



- supplied by Golden for the workshop.



- info on making stains/washes

INDIVIDUAL GELS

Product Descriptions:

Gels and Mediums range in thickness from watery to paste-like consistencies and allow artists to manipulate their acrylic paint systems. Even though acrylic colors are offered in various different consistencies and finishes, the use of gels and mediums in conjunction with such colors broadens the working properties and expands on the possible results. GOLDEN Gels and Mediums are extremely versatile, and can be used for:

- Altering Consistency
- Altering Sheen
- Gluing/Laminating
- Increasing Film Integrity
- Transparency
- Cost Effectiveness
- Adding Texture
- Priming Supports
- Paint-Making Binders

Clear Tar Gel This product is the extreme in leveling. It is designed to produce an even film with excellent clarity. The gel has a unique resinous, stringy consistency and dries to a flexible, high gloss film.

Clear Tar Gel can be used increase transparency and sheen while imparting a leveling quality to other GOLDEN Acrylic products. Excellent for dripping, drizzling effects that no other product will yield. Blends with all GOLDEN Acrylic colors (though Fluids work best) offering a full range of colors for these techniques.

Self-Leveling Clear Gel Designed to produce an even film with excellent clarity. This gel has similar qualities to the Clear Tar Gel: it has a resinous consistency and offers excellent leveling, yet its viscosity is closer to that of the Soft Gel. This product dries to a flexible, high gloss film, which can increase transparency and sheen while imparting a leveling quality to other GOLDEN Acrylic products. Blends with GOLDEN Acrylic colors to produce glazes without brush-strokes.

Soft Gel (Gloss, Matte and Semi-Gloss) Thinner than GOLDEN Heavy Body Acrylic colors, Soft Gels are moderately pourable and hold only slight peaks.

Soft Gel Gloss is ideal for glazing and other techniques where transparency is desired. Also, the recommended acrylic to function as a glue for collaging. Useful as a non-removable isolation coat, applied over the painting before the varnish layer (must be thinned with water - 2 parts Soft Gel Gloss to 1 parts water).

Regular Gel (Gloss, Matte and Semi-Gloss) Same creamy consistency as GOLDEN Heavy Body Acrylic colors. Ideal for extending paint and regulating translucency without changing the consistency of the Heavy Body and Matte colors. Holds moderate peaks and texture. The Regular Gel Gloss is ideal for glazing and other techniques where transparency is desired.

Heavy Gel (Gloss, Matte and Semi-Gloss) Thicker consistency than GOLDEN Heavy Body Acrylic colors. Blend with colors to increase body. Good for holding peaks. Dries translucent.

Extra Heavy Gel (Gloss, Matte & Semi-Gloss) Thicker consistency than GOLDEN Heavy Body Acrylic colors. GOLDEN's thickest gels, along with the High Solid Gels. Blend with colors to increase body. Excellent for holding peaks and impasto techniques. Dries translucent.

High Solid Gel (Gloss) Thicker consistency than GOLDEN Heavy Body Acrylic colors, similar to Extra Heavy Gels. Offers higher gloss, lower shrinkage and dries to the touch quicker than most Gels. Good for holding peaks. Blends with colors to make them feel more oil-like and increases retention of brushstrokes.

High Solid Gel (Matte) Thicker consistency than GOLDEN Heavy Body Acrylic colors, similar to Extra Heavy Gels. Dries to a matte finish. Offers lower shrinkage and dries to touch quicker than most Gels. Good for holding peaks. Blends with colors to make them feel more oil-like and increases retention of brushstrokes.

Fine Pumice Gel Used to create finely textured surfaces. Dries to a hard film. To increase flexibility, mix in other GOLDEN Gels or Mediums. Blends with GOLDEN Acrylic colors. Useful as a ground for pastels.

Coarse Pumice Gel Used to create granular textured surfaces. Dries to a hard film. To increase flexibility, mix in other GOLDEN Gels or Mediums. Blends with GOLDEN Acrylic colors. Useful as a ground for pastels.

Extra Coarse Pumice Gel Used to create granular textured surfaces. Dries to a hard film. To increase its flexibility, mix in other GOLDEN Gels or Mediums. Blends with GOLDEN Acrylic colors.

Clear Granular Gel The same textural quality as its pumice counterpart, without the gray, opaque grit. Excellent for making translucent, textural glazes. The chroma will not be affected. Blends with GOLDEN Acrylics.

Silk-Screen Fabric Gel is a water-borne system designed to blend with acrylic paints for silk-screen application onto cotton, 50/50 cotton/polyester blend fabrics, and other garments. This product gives paint a soft, pliable feel and when properly heat-set, provides excellent laundering stability. Silk-Screen Fabric Gel also increases working time and retards paint from drying in the screen.

Molding Paste Excellent for building surfaces and creating textures. Dries to a hard, yet flexible, opaque film. Blends with GOLDEN Acrylic colors.

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Light Molding Paste Offers dramatic weight reductions when building thick layers of acrylic. The density of the wet product is over 50% less than that of GOLDEN regular Molding Paste. This results in a significantly lighter film. This dramatic weight reduction will be beneficial in creating artworks that are large in size and have thick film build-up. Designed to hold stiff peaks to create a highly textured surface. Dries to an opaque, matte finish. Blends with GOLDEN Acrylic colors.

Extra Heavy Gel/Molding Paste A blend of Extra Heavy Gel Gloss and Molding Paste. Dries to a satin, semi-opaque finish. Excellent for increasing viscosity and building surfaces. Blends with GOLDEN Acrylic colors.

Hard Molding Paste Dries to an extremely hard, opaque film. This product is useful for creating tough, durable finishes for smooth or textured surfaces. The dried film can be carved with hand or power tools. Blends with GOLDEN Acrylic colors.

Coarse Molding Paste A thick, warm white colored medium that is translucent up to about 1/8”. Dries to a hard surfaced, stiff but flexible film with a tooth like fine sandpaper. The dry film accepts wet and dry media very well. Mix with GOLDEN Fluid Acrylics or Heavy Body Acrylics to create a dense-feeling paint that holds good peaks and dries with a matte to satin sheen with a finely pebbled surface.

Crackle Paste is a water-based product formulated with styrene-acrylic copolymer emulsions, and may have a tendency to yellow. This product has white, low-density solids that replace traditional fillers. Its unique ratio of specific solids and binders allows for a “controlled failure” to occur and the result is its tendency to crack. It has a consistency similar to cake icing, easily manipulated by a palette knife. Peaks will maintain their height and appearance. It is a harder film than the GOLDEN Light Molding Paste, yet still retains an absorbent surface.

INDIVIDUAL MEDIUMS

Product Descriptions:

Polymer Medium (Gloss) A general purpose liquid medium useful for creating glazes, extending colors, enhancing gloss and translucency and increasing film integrity. Its unique feel is oil-like or resinous in nature, and promotes flow and leveling.

Fluid Matte Medium A liquid medium useful for extending colors, decreasing gloss and increasing film integrity. Useful for blending with GOLDEN Fluid Acrylics to decrease the gloss without increasing viscosity.

GOLDEN ARTISTS COLORS – adapted for “Visual Rhythms” workshop with Roy Lerner at Beth Kokol Arts LLC

Matte Medium A general purpose, pourable medium useful for extending colors, decreasing gloss and increasing film integrity. Can be used as a ground instead of gesso.

Super-Loaded Matte Medium Same consistency as the regular Matte Medium, but with three times more matting solids. Excellent for lowering sheen of glossy paints and other mediums (the least addition of medium is required). Slightly increases opacity.

Airbrush Medium Modifies the GOLDEN Fluid Acrylics for airbrush/spray application. Blends easily with the Fluid Acrylics to yield a paint mixture with the proper viscosity for airbrushing. Effectively decreases clogging and tip buildup during spraying, eliminating the largest drawback to airbrushing with acrylics. While designed with the Fluid Acrylics in mind, Airbrush Medium will also reduce the Heavy Body, Matte, High Load, Iridescent/Interference and Fluorescent Acrylics and GOLDEN Mediums and Gessos for spray applications.

Airbrush Transparent Extender Essentially a "colorless airbrush color". Designed for extending GOLDEN Airbrush Colors to increase film hardness for better frisketing, and to lower the pigmentation of the colors. This allows an artist to achieve a transparent paint without sacrificing spraying properties. Also useful as a topcoat for frisketing on softer acrylics. Blend with GAC 500 (2:1) to Airbrush Transparent Extender for a sprayable isolation coat before varnishing. While designed with the Airbrush Colors in mind, Airbrush Transparent Extender will also reduce the

Fluids, Heavy Body, Matte, High Load, Iridescent/Interference and Fluorescent Acrylics for spray applications.

Silk-Screen Medium A water-borne system designed to blend with acrylic paints for silk-screen application. Increases working time and retards paint from drying in the screen. Safe to use with minimal odor. Mix 1 part Silk-Screen Medium with 1 part GOLDEN Acrylic colors (Heavy Body, Matte or Fluid) and use this mixture to screen with. The Silk-Screen Medium is not designed to impart opacity, hence the opacity of the mixture will be determined by the nature of color being used and the ratio of paint to Medium used.

INDIVIDUAL GAC SPECIALTY POLYMER ACRYLIC MEDIUMS

Product Descriptions:

GAC-100 Acrylic A liquid acrylic polymer emulsion useful for diluting and extending colors as well as increasing flexibility and film integrity. Wets out solids more readily than other polymers and is useful for creating homemade paints. The best Support Induced Discoloration-blocker we make.

GAC-200 Acrylic A liquid acrylic polymer emulsion that is the hardest and least flexible of GOLDEN acrylics. Useful for increasing film hardness and reducing tack. Improves adhesion to non-porous surfaces; however some surfaces, such as glass and glazed tile, will not allow for a permanent bond. Used in its pure form, it is limited to applications on non-flexible supports. Generally recommend a maximum level of GAC-200 be 75% of the entire paint mixture. Great for increasing durability of GOLDEN Acrylic Paints for mural use.

GAC-400 Acrylic A liquid acrylic polymer emulsion which dries to a hard, stiff film. When applied over a fabric support, such as cotton, linen or silk, the GAC 400 will serve to dramatically stiffen the support. This allows the artist to transform a lightweight fabric into a free-standing form that will hold its shape.

GAC-500 Acrylic A liquid acrylic polymer emulsion with leveling ability, that forms a hard, glossy film. Useful for increasing film hardness and reducing tack, while maintaining flexibility. The hardest polymer that is suitable for flexible supports.

GAC-700 Acrylic A liquid acrylic polymer emulsion that offers excellent film clarity and gloss. Excellent for sealing various supports to protect against Support Induced Discoloration. Useful for glaze applications, but care needs to be exercised to avoid foaming. Offers reduced shrinkage.

GAC-800 Acrylic A liquid acrylic polymer emulsion that does not craze in pours/puddles. That is to say that it dries with the same uniform surface and dimensional integrity as when wet (other GACs will craze, developing shrinkage crevices running across the surface). Dries with good gloss and flexibility, but only moderate clarity. Useful to increase adhesion to chalky surfaces.

GAC-900 Acrylic A liquid acrylic polymer emulsion which when heat-set offers a very soft hand and laundering stability. This product is most useful to artists painting on clothing. GAC 900 can be blended with various acrylic colors to produce fabric paints that can be airbrush, hand brush or screen applied.

Interference/Iridescent Acrylics/Metallics:

Interference Colors	Iridescent Colors	Metals & Natural Colors
GOLDEN produces 6 Interference Colors in Coarse and Fine sizes. The fine particles produce a more even sheen, while the coarse particles add more sparkle, especially on uneven surfaces.	GOLDEN Iridescents are offered in a variety of colors. Some of the 8 colors are offered in the coarse size, without appearing "glitter-like."	These reflective pigments are either actual metals, synthetic lamellar iron oxides or naturally produced mica flakes that are mined from the earth.
1. Blue (Fine) & (Coarse)	1. Bright Gold (Fine)	1. Micaceous Iron Oxide
2. Gold (Fine) & (Coarse)	2. Bronze (Fine)	2. Stainless Steel (Fine) & (Coarse)
3. Green (Fine) & (Coarse)	3. Copper (Fine) & (Coarse)	3. Black Mica Flake (Small)
4. Orange (Fine)	4. Copper Lt (Fine) & (Coarse)	4. Gold Mica Flake (Small) & (Large)
5. Red (Fine) & (Coarse)	5. Gold (Fine) & (Coarse)	5. Pearl Mica Flake (Small)
6. Violet (Fine)	6. Gold Deep (Fine)	
	7. Pearl (Fine) & (Coarse)	
	8. Silver (Fine)	

PRODUCT DESCRIPTION

The GOLDEN Iridescent and Interference Colors achieve their reflective properties by synthetically reproducing several natural phenomena—the nacreous, or pearly, qualities found in fish scales or the dust of a butterfly's wing, and the shiny and reflective qualities found in certain metals and minerals.

"Coarse" Iridescent and Interference Colors are simply larger particle size versions of our "Fine" Iridescent and Interference products. Coarse colors in the Iridescent line include Copper, Copper Light, Gold and Pearl. The Coarse Interference Colors are Blue, Gold, Green and Red.

All of GOLDEN's Iridescent Colors produce a luster quality by themselves, or when mixed with

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other colors and mediums. The GOLDEN line of Iridescent colors can be separated into 3 groups based on chemical composition.

Group I: These colors are derived from mica platelets. They are then coated with an extremely thin layer of titanium dioxide. Refraction and reflection of light at the titanium dioxide layers produces various colors and pearlescent effects. Group I pigments include:

- Interference Colors
- Iridescent Pearl (Coarse and Fine)
- Silver

Group II: These colors are also derived from mica platelets, but an iron oxide coating causes Group II pigments to possess hues in addition to pearlescent qualities. This group includes:

- Iridescent Gold (Coarse and Fine)
- Iridescent Copper and Copper Light (Coarse and Fine)
- Iridescent Bronze

Group III: A third group consists of reflective colorants that do not fit the above descriptions, including highly metallic pigments

- Stainless Steel (Coarse & Fine)
- Micaceous Iron Oxide
- Mica Flakes (all varieties)

Luster Arises from Layers of Pigments: The pigments in the first two groups (non-metallics) are composed of very thin, highly reflective and transparent platelets. Although the pigments themselves are transparent, the optical illusion of color is produced by the multiple reflection of light between microscopic layers.

The Phenomenon of Light Interference: The property at work in the Interference Colors is known as light interference, most commonly seen in the rainbow effect created by a thin layer of oil on the surface of water. Thomas Young identified this phenomenon in 1801 in a series of investigations that were eventually instrumental in advancing the theory for the wave-like nature of light. Whenever light strikes a boundary between two materials of different densities, the light will either be reflected or refracted. If the refracted light encounters yet another boundary between materials of different densities, this light will again either be reflected or refracted. This process continues every time a new phase is encountered.

Light interference results from these concurrent multiple reflections and refractions of light. If the interference is constructive in nature, a strong color stimulus results. With Interference colors, a specific thickness of the titanium dioxide (TiO₂) layer allows only a narrow spectrum of color to be reflected in phase, while all other reflected colors undergo destructive interference and are not observed. Since these pigments are transparent, a portion of the light will be transmitted and the resulting color will appear as the complement to the reflected color.

PRODUCT APPLICATION

Maintaining Bright Surfaces: The Options.

The highly reflective flake pigments used to produce Iridescent Mediums are extremely thin. These platelet pigments range from 1 to 2 microns in thickness, and up to 90 microns in diameter for the Fine and 180 microns for the Coarse. Consider that the surface of an average flake of Iridescent Pearl could carry over 50,000 Carbon Black pigment particles placed side by side. Due to the larger particle size and the transparent nature of mica, iridescent colors tend to be less potent than other acrylic formulations.

Although no rule is absolute, some procedures for maintaining bright surfaces have proven their effectiveness. What follows is a brief review of some of the more successful approaches.

- > To produce the brightest colors with the Interference line, add a very small amount of black- 1:100 or less. The black will strengthen the reflected color. Add more black if darker colors are required.
- > To maintain the brightest possible effects with Iridescent Colors, avoid mixing them with opaque colors.
- > Be aware that blends made with matte materials such as matte mediums and matte gels will also reduce iridescent qualities by scattering the light that hits the surface. Adding gloss materials, such as GOLDEN Gloss Gel, increases interference qualities by heightening reflectivity. The addition of Gloss Gels and Mediums also provides better spacing between pigment particles, maximizing the effectiveness of each reflective pigment.
- > Overall, thicker applications will cloud the paint and weaken the intensity of the Interference Colors. Thinner applications increase the interference qualities. As the level of dilution increases, the pasty look disappears. Applying thin layers, whether by wash or glaze, effectively forces particles to lay flat with the large broad side facing the viewer. As more particle surfaces are exposed, the shimmer or luster increases.

Other Techniques and Considerations:

Perceived color will be much brighter is applied over a dark ground than a light ground. Since the Iridescent and Interference colors are relatively transparent, it is important to consider the impact of the base coat. By varying the color of the base coat, the overall color effect can be varied dramatically, especially when the Iridescent or Interference layer is applied transparently. For example, Interference Blue can be applied in glaze form over a light yellow or a dark red to yield some unique effects. Relatively transparent colors can be wet-blended into the Iridescent or Interference colors to produce other interesting results. Combining additional colors and Gloss Gels and Mediums can create some exciting glazes, in thin or thick films.

The important thing to remember about the Iridescent and Interference Colors is not to take them at face value. They can provide a range of colors and effects never before available, and many of their uses have yet to be discovered.

OPEN Acrylics – extended drying time, similar to oil paints:

PRODUCT DESCRIPTION

OPEN Acrylics is a new line of colors for professional artists designed with a unique set of working properties that represent a true departure from all other acrylics on the market and that dramatically expand the range of techniques that are available to artists.

OPEN Acrylic Colors are formulated with an optimum balance of pigment load and 100% acrylic polymer dispersion to produce a paint with a uniquely relaxed set of working characteristics and a versatility that allows artists to explore a wider range of techniques such as portraiture and landscape painting that rely on softening, shading, glazing, and creating fine detail.

OPEN Acrylics remain wet on the palette for prolonged periods without skinning over and can be blended with most GOLDEN Acrylics, Mediums and Gels, with the open time of the resulting mixtures being proportionately reduced. To maintain the maximum working time of OPEN Acrylics, use OPEN Gel, Medium and Thinner.

PRODUCT APPLICATION

Layering and Blending OPEN Acrylics lend themselves to both layering and blending in some ways that are reminiscent of oils. Thin applications of OPEN Acrylics can be blended for extended periods, allowing one to develop smooth transitions and to manipulate edges. They can be thinned with either water or OPEN Thinner. When used in conjunction with OPEN Thinner, which is formulated to replenish volatile components and maintain the long working time, OPEN Acrylics can be kept wet and blendable for many hours and even days. OPEN Gel or Medium can also be added at any ratio to help maintain the working time while modifying transparency, sheen, or viscosity.

Over time, thin applications will pass through several stages where the paint will begin to slowly setup and its tack increases. During this time, which can last for many hours, subsequent applications of any OPEN products or water can continue to reopen layers and allow one to continue blending and developing complex passages and fine details.

OPEN Acrylic Colors are best used in thin layers. Applications of more than 1/16 will result

in:

Excessively long drying periods
Persistently soft, higher tack feel
Translucent layers that remain cloudy
Can be “rewetted” with OPEN gel for many hours

HEAVY BODY ACRYLIC COLORS

PRODUCT PROPERTIES

Viscosity and Consistency

GOLDEN Heavy Body Acrylics are noted for their exceptionally smooth, rich, buttery consistency. These paints have the ability to "stand up" and retain brush strokes or palette knife marks on the canvas.

All HB colors are thixotropic in nature. This means that when brushing or stirring, the paints actually lose viscosity and feel much thinner. The faster the paints are moving, the thinner they feel. Returned to a state of rest, the paints gradually increase in thickness until they are again restored to their formulated viscosity.

Film Flexibility

The HB colors retain excellent flexibility when dry, greatly diminishing the possibility of cracking that occurs in other natural and synthetic polymer systems. The acrylics can absorb the constant stress and strain placed on canvas when shipped or as it expands and contracts with changes in temperature and humidity. Please note: acrylics begin to harden at 15 degrees Centigrade or 59 degrees Fahrenheit, and become quite hard at temperatures below freezing. This is especially important to remember when shipping a painting in freezing conditions or when unrolling a painting that has been kept in cold storage.

Product Mixing Abilities

The HB Colors can be mixed with all of our GOLDEN Mediums, Gels and other paint lines, including our Airbrush Colors, Fluid Acrylics, High Load Colors, Iridescent Colors, Paste Paints, and Matte Acrylics. By mixing paint lines, artists can produce a wide range of paint consistencies without compromising color strength. Heavy Body viscosity can also be reduced successfully with water. Remember: the more water added to the acrylics, the greater the subsequent shrinking of the paint layer. Too much water will reduce the binding capability of acrylic paints and tends to flatten out their sheen. Water works most effectively to increase the

fluidity of the HB paints if a small amount of Acrylic Flow Release is added to the mixture.

Sarah Sands, Golden Paints Technical Services Supervisor: “[Like the Fluids the Heavy Body acrylics by themselves can be easily thinned 1:1 with water for films but of course they would still be a little thicker than the Fluids since they start off thicker to begin with. However, when doing stains one has a lot more leeway and going past the 1:1 limit would be fine. In truth the 1:1 ratio is really meant to assure a good solid durable film when painting on top of a ground or directly onto materials like Plexiglas, but even paints thinned with twice that amount of water (1:2) were still showing good adhesion, so the system in these standard lines is quite robust. Once you enter into staining or watercolor-like techniques, it is not uncommon for artists to thin with a lot of water, creating really very dilute washes, and in these cases the paint is not really expected to form a continuous film as much as to penetrate into the paper or fabric and become intimately a part of the fibers, where the small amount of binder is really just serving to anchor the pigments to the fibers. The two concerns you can run into in this process would be a need to break water tension, so the stain can penetrate into the fabric more easily, in which case you can use some of the Acrylic Flow Release with the water used for thinning.

The other issue would be water sensitivity, which you can test for by rubbing a fully dried area with a q-tip wetted with water to see if you get any color lift after the stain has dried. If you do, that would tell you that the pigments are very weakly bound and you might want to look to lock things down with a coat of dilute medium later on, or simply be aware that like a watercolor the piece is vulnerable to color lift if exposed to water.]”

Some artists have used other solvents, including alcohols, to thin the HB Acrylics. All of the acrylics are sensitive to additions of solvent. If you require this addition it is advisable to dilute the solvent first with water to reduce the shocking effect of the solvent. In some cases, adding solvent too quickly will coagulate the acrylic.

Product Gloss Variations

When producing the HB line, GOLDEN consciously broke the mold of the acrylics made in the past. Most acrylics were produced to have an even satin sheen across the range of colors. Manufacturers felt artists wanted this even sheen to avoid the differences encountered by oils. In Oils, the colors requiring very little oil (lean colors) tended to be very matte, while those colors requiring substantial amounts of oil (fatty colors) tended to be quite glossy.

GOLDEN decided not to add the flattening agents typically added to acrylic paints to unify the product's finish. We decided that each pigment would be made to its own level of matte or gloss depending upon its own unique nature. We also decided not to add opacifiers to our colors (use of opacifiers is critical for coverage of house paints, yet it is also the reason that house colors tend to be quite subdued compared to professional artist colors). These decisions allowed our colors to retain their clearest and cleanest quality, especially when used in washes or glazes. It is always possible to add matting agents and other whitening materials to the product, but once

GOLDEN ARTISTS COLORS – adapted for “Visual Rhythms” workshop with Roy Lerner at Beth Kokol Arts LLC added, it is impossible to take them away. The HB line of acrylics contains no additional flattening agents, opacifiers or other solids that might interfere with the clarity of our pigments.

It is quite evident when looking at our color chart that colors in the HB line do differ in gloss. For example, the sheen of GOLDEN Ultramarine Blue or Burnt Umber is almost a dead matte, whereas the sheen of Green Gold or Dioxazine Purple is extremely glossy. Some artists may find this problematic; yet for many artists the variations offer the same nuances of color that are so appreciated in oil paints and give what many describe as an organic look to the colors. Without the need for opacifiers we can offer colors as similar in hue as the Cadmiums and Hansas, yet quite different in their ability to cover and in their clarity when mixing.

GOLDEN Heavy Body Matte Acrylic Line

The sheen of the HB acrylics can be altered with gels, mediums or varnishes. However, for those artists looking for a paint line with uniform matte finish, GOLDEN offers the Matte Acrylics. The Matte Heavy Body Acrylics are essentially the same as the regular Heavy Bodies, except matting agents are added to glossier colors.

HEAVY BODY COLOR RANGE

The Main Set of Colors

Probably the biggest standout of our ever-expanding Heavy Body line is the breadth of unique colorants we offer. The line currently consists of 73 colors, 7 Neutral Grays, 3 Primaries, 7 Historical Colors and 11 Custom Colors for a total of 101 different colors, shades and tints. Only about 30 of these colors are mixture colors, while the rest of the Heavy Body line is produced from single, unique pigments.

Mixture Colors

The mixture colors within the GOLDEN HB line of acrylics include Green Gold, Jenkins Green, Quinacridone Crimson and Turquoise (Phthalo), as well as our Neutral Grays, Historical Colors, Blended Colors and Primaries. Some mixture colors, such as GOLDEN Historical Colors, offer safe and lightfast alternatives for pigments that, otherwise, would be dangerous or insufficiently light stable for artist use.

- **The Neutral Gray Set** The Neutral Grays in the HB line are a series of achromatic grays. Achromatic grays allow artists to adjust the value or chroma of a paint color without altering the color's hue. When using a Neutral Gray of the same value as the color selected, the artist will be able to change only the chroma (intensity) of a certain color, while maintaining the hue and value. Mixing a Neutral Gray with a color of a different value will change both value and intensity.

The Neutral Grays follow the Munsell Value Scale, (a scale ranging from black to white), through a progression of light to dark grays. The Munsell scale defines black as N1 and white as

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N10. We recommend using GOLDEN Bone Black as the neutral black (equivalent to Munsell notation N1), and using Titanium White as the neutral white (N10). GOLDEN Neutral Grays include the values N2, N3, N4, N5, N6, N7, and N8. These grays are very carefully formulated to be evenly spaced and completely achromatic. Using a spectrophotometer, we carefully monitor the production of each batch to be certain that they fall within a very tight tolerance range. (Refer to the Neutral Gray Information Sheet for more information).

- **The Primary Set** GOLDEN Primary Cyan, Magenta and Yellow in the HB line should be of special interest to artists who want a totally pared down palette or who are in need of a tool for teaching about color mixing and blending. They have been formulated to be close in color strength, so that one hue will not predominate over the other colors. The mixture of these products will produce an incredibly rich and infinitely varied wheel of color.
- **The Blends** Finally within the HB line of products is our line of Blended Colors. The Blended Colors are mixture colors which many artists find convenient in assisting with the color mixing process. They include a range of bright Greens, Blues, Violets and Reds. The line of Custom Colors also includes a range of Cadmium Hues and a Cobalt Hue for those artists who want the shade of a Cadmium or Cobalt, yet are either concerned about the cost or the safety of the material.

PIGMENT FAMILIES

The Quinacridone Family

There are more Quinacridones in the GOLDEN HB line than in any other acrylic line of paint. Quinacridone pigments produce seven intense colors ranging from deep yellow to vibrant violet. All of the Quinacridones, because of their vibrant undertones and high transparencies, tend to be excellent mixing colors. They tend not to muddy or gray, retaining their brightness.

Perhaps the most important GOLDEN Quinacridone color is Quinacridone Crimson, a color with excellent lightfastness and similar working qualities to the more fugitive Alizarin Crimson. GOLDEN Quinacridone Crimson possesses the deep burgundy mass tone as well as the bright, rosy undertone of traditional Alizarin. GOLDEN's Quinacridone Crimson has been used by conservation professionals to replace the fugitive Alizarin when restoring paintings. Like all of GOLDEN's Quinacridones, Quinacridone Crimson is exceptionally transparent and works particularly well as a mixing color. Mixing Quinacridone Crimson with Phthalo Green B/S will almost magically produce one of the deepest blacks imaginable.

Unique to GOLDEN's product line are the standout colors [Quinacridone/Nickel Azo Gold](#) and Quinacridone Burnt Orange. These Quinacridones have a luminosity that rivals the richest oil colors. Their mass tones tend to be quite dark, yet their undertones are incredibly vibrant. Quinacridone/Nickel Azo Gold looks very close to a Burnt Sienna in its mass tone, yet its undertone has a yellow fire not found in any Sienna. Similarly, Quinacridone Burnt Orange has a brown-red mass tone that reveals a brilliant red orange underneath.

GOLDEN ARTISTS COLORS – adapted for “Visual Rhythms” workshop with Roy Lerner at Beth Kokol Arts LLC

Quinacridone Red is GOLDEN's recommendation when a very intense mixing magenta primary is requested. It is very close in hue to the color gels produced by Kodak® for primary magenta at 5500 Kelvin. Quinacridone Magenta and Violet tend to be excellent choices for mixing colors in the lavender through purple range, with the addition of various transparent blues. Quinacridone Red, Red Lt., Magenta and Violet produce high intensity pinks through lavenders when mixed with white. GOLDEN recommends using these colors when a punch of a fuchsia or fluorescent color is needed, yet permanency is also required, for a particular work of art.

The Cadmium Family

The second largest pigment family within GOLDEN's HB line is the Cadmium family. GOLDEN was the first company to introduce concentrated Cadmiums within an acrylic line. Before this occurred, other acrylic paint companies were using less expensive Cadmiums co-precipitated with Barium Sulfate.

The Cadmiums range in hue from the glowingly bright Cadmium Yellow Primrose to Cadmium Red Dark. As a class of pigments, the Cadmiums are some of the most opaque of all colorants. Additionally, within their hue range they provide some of the most intensely vibrant mass tones. Because of their opacity, when mixed with other colorants they tend to produce rather dull hues. Cadmiums do mix with other Cadmiums quite well, however. Mixing a Cadmium Orange with a Cadmium Yellow will produce a deep yellow or light orange and the mixtures will retain the brightness of a pure Cadmium color.

GOLDEN is one of the only acrylic manufacturers to include a yellow hue that is lighter than the typical Cadmium Yellow Light. This unique pigment called Cadmium Yellow Primrose is as bright as some fluorescent colors, yet offers the same stability as the other Cadmiums in the GOLDEN line.

Cadmiums have been considered somewhat controversial as a pigment class because of the claims of toxicity of the pigment. We do know that soluble Cadmium can be quite dangerous and produce heavy metal poisoning. All of the Cadmiums used within our product line have gone through extensive testing to assure that they have extremely low soluble Cadmium content. This is not the end of the controversy though, since more recent theories have suggested that even non-soluble Cadmium pigments could potentially be toxic. OSHA has created strict requirements for work environments where Cadmium pigments are being used. This is of extreme importance legally for artists, schools or any business that hires other employees or is responsible for public safety. If you are using Cadmium dry pigments within your work process, you are not, according to the new OSHA regulations, within allowable limits of exposure for yourself and those within your care.

The Phthalocyanine Family

The Phthalocyanines are known as the oldest organic pigments. The GOLDEN HB line contains 5 Phthalocyanine colors, including Phthalo Green (Yellow Shade) and Phthalo Green (Blue Shade), Turquoise (Phthalo), and two Phthalo Blues, (Green Shade) and (Red Shade). These

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different Phthalocyanine colors actually contain the various pigment forms of the Phthalocyanine group.

The Cobalt Family

The Cobalt pigments are unique within the HB line. This range of 7 colors includes Cerulean Blue and Blue Deep (these contain both Cobalt and Chromium), Cobalt Blue, Cobalt Green, Cobalt Titanate Green, Cobalt Turquoise, and the newest addition, Cobalt Teal. Cobalt Teal is an unusually clean and high chroma shade that possesses excellent lightfastness and opacity.

The Pyrrole Family

The Pyrrole family is one of the newer pigment families to be developed. The Pyrroles are almost as opaque and, in fact, brighter than our Cadmium colors. Pyrrole Orange, Pyrrole Red Light, and Pyrrole Red exhibit excellent opacity and lightfastness. They also offer clean mixing with other organics, unlike their Cadmium counterparts, which produce muddier blends.

FLUID ACRYLICS

PRODUCT PROPERTIES

Fluid Acrylics are highly intense, permanent acrylic colors with a consistency similar to heavy cream. Produced with only lightfast pigment, not dyes, they offer very strong colors with a fluid consistency. No fillers or extenders are added and they contain a very high pigment load equal to our Heavy Body colors. It is important to note that our fluid consistency is not the result of additional water -- that would weaken both color and adhesion. Fluid Colors offer high tinting strength, durability, flexibility and good adhesion and contain no more water than heavy bodied paints.

Mixing Fluids with other GOLDEN Products

The Fluid Colors can be mixed with most of our other GOLDEN Mediums, Grounds, Gessos, Gels and other paint lines, including our Heavy Body Acrylics, Airbrush Colors, High Load Colors, Iridescent Colors, Paste Paints and Matte Acrylics. By blending paint lines of different viscosities, artists can create virtually any paint consistency without sacrificing color strength. The Heavy Body Acrylics can be thinned very effectively with water, but since the Fluids start at a lower viscosity, less water is needed. Remember: the more water added to the acrylics, the greater the subsequent shrinking of the paint layer. Too much water will reduce the binding capability of all of the acrylic paints and also tends to flatten out their sheen.

When used for applications other than staining and washes, we recommend diluting the Fluids with no more than a 1:1 ratio of Fluid Acrylic to water. When using the Fluids specifically for staining and washes, there is no limit to how much water can be added. Film integrity will automatically result when the substrate absorbs the paint mixture. Washes can also be sealed with an acrylic medium to increase overall film strength.

Brushing Quality

Fluid Acrylics load a brush more evenly than thicker paints, and they also flow consistently off the brush, allowing for longer, more uniform brush strokes. This is one of the key features of the Fluids, resulting from their low viscosity. Artists can lay down thin passages of paint that have high pigment loads; these thin passages would not be possible to achieve by diluting a paint with a higher viscosity.

When a heavier stroke is required, Fluids can be blended with any of the GOLDEN Gels. Soft, Regular, Heavy or Extra-Heavy Gels will all thicken the paint to various extents. Because of the thin consistency and potency of the Fluids, they are the easiest of all the paint systems to incorporate into powerful gel mixtures.

Pours & Puddles

The Fluids can be poured and puddled, dripped and dragged onto the canvas to achieve some unique effects. By altering the speed, the distance from the substrate and nozzle size or shape while pouring, one can control the size and shape of the resulting pour or drip. Working with different Fluid colors together, either simultaneously or at different times, can be an interesting technique.

There are a few GOLDEN mediums that work especially well with the Fluids for various pour/drip/puddle effects. Adding small amounts of GAC-800 to the Fluids can reduce the crazing that occurs. Clear Tar Gel mixes with the Fluids for dripping purposes, and can yield lines that range from spider-web fine to brushstroke thick.

Thick Film Drying Considerations

When paint is being applied in relatively thick films, one must remember that all acrylic paints shrink considerably (approximately 25-40%) upon drying. This tendency, coupled with the thin consistency of the Fluids, will yield surface defects called crazes. Crazing is the result of the tremendous force exerted on the surface of the paint film as the film dries and shrinks. It can appear as rips, tears or valleys that run through the surface of the poured paint. Blending Fluids with GOLDEN Soft, Medium, Heavy or Extra Heavy Gels will significantly help to prevent crazing.

VARNISH

***Application note:** Varnishes and isolation coats should be applied to paintings that are completely dried, to prevent interference with the natural drying process of the paint. An isolation coat is a permanent, non-removable coating that serves to physically separate the paint surface from the removable varnish. This will help protect the surface if the varnish is ever removed and make future cleaning and conservation easier to avoid working directly on top of the pigmented part of the work. Therefore, even if painted with delicate washes or large areas of colors that could potentially bleed, a clear barrier would safely cover the painted surface. It will also seal absorbent areas, which will result in a more even application of the varnish. In the event that no varnish gets applied, the isolation coat serves to decrease the water sensitivity of the paint surface, affording protection during routine cleaning/dusting. For brush application, the appropriate isolating medium can be made by diluting Golden Soft Gel Gloss with water (2 parts by volume Soft Gel Gloss to 1 part water). If a spray application is desired, a 2:1 mixture of Golden GAC-500 to Transparent Airbrush Extender can be applied with an airbrush, touch-up spray unit or commercial spray equipment. The absorbency of the surface will dictate the number of isolation layers required. For relatively non-absorbent surfaces, as is the case with a uniform paint layer, one coat brush applied or two coats spray applied are recommended. For more absorbent surfaces, which tend to be very matte, it is recommended to apply sufficient isolation coats to achieve a satin sheen on the surface. This may require two or more brush applied coats or three or more spray applications. The isolating layer is of critical importance when applying a matte varnish over an absorbent surface to prevent a cloudy or "frosted" appearance from occurring.

MSA Varnish with UVLS

GOLDEN Mineral Spirit Acrylic Varnishes with UVLS (Ultra Violet Light Stabilizers) is a Mineral Spirit based Acrylic resin system that forms a tougher, less permeable film than water-borne acrylic varnishes and can be applied to acrylic, oil and alkyd painted surfaces with a brush or airbrush sprayer. It reduces dirt penetration and surface marring, offering an ex-treme-ly level film with less foam and fewer pin-holes. Available in Gloss, Satin and Matte, it is removable with Mineral Spirits, and thinned with MSA (Mineral Spirit Acrylic) solvent or, less ideally, turpentine. It can also be mixed with oil and alkyd paints to accelerate drying and improve flexibility.

MSA Varnish (Gloss) dries to a highly reflective finish. MSA Varnish (Satin) offers moderate reflection, similar to most matte varnishes. MSA Varnish (Matte) finish is exceptionally flat. The different finishes can be intermixed, or used sequentially, to achieve the desired sheen. Note that the matte and satin MSA varnishes will lighten dark value colors, which is typical of reduced sheen varnishes.

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As a solution polymer, MSA Varnish is clear when wet . Compared to aqueous varnishes, this allows for better visual properties during application. It also suffers significantly less from foam generation and pinholes that can detract from the clarity and appearance of the finish. The varnish produces an extremely level finish, and is able to coat slick supports including glass and most plastics and metals .

MSA Varnishes must be thinned before use . They have been made thicker than the traditional application viscosity to maintain an even suspension of the solids within the varnish. Often, particularly in matte finishes, settling can result in streaking within the varnish film.

MSA Archival Spray Varnish

Archival Aerosol Varnish MSA with UVLS (Gloss, Satin, Matte) is formulated with 100% solvent-based, reversible acrylic co-polymer resin. It is made by reducing standard **GOLDEN MSA Varnish (w/UVLS)** with fast drying acetone and a propellant to create an easy to use spray product. Properly applied, it creates a durable, even film with the same features as GOLDEN brushable MSA varnish plus, excellent wet/dry state clarity. It resists changes in appearance, and remains flexible. It has an adjustable fan spray tip that allows precise application and reduced overspray.

GOLDEN Polymer Varnish with UVLS

GOLDEN Polymer Varnish with UVLS (Ultra Violet Light Stabilizers) is a water-based acrylic polymer varnish formulated to provide additional protection from ultraviolet radiation. This helps delay the inevitable fading that occurs in materials that may be fugitive in nature.

Polymer Varnish is designed as a topcoat for acrylic paints and ***offers a removable protective surface to the relatively soft acrylic paint layer***. It has a harder film than most acrylic paints, which diminishes the susceptibility of the surface to dust and dirt, and provides increased protection from scratching, marring and moisture. It has adequate flexibility to withstand normal handling conditions, including loose rolling. ***For interior use only***.

Polymer Varnish remains soluble in alkaline solvents, such as ammonia. This means the varnish can be easily removed; taking with it any accumulated surface contamination without damaging the painting surface. The use of such a removable varnish provides a valuable tool to anyone trying to restore or clean a painting.

A NOTE ON FORCE-DRYING ACRYLIC PAINTS

Do not try to force-dry acrylic paint films too quickly, too soon. Hair driers are commonly employed in the acrylic paint studio, but try to start out with low temperature at low speeds and work farther away from the paint. If acrylic paints cure too fast, they can either craze or bubble, and even form very poor paint films that may not do too well over many decades. When in doubt, slow down.

When using heat to force-dry a painting, remember that moisture goes away from the heat source. If you heat from the top down, the moisture goes deeper into the paint and the substrate. Warming from the backside of the painting allows the moisture and other additives to escape from the paint layer.

The drying of acrylic paints occurs in two very different stages, hence drying times must be thought of in two different time frames. The first stage, a relatively short period of time, results in the formation of a skin over the surface of the paint. This is the time that it takes for acrylics to "dry to the touch". At this point, the flow of water towards the surface is no longer sufficient to keep the paint film wet. Very thin films can feel dry within seconds, while thick films may take a full day or more to skin over.

The second stage of drying is the time for the entire thickness of the film to be thoroughly dry. That is, the time required for all of the water and solvent (used as freeze-thaw stabilizer and coalescent) to evaporate and leave the film. This is a most crucial time frame, as the ultimate physical properties, such as adhesion, hardness and clarity, do not fully develop until the film is near complete dryness. For very thin films, this time may be a few days, while films of 1/4 inch thickness or more will take months and even years to be completely dry.

Temperatures of 70 to 85oF and humidity under 75% are ideal for drying.