publications/conservoogram/02-07.pdf>

3. Agents of Deterioration:  
*3/4 Mold and Mildew: Prevention of Microorganism Growth in Museum Collections*: <http://www.cr.nps.gov/museum/publications/conservoogram/03-04.pdf>

12. Paintings: *12/1 Storage Screens for Paintings*: <http://www.cr.nps.gov/museum/publications/conservoogram/12-01.pdf>

14. Photographs: *14/1 Making Mounting Corners for Photographs and Paper Objects*: <http://www.cr.nps.gov/museum/publications/conservoogram/14-01.pdf>  
*14/2 Storage Enclosures for Photographic Prints and Negatives*: <http://www.cr.nps.gov/museum/publications/conservoogram/14-02.pdf>

17. Packing and Shipping Museum Objects: *17/1 Checklist for Planning the Shipment of Museum Objects*: <http://www.cr.nps.gov/museum/publications/conservoogram/17-01.pdf>  
*17/2 Packing Museum Objects for Shipment*: <http://www.cr.nps.gov/museum/publications/conservoogram/17-02.pdf>  
*17/3 Crating Museum Objects for Shipment*: <http://www.cr.nps.gov/museum/publications/conservoogram/17-03.pdf>  
*17/4 Retrofitting a Moving Van to Transport Museum Collections*: <http://www.cr.nps.gov/museum/publications/conservoogram/17-04.pdf>

8. Museum Exhibits:  
*18/2 Safe Plastics and Fabrics for Exhibit and Storage*: <http://www.cr.nps.gov/museum/publications/conservoogram/18-02.pdf>

21. Disaster Response and Recovery:  
*21/1 Health and Safety Hazards Arising From Floods*: <http://www.cr.nps.gov/museum/publications/conservoogram/21-01.pdf>

The Conservation and Art Materials Encyclopedia Online (CAMEO): [http://www.mfa.org/\\_cameo/frontend/](http://www.mfa.org/_cameo/frontend/)  
This growing encyclopedic database is a catalog of art materials and is a resource for museum professionals and the public. The database is continually expanded and updated. CAMEO was developed at the Museum of Fine Arts, Boston, by the Conservation and Collections Management Department with a 1998 grant from the National Center for Preservation Technology and Training (NCPITT). As an example, try a search for "acrylic paint." There are descriptions of the materials, illustrative images

and bibliographical references.



*Monona Rossol is a chemist, artist, and industrial hygienist. She was born into a theatrical family and worked as a professional entertainer from age 3 to 17. She enrolled in the University of*

*Wisconsin where she earned a BS in Chemistry with a minor in Math, an MS majoring in Ceramics and Sculpture, and an MFA with majors in Ceramics and Glassblowing and a minor in Music. While in school she worked as a chemist, taught and exhibited artwork, performed with University music and theater groups, and worked yearly in summer stock. Rossol is currently President and Founder of Arts, Crafts & Theater Safety, Inc., a not-for-profit corporation dedicated to providing health and safety services to the arts. She also is the Health and Safety Director for Local 829 of the United Scenic Artists, International Alliance of Theatrical Stage Employees (IATSE). She has lectured and consulted in the US, Canada, Australia, England, Mexico and Portugal. Below are Rossol's thoughts toward the usefulness of the Internet for her discipline (in her own words):*

Back a while ago I did a search for health and safety in the arts and looked at all kinds of sites other than my own just to see what else was available. A few sites had useful materials, but most of the information was very old, some was not very good, and some was outright wrong.

Therefore, I prefer hard copy and am willing to pay for it. My favorite two resources are the Federal Register ([www.gpoaccess.gov](http://www.gpoaccess.gov)), which costs \$700/year and the Bureau of National Affairs, which is \$975/year. There is also a variety of other technical industrial hygiene and health publications such as the Morbidity and Mortality Weekly Report ([MMWP@www.cdc.gov/mmwr/](mailto:MMWP@www.cdc.gov/mmwr/)), which I find useful.

On rare occasions, I use the electronic versions – e.g., when I've lost a clipped article. But I'd rather have the whole Federal Register with information from ALL the government agencies in my hand because once in a while, something really interesting happens in the Department of Alcohol, Tobacco & Firearms, the Coast Guard, the General Services Administration, the National Park Service, or even the US Mint. There are over 50

different agencies. The Internet is great for ferreting out specific information, but it is not really friendly to broad general browsing. Having a hard copy encourages me to read more of the publication — even in areas that are not strictly my concern. This way I learn about other areas.

I also have 5 researchers who watch technical literature in adjacent fields and two who watch the popular press; one in the US, the other in Canada. They keep

me abreast of anything else I should know. The information comes by snail mail and e-mail.

Hard copy is also how people have to order our data sheets, the newsletter, and other publications. I have about 80 data sheets that are constantly being updated and changed. It would be difficult putting them on a Web site and changing them every time I add information.

That being said, however, there are a

couple of Web sites that I visit regularly for information in the field. They are [www.epa.gov](http://www.epa.gov) and [www.osha.gov](http://www.osha.gov). I do this when there is a regulation I don't have in hard copy in my office, a new ruling, or to check on who's getting cited and fined.

This old fashioned way of working seems effective and we are doing very well. Clients really seem to find us. As long as this is true, it is unlikely we'll change our practices.

## *Is an Artist Without a Computer like a Fish Without a Binary File? or Why Some Artists Avoid Computers*



*As we all know, there are two sides to every story, and Benny Shaboy — a painter and sculptor who is the founding editor/publisher of studioNOTES —*

*explains why some artists choose to avoid computers as their primary resource for information.*

In the early days of personal computers, I decided I didn't want to get involved with them. I liked the idea of computers fine. In fact, I had some science background and as a kid built a rudimentary version. But I had my artwork to do — mainly assemblage — and I thought computers might distract me. One day my neighbor brought me a couple of older systems he was getting rid of, suggesting I could use some of the parts in my sculptures. I never got around to it because several months later, I plugged one in — just to see. Alas, it turned out that my guess about their attraction was right and I spent the next couple of years ignoring just about everything else, but I learned a lot and don't regret it. I now spend virtually all of my time using a computer in my self-created day job as the editor and publisher of informational periodicals and books for artists.

In that job, which has involved interviewing and dealing with hundreds of artists, I have discovered some that are not as weak willed or unlucky as I. These few have been able to avoid the infernal machine through sheer will, strength of character, good sense, technophobia or simple lack of funds. Among them are

those who believe things should be done by hand. While a machine may be quicker, they say, its results lack spirit, contemplation and a direct connection to a human. Such people would rather walk in the woods than speed down the highway. Or even stop for a while and just look, as Ralph Henry Davies admonished us to do. "What is this life if full of care/We have no time to stand and stare," he wrote one hundred years ago, by hand.

A few artists have a moral or philosophical objection to computers. I once had a discussion with an artist who wouldn't use one at all because of what he perceived as their evil. He cited their use as instruments of war — heat seeking computer guided missiles that could sense where a human being was and blow him to smithereens, for instance — and their facility for tracking people's every movement. "I don't want to be on a computer," he said, "or in one."

Occasionally I hear from artists who don't have computers only because they don't have the money. They may, however, have free email accounts such as Yahoo and use computers at public libraries, mainly to send and receive email. They are not opposed to using computers *per se*, but may have philosophies that bind them to life styles relatively free of possessions or income.

I also know several artists who do have the funds and the time and are not concerned about being distracted, but simply see no need. I guess you could say they are philosophically opposed at some level. Lord Melbourne wasn't talking about computer use when he said, "If it was not absolutely necessary, it was

the foolishest thing ever done," but these people would agree with him.

Such artists tend to be past middle age and set in their ways or they have their hands full with what they are already doing. When I interviewed William T. Wiley ([www.crownpoint.com/artists/wiley](http://www.crownpoint.com/artists/wiley)) a couple of years ago, he said he didn't need a computer, although his work is about the world situation. Instead, he prefers to get his material from a progressive radio station — which he calls his landscape — and paints while listening to it. Other artists, both emerging and established, admit to seeing some advantage in using computers, but believe the learning curve makes it not worth the time and trouble.

Finally, there are the technophobes — or at least self-defined technofumblers — who believe themselves, rightly or wrongly, unable to cope in a strange land where the customs involve *booting, crashing, burning, ripping, cookies, spam, mice, phishing, illegal operations, forbidden access and fatal errors*, just to name a few.

Come to think of it, perhaps they are right. Why would any self-respecting artist want to be involved with something like that?

Benny Shaboy is the author of: ([www.studionotes.org/ejournal.html](http://www.studionotes.org/ejournal.html)), *Art Opportunities Monthly* ([www.ArtOpportunitiesMonthly.com](http://www.ArtOpportunitiesMonthly.com)) and *The Art Opportunities Book: Finding and Winning* ([www.ArtOpportunitiesBook.com](http://www.ArtOpportunitiesBook.com)). He lives in Benicia, CA, and can be contacted at [ben@studionotes.org](mailto:ben@studionotes.org).

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