Experimental Processes

* Projections
* Animations
* Bleach
* Abrasion
* Varnish spray/paint (matt/watercolour paper)
* Wood/ Varnish/Image Maker/ liquid light
* Leather (mount on substrate)
* Crackle glaze
* A crackle glaze generally consists of a base coat and a top coat. The way they work is simple the water-based varnish dries quicker than the oil-based one, and the movement from the underlying layer, which is still drying, causes the top layer to crack.



Dylon Image Maker 500ml Tub

<http://www.goldenpaints.com/technicaldata/digigrnd.php>

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|

|  |
| --- |
| DIGITAL GROUND White (Matte) DIGITAL GROUND Clear (Gloss) DIGITAL GROUND for Non Porous Surfaces |
| *GOLDEN Digital Grounds are ink-receptive coatings intended for use with ink-jet printers. They allow the artist to coat and subsequently print over a large variety of substrates including paper, canvas, metal and acrylic paints, using ordinary computer printers and inks.* |

[Product Description](http://www.goldenpaints.com/technicaldata/digigrnd.php#proddesc)[Ink-Jet Printers](http://www.goldenpaints.com/technicaldata/digigrnd.php#inkjet)[Ink Systems](http://www.goldenpaints.com/technicaldata/digigrnd.php#inksys)[Substrate Selection](http://www.goldenpaints.com/technicaldata/digigrnd.php#subs)[Product Application](http://www.goldenpaints.com/technicaldata/digigrnd.php#prodapp)[Printing](http://www.goldenpaints.com/technicaldata/digigrnd.php#printing)[Water Sensitivity](http://www.goldenpaints.com/technicaldata/digigrnd.php#water)[Archival Issues](http://www.goldenpaints.com/technicaldata/digigrnd.php#issues)[Experimental and Advanced Techniques](http://www.goldenpaints.com/technicaldata/digigrnd.php#techs)[Final Protection](http://www.goldenpaints.com/technicaldata/digigrnd.php#final)[Storage](http://www.goldenpaints.com/technicaldata/digigrnd.php#stor)[Further Reading](http://www.goldenpaints.com/technicaldata/digigrnd.php#read) [Videos](http://www.goldenpaints.com/technicaldata/digigrnd.php#Videos)* [Creating and Printing on Acrylic Skins with GOLDEN Acrylics and Digital Grounds](http://www.goldenpaints.com/technicaldata/digigrnd.php#acrylicSkins)
* [Printing on Specialty Papers with GOLDEN Digital Grounds](http://www.goldenpaints.com/technicaldata/digigrnd.php#specialtyPapers)
 | **Golden Artist Colors, Inc.**188 Bell RoadNew Berlin, NY 13411-9527 USAToll Free: 800-959-6543Fax: 607-847-6767techsupport@goldenpaints.comwww.goldenpaints.com[http://www.goldenpaints.com/images/print.gifPrinter Friendly Version](http://www.goldenpaints.com/print.php)

|  |
| --- |
| Image still for the first YouTube VideoImage still for the second YouTube video |
| [Watch the Videos](http://www.goldenpaints.com/technicaldata/digigrnd.php#videos)  |

 |

 |
|

|  |
| --- |
| **PRODUCT DESCRIPTION** **GOLDEN Digital Ground White (Matte)** – A semi-opaque white ground suitable for printing onto a large variety of porous and non-porous surfaces.  The smooth and absorbent surface allows printing inks to dry rapidly, making it an ideal choice for all ink-jet printers, including desktop models that have ejection rollers or ‘pizza wheels’ that come into contact with the printed surface.  Digital Ground White (Matte) is an ideal starting product for artists exploring digital printing. **DO NOT FREEZE. Frozen product will become unusable.** **GOLDEN Digital Ground Clear (Gloss)** –A clear gloss ground for use on most porous surfaces where clarity is required to view underlying materials.  Like most clear ink-jet receptive coatings, prints done on this ground will dry more slowly, which can cause tracking problems for desktop printers that have ejection rollers or ‘pizza wheels’. **GOLDEN Digital Ground for Non Porous Surfaces** –A clear gloss ground for coating non-porous surfaces, such as plastic and metal, when clarity is desired.  Like most clear ink-jet receptive coatings, prints done on this ground will dry much more slowly, which can cause tracking problems for desktop printers that have ejection rollers or ‘pizza wheels’. INK-JET PRINTERSWhen working with any of the new Digital Grounds damage to your printer is a possibility, especially as one begins to explore or push boundaries. Because of that, use of older, less valuable printers can sometimes be a good way to initially experiment and learn about these products. If using a higher-end printer, or one still under warranty, realize that modifying your printer in any way, or using materials not approved by the manufacturer, will usually void that coverage. In general, wide format printers, 24” or more in width, should have few difficulties with most of the techniques and substrates the Digital Grounds can be used with.   When using standard home desktop and photo printers, use care if planning to work with thicker materials and textures that can jam the printer, or non-absorbent substrates where inks are inherently slower drying. Regardless of which type of ink-jet printer you use, always consult your printer’s documentation to be familiar with its specifications and possible adjustments. The following three items, in particular, need to be considered prior to printing: **Pizza Wheels / Ejection Rollers** – In most desktop printers one can usually find rollers or ‘pizza wheels’ that come into contact with the surface of the print as it is being ejected. If the ink is still wet, these mechanisms can sometimes cause the image to smear or tracks to be seen running across the print. While the wheels can be fairly easily removed, and many sites on the Internet will provide instructions for doing so, this will also void any warranty one might have. The Digital Ground White (Matte)dries almost instantly, so the tracking of ink is rarely, if ever, a problem with this product.**Paper Paths**Take a close look at the printer you plan to experiment with and observe the path that the paper takes when feeding through the printer during an image or document print.With some printers the paper tray is in the front which means the paper must follow a **U shaped path** as it prints, feeding from the tray, curving at the back, and then ejecting out the front. This is the least desirable paper path and will limit what materials can be printed.Other printers have paper trays that feed from the back of the printer and follow an **L shaped path**, feeding from the tray, bending as it enters the print area and then coming straight out the front. This paper path will support substrates that are flexible and paper thin, such as some specialty papers and thin paint skins.The optimum paper path is a **straight through path**. Printers with a straight pass through either feed from the back and come straight through to the front, or feed in from the front and automatically position the substrate at the back to print through to the front. Most of the time, in order to work with custom substrates, you will need this type of straight through paper path. Printers with this type of path commonly recommend using it for printing envelopes and other thicker media.**Head Height**Head height refers to the clearance between the print head and the paper, which in turn limits how thick one’s substrate, can be. Unfortunately, in most desktop printers there is little one can do to adjust this; if one finds they can, however, then setting it on the highest clearance is usually best. In any case, it is important to know what the maximum clearance is to avoid causing a jam or damage to the print head when working with thicker materials. This information is usually contained in the printer’s documentation or spec sheet, or consult the manufacturer.INK SYSTEMSGOLDEN Digital Grounds can be used with both dye and pigment-based inks. Due to the constant changes in ink technology, however, one should always test applications to make sure the ink system being used is compatible. SUBSTRATESThe types of substrates that can be used are nearly limitless. The main factors to note are the substrate’s absorbency, thickness, fragility, and its size and shape. Each of these can affect its performance and impact which ground will perform best. Below we discuss three principle groups of materials, providing very general guidelines. **Porous/Absorbent**This group encompasses a wide selection that includes watercolor, printmaking, Japanese rice and other specialty papers, as well as canvas, various fabrics, and even unusual items like wallpaper, leather, or unsealed wood veneer. Either Digital Ground (Clear) or the Digital Ground White (Matte) are good choices. Depending on the absorbency and techniques being used, a minimum of two coats of a Digital Ground is recommended. In addition, some of these materials can occasionally benefit from being initially sealed with a clear acrylic medium, like GOLDEN GAC 100, or an acrylic ground such as GOLDEN Gesso.**Non-Porous/Non-Absorbent**This would include such materials as aluminum, copper, metal foil, marble, and plastics such as MylarÒ, LexanÒ, PlexiglasÒ, and acetate. Here the Digital Ground for Non-Porous Surfaces or Digital Ground White (Matte) can be used. Surfaces must be thoroughly cleaned and free of oils. Metal should be degreased with isopropyl alcohol or acetone. Usually a minimum of two coats of the Digital Ground will give the best results.**Acrylic Skins and Painted Surfaces**Almost any surface painted or created with acrylic paints, gels, pastes, or mediums, can be printed on by first coating them with one of the three Digital Grounds. This includes ‘skins’ or free films of acrylic material that can then be coated, printed, then layered, collaged or further developed for incorporation in other pieces. For a clear coating, either the Digital Ground Clear (Gloss) or Digital Ground for Non-porous Surfaces can be used, with a minimum of two coats usually producing the best results. The Digital Ground White (Matte) is useful when wanting an opaque, white layer to print on top of.PRODUCT APPLICATIONFor optimal printing, GOLDEN Digital Grounds should always be mixed prior to use, as the ingredients will separate during storage.  Gently rock the container back and forth for one minute to assure proper mixing.**Substrate Concerns**It is important to know how the substrate will react to water-based products. Absorbent surfaces like paper and canvas can easily swell, buckle or become distorted when wet. Taping material to a sturdy backing-board or inflexible surface during product application can minimize this. If taping is not an option, applying the Digital Ground to the entire surface, including the edges, can help minimize curling. Once sheet can be handled without dripping,  hang by one corner until dry. Afterwards, if needed, press flat overnight under a weighted board.If the substrate is extremely absorbent, applying an initial coat of an acrylic medium or acrylic ground can help seal the surface and allow for a more even application of the GOLDEN Digital Grounds with fewer layers. **Application Instructions**Product is ready to apply. If desired, can be thinned with up to10% water.Using a foam brush, or foam roller, apply even coats of the Digital Grounds to the substrate. Other types of brushes or rollers may be used but test for your application as these might create a less even and more textured surface. Apply product quickly to allow the film sufficient time to level. Allow each layer to dry thoroughly before recoating. Two or more coats, applied in opposite directions, will typically provide the most uniform coating and best results. Please note: Because the Digital Ground Clear (Gloss) and the Digital Ground for Non-Porous Surfaces are water-sensitive, additional coats can exhibit excessive brush drag during the application, especially if the initial coat has not dried sufficiently.  Allow 8-12 hours after applying the last coat before printing.**Temperature**Minimum film formation temperature is 49°F / 9°C.**Clean Up**Clean tools with soap and water.PRINTINGBecause of the wide variety of printing and ink systems currently in use, specific printing instructions are beyond the scope of this Tech Sheet. Some testing and experimentation will always be needed to ascertain which printer software and color management settings will achieve the best overall print quality or desired effect. Depending on the nature of your materials it might be necessary to tape or otherwise adhere the substrate to a larger ‘carrier sheet’ which can allow it to pass through the printer more easily. The carrier sheet can be any number of materials, from a piece of printer paper to a sheet of  Mylar® or acetate. The main function is simply to provide a sturdy, rectilinear surface for delicate or irregularly shaped substrates. Which material works best will depend on your specific ink-jet printer and needs. Please consult our website for more specific directions.WATER SENSITIVITYBoth the Digital Ground Clear (Gloss) and Digital Ground for Non-Porous Surfaces are water sensitive and can be easily re-activated with moisture. **Therefore, prior to working on top of these grounds with any water-based media, including any of our Acrylic Colors and Mediums, we recommend sealing or ‘fixing’ the print with our Archival Varnish (Gloss). Failure to do so can cause the inks to run or the image to blur.** Our Digital Ground White (Matte), however, provides excellent water resistance and should not present a problem once fully dry. As always, though, test for your application. **Please note**: while GOLDEN Gel Topcoats w/ UVLS, if kept undiluted, can often be applied directly on top of thoroughly dried prints done with our Digital Ground Clear (Gloss) and Digital Ground for Non-Porous Surfaces, a lot of variables can impact this process: drying time, ink system, thickness of the ground and gel coatings, and degree of surface agitation, etc.  Because of that, **it is essential to always check for one’s application using a test print before applying these topcoats directly to anything of importance.** EXPERIMENTAL and ADVANCED TECHNIQUES Beyond using the Digital Grounds to coat various substrates, there are many advanced techniques that involve multiple layers of printing, painting, and the incorporation of various other mediums and collage elements into the final piece. Digital AtelierÓ artists Karin Schminke, Dorothy Simpson Krause, and Bonny Pierce Lhotka have played an instrumental role in developing these processes, and are recognized as being innovators in the use of alternative grounds for digital printmaking. One can find many of their techniques outlined in their book, Digital Art Studio, and the GOLDEN Digital Grounds can be easily adapted to most of their processes. If you have specific questions along those lines, please give our Technical Support staff a call. In addition, Application Sheets exploring some of these and other methods will be made available in the “Technical Information” section of our Web site.FINAL PROTECTION Like all printmaking and photographic processes, digital media remain vulnerable to water sensitivity, fading caused by UV exposure and airborne pollutants, surface abrasion, and dirt.  Unless planning to frame and mount the piece behind glass, some form of final protection is strongly recommended. Without it, the print can be easily damaged and its longevity greatly shortened. There are several Golden products we would recommend for this purpose:**GOLDEN Gel Topcoats w/ UVLS**: Whether used as part of a final layer in a piece, or applied solely for protection at the end, the Gel Topcoats w/UVLS will provide substantial UV protection while lowering the risk of water and chemical sensitivity as well as direct exposure to environmental elements. However, because they are water-based, care must be taken when applying them over any water-sensitive materials or substrates, including those coated with the Digital Ground Clear (Gloss) or Digital Ground for Non-Porous Surfaces. One should always test for their application and if any blurring or lifting of color occurs then take steps to initially seal the surface with either GOLDEN Archival Spray Varnish or MSA Varnish. Also, please note that pieces coated with the Gel Topcoat w/UVLS will remain susceptible to dirt collection over time, not to mention surface damage from handling or shipping. For best practice and to address longer-term concerns of cleaning and conservation, we would still recommend applying one of our removable varnishes as a final layer.**GOLDEN MSA Varnish, GOLDEN Archival Spray Varnish or GOLDEN Polymer Varnish:** All of GOLDEN’s varnishes will provide UV protection and lower water sensitivity, along with the advantage of being removable for cleaning and conservation purposes. As mentioned above, they can be used in conjunction with the Gel Topcoats w/UVLS to provide additional protection. If used in place of the Topcoats, however, it is best to first apply a non-removable isolation coat whenever possible. If applying a varnish directly to the print, we recommend starting with Gloss to seal the surface then switching to whatever sheen one desires. Detailed instructions for applying any of these varnishes or topcoats can be found in the “Technical Information” section of our Web site.STORAGEStore between 50° and 80° Fahrenheit. DO NOT FREEZE.  GOLDEN Digital Ground White (Matte), in particular, is sensitive to lower temperatures and will become unusable if ever frozen. Settling of solids or separation of product is normal during storage and product should be thoroughly mixed prior to use.  FURTHER READING * Product and Application Information: [www.goldenpaints.com/technicaldata/techsheets.php](http://www.goldenpaints.com/technicaldata/techsheets.php)
	+ GOLDEN Gel Topcoats w/UVLS
	+ Varnish Literature
	+ GAC Products on Ink-jet Prints
* Just Paint Issue #18: [www.goldenpaints.com/justpaint/index.php](http://www.goldenpaints.com/justpaint/index.php)
* Schminke, Karin, Dorothy Simpson Krause, Bonny Pierce Lhotka, Digital Art Studio: Techniques for Combining Inkjet Printing with Traditional Art Materials, Watson-Guptill, 2004

VideosCreating and Printing on Acrylic Skins with GOLDEN Acrylics and Digital GroundsPrinting on Specialty Papers with GOLDEN Digital Grounds  |

 |