



Glazing

Offers Framers New Options

Glass or acrylic? UV-filtering or anti-reflective? Such decisions have become easier, as the newest glazing products incorporate all the features framers want for fine artwork.

By Tricia Bisoux

FBN Contributing Editor

It used to be hard to convince framing consumers to spend money on something they couldn't even see. The lower cost of regular glass and acrylic products often won out over pricier glazing with special coatings blocking ultraviolet light and eliminating glare.

That was then, and this is now. Today, suppliers are offering comprehensive options in both glass and acrylic that block ultraviolet light, inhibit reflection and maintain clarity for a price most consumers can afford. As a result, framers are becoming more eager to explain the importance of glazing and present the best options to customers.

And as more customers understand how fragile their art treasures can be, they are becoming more open to higher priced options that provide the best protection. When presented with a list of the benefits that come with an extra investment in glazing, many customers will opt for the upgrade.

"Framers can show their customers all the options available, laying the different glazing options on their artwork," said Carl Carelli, manager of sales and marketing at Denglas Technologies of Moorestown, N.J. "Most consumers are very smart and knowledgeable—if they see that a certain glazing makes a difference, they'll buy it."

Seeing the Lite

There was a time when choices in glazing were limited: Framers could choose UV-filtering or anti-reflective. Or, they might need a lightweight acrylic for a large piece of artwork and worry about it becoming easily scratched. These days, however, consumers can just about have it all: Ultraviolet protection, anti-glare and scratch resistance are now readily available in both glass and acrylic products.

Denglas Technologies, for example, just



▲ **ACRYLITE's FF-3 acrylic sheet is most commonly cut using a circular table or panel saw. Carbide-tipped blades with a triple-chip tooth design are recommended, said CYRO's Courtney Clay.**

launched its newest product, UV Denglas®, in the United States. An addition to its anti-reflective glass and its Water White Denglas, UV Denglas is a response to a growing demand for glass that offers as much protection as possible for a reasonable price, said Carelli.

"It is a combination of anti-reflective and UV-filtering glass with 'user-friendly' capabilities," he noted. It has a hard, durable coating on the surface that makes it very easy to work with, he added. And for framers who worry that "anti-reflective" means that it also distorts the artwork, Denglas' anti-reflective glass has a "chemical deposition coating." This coating allows a framer to place the image any distance from the glass without distortion, according to Carelli.

Some framers also are concerned that the coatings applied to the surface of glass may be subject to wear, Carelli pointed out. However, he said that concern is unfounded.

After a coating is applied to a lite of glass, which is simply a plate of glass, the lite is fired in a furnace at a high temperature, permanently bonding the coating to the surface. "It creates a hard surface, like firing a piece of ceramic," Carelli said. "The coating includes silica ingredients, so when it is fired, it locks in and becomes hard on a molecular level."



Steve Cohen, product manager of Schott Corporation of Yonkers, N.Y., a company that supplies museums and high-end galleries with high-performance glazing products, agreed that framers should not worry about the longevity of the UV protection. "Because it is baked in at high temperature, the coating cannot be peeled off. It becomes bonded, an integral part of the glass itself."

When clarity is a framer's biggest concern, "water white" glass eliminates the greenish tint often found in regular glass. The tint, which is caused by the iron content in the sand used to make the glass, is avoided not by a chemical process, but by simply choosing a more pure type of sand.

"There are certain areas of the world, including parts of Germany and Poland, where the sand is very, very pure with low iron content," Carelli said. "To make a low-iron, water white glass, manufacturers use this type of sand. We acquire this glass, then apply our optical anti-reflective coating on it, less than one-millionth of an inch thick, to make Water White Denglas."

Plastic Makes It Possible

Acrylic is perhaps the fastest-growing segment of the glazing market. Its main selling points have always been its light weight and its breakage resistance. Even so, framers often used it sparingly: Though its lightweight composition was perfect for large items or items to be shipped, it tended to scratch easily. Furthermore, framers found the static buildup it generated to be a problem. But framers are now finding much more to like in acrylic, including ultraviolet protection, non-glare properties and improved abrasion resistance.

With these improvements, acrylic glazing, such as the ACRYLITE® line of products from CYRO Industries of Rockaway, N.J., and the original Plexiglas® from Atoglas of Chicago, now offers many of the same qualities of glass at a lower cost.

"UV filtering acrylics are making a comeback," said John Ranes II, CPF, GCF, of the Frame Workshop of Appleton Inc. in

Appleton, Wis.

"Growing demand and interest in abrasion-resistant acrylic material has led Atoglas to manufacture Plexiglas Non-Glare Plus acrylic sheet,"

said John DeBlasi, market development specialist for the company.

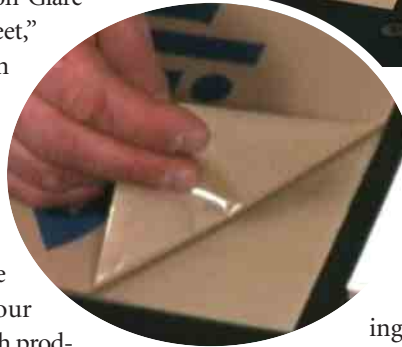
"The product possesses all the attributes of our Non-Glare Finish product, as well as enhanced mar-resistance and improved static-resistant features designed specifically in response to feedback from the industry."

CYRO Industries, too, has responded to this demand, said Courtney Clay, product manager. "CYRO offers an abrasion-resistant coating on both our UV-filtering ACRYLITE OP-3 acrylic sheet and our non-glare ACRYLITE P-99 sheet. This improves the scratch resistance in high-traffic areas, and it can be cleaned with common household cleaners."

The UV-filtering properties are within the sheet of acrylic, not on the surface, Clay explained. "The ultraviolet protection is throughout the sheet and cannot be removed." In addition to its standard .098-inch and .118-inch thicknesses, the company also offers custom sizes for framers' special projects.

"I'm considering making acrylic my 'go-to' glazing," wrote Ron Eggers on the Picture Framers Grumble (www.thegrumble.com), an online community of framers. Eggers has owned The Total Picture in Appleton, Wis., for 25 years, during which he relied primarily on glass.

"I was framing 17 valuable prints to hang in a very public area, a library, under fluorescent lights. The relatively low weight, the UV-filtering and the shatterproof nature of the CYRO Acrylite OP-3 made it a good choice," explained Eggers. "I found it easy to cut on my Fletcher 3000 wall cutter. There was no cleaning involved—just a light dust-



▲ **To minimize static on acrylic, leave the masking paper on as long as possible during the framing process, then peel the paper off slowly. The less the surface of acrylic is handled directly, the less the static will build.**

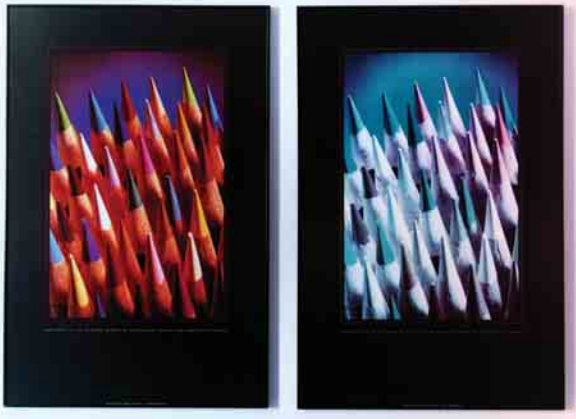
ing with an anti-static brush. In addition, this product seems fairly scratch-resistant, though they make an abrasion-resistant version that is almost impossible to scratch."

Eggers also pointed out another favorite in his shop, Conservation Clear® from Tru Vue in McCook, Ill., which he expects always to be a popular choice. "But I am strongly considering the CYRO product as my recommended glazing for all conservation framing to hang in high traffic areas."

Jared Bark of New York's Bark Frameworks Inc., a framing operation that serves many museums and elite collectors, agreed. He noted that in addition to high-end options such as Tru Vue Museum Glass, Denglas and Amiran TN® from Schott Corporation, his framing operation also has increased its use of UV-filtering acrylic. With clients who are often spending hundreds of dollars on glass for a single artwork, acrylic can provide the benefits of glass at a lower cost.

"We are using CYRO OP-3 75 percent of the time," he explained. "We use specialty glasses quite a lot for their other properties on some pieces," including pastels and other loose media or artwork comprising very light papers that may be drawn by the static pull of acrylic, for example, he said.

"Twenty years ago, it may have been more inconvenient to work with acrylic. It often came in four- by eight-foot sheets, which made it hard for framers to handle," Bark noted. "But today, it's easy to handle. Proprietary acrylic cleaners provide some measure of reduction of static charge. And while UV-filtering acrylic is more expensive than regular glass, it's not prohibitively so."



▲ When it comes to showing customers the benefits of UV-filtering glazing, seeing here the effects of sunlight is believing, said framers. Shown here are two identical posters, one framed in regular glass (at right) and the other using UV-filtering acrylic, CYRO Industries' ACRYLITE OP-3. Each received two years of daily direct sunlight.

Revolutions in Glazing

Except for matboard, there is perhaps no other material in framing that inspires more confusion than glazing. Bark agreed that constant improvement and innovation in glazing products have given framers a lot to think about over the last two decades.

"Matboards went through a revolution in quality a few decades ago," he pointed out. "A similar revolution has taken place in glazing materials in the last decade. Over the last 10 years, there have been constant changes." That revolution has included the addition of a "big four" of features that pic-

ture framing specifically requires: ultraviolet protection, anti-glare, "water white" clarity and breakage resistance.

Of course, a combination of all four of these features translates into some sticker shock for the ill-prepared. New glass products recently introduced to the U.S. market, which incorporate all four items on the framer's wish list, are accessible primarily to museums and elite art collectors because of price points that range from \$60 to \$70 per square foot.

Products such as Amiran TN® from Schott Corporation represent the height of glazing manufacture, and many framers working with multi-million-dollar works of art said they are a godsend. It comprises two lites of water-white, anti-reflective glass bonded together with an inner laminate; the laminate not only makes it virtually unbreakable but also provides protection from ultraviolet light. Its high price tag—\$72 per square foot—does not deter the industry's most demanding customers: museums and high-end collectors.

"Amiran TN is based on an anti-reflective glass called Amiran, which we originally pioneered for display cases," explained Cohen of Schott Corporation. "But when we spoke with museum curators, they told us they were having similar problems with their framed works of art—too much glare, too much reflection. In addition, they wanted to protect the art from breakage and ultraviolet light."

Such products represent features that glazing manufacturers are improving upon each year, agreed Bark.

Education about the protective qualities that glazing can exhibit, from the low to high end, may well lead to increased use by a more sophisticated type of customer down the line.

"There are some really wonderful, nutty framers out there, and some of them will want to use this product," Bark said.

Demands of the Market

Such high-end, expensive products are unlikely to enter the larger framing market in a significant way. Still, the suppliers that serve this market, such as Denglas, Tru Vue, Atoglas and CYRO, are considering more reasonably priced, higher-end additions to their product lines. It depends on whether framers are willing to use it, said Carelli of Denglas.

"We currently do not offer our Water White Denglas with a UV-filtering coating," he commented. "But this may be something we do in the future. It really depends on the market. Our UV Denglas has been very well-received. If customers ask us for the same properties in our Water White, it's probably something we'll do."

"CYRO Industries has successfully met the market's need for a high quality, abrasion-resistant UV-filtering sheet product," said Clay. Other future product developments include abrasion-resistant anti-reflective acrylic sheet.

Of course, framers' demand for these types of products depends on what their customers buy, Carelli pointed out. The more consumers know about the importance of glazing, the more often they'll ask for the best.

"I think the next big challenge in the framing market is to create more advertising addressed solely to consumers," said Carelli. "Larson-Juhl has done a great job in starting this trend, but I think the PFFA, manufacturers and framers should take it to the next level before the superstores such as Home Depot do it. Once they jump into it and go straight to the consumer, we could lose the market.

"There might be a time, for example, when trade shows are open to consumers," he said, "because consumers ultimately drive the market." **FBN**



More Glazing **Info** on the Web

Need a refresher course on glazing? Or do you need the answer to a specific question about working with glass or acrylic? Many suppliers offer comprehensive FAQ pages and knowledge centers on their Web sites, accessible to framers 24 hours a day, seven days a week.

Cyro Industries, for example, offers its "TechKnowledge Center" at www.cyro.com. Simply click on "Cyro," then click the TechKnowledge Center link to search its online database or e-mail a question to technical support staff.

Denglas Technologies answers framers' most frequently asked questions, from choosing the best type of glass, to cutting, to cleaning recommendations on a FAQ page at www.denglas.com/prod/framing/FAQ.html.

Tru Vue offers a similar FAQ page at www.tru-vue.com. Click on "Glass FAQ" in the menu for explanations of non-glare glass products, discussions of recommended UV levels for artwork and more. **FBN**



Tricks of the Trade

Framers who frequent the Picture Framers Grumble www.thegrumble.com and suppliers offer their best tips for working with glazing. Here's a sampling of their tried-and-true techniques:

Cutting Acrylic

Nicole Dufault of Aubin & Dufault Custom Framing in Winnipeg, Canada, uses a router to round the edges of acrylic after cutting. Use a router attached to a router table. "A jig can be set up that allows you to slide the acrylic, shaving only a hair off where the router bit touches it. A properly set jig will allow only about $\frac{1}{16}$ of an inch to be shaved off all sides." Practice with scrap before making the cut, she advised, and go slowly. Otherwise, you risk chipping the edges. (See the figure at right.)

As a finishing touch, Dufault "flame polishes" the edges of acrylic using a small, butane torch. Using a torch can be dangerous in a shop that's full of dust from paper or cutting wood. But if the environment is relatively dust-free, she advised, the edge of a piece of acrylic, already sanded smooth, can be quickly polished. "Run the flame quickly along the side of it without letting the flame linger in any one spot for very long," she explained. "A quick swipe will melt the edges enough."

Dermot Cox-Kearns of On the Edge Picture Framing in Wicklow, Ireland, scores acrylic with a utility knife, and finishes the edge with fine-grit sandpaper.

Cleaning

There are many cleaners on the market—some suppliers offer their own proprietary cleaners that work best for their products. Kintronics of Sarasota, Fla., for example, recently came out with Precision Glass Cleaner, which was developed for the optics industry.

A large vote for cleaning glazing is for a simple household mixture of isopropyl alcohol or soap and water. "Most glazing can be cleaned with alcohol on a paper towel, followed by a damp chamois," said Hugh Phibbs, a preservation specialist in Washington, D.C.

"I recommend one part alcohol to seven parts water and a very clean, soft cloth," said Carl Carelli of Denglas Technologies. Likewise, Bark Frameworks uses a very similar mixture, according to production manager Angel Lopez. "We use two percent All detergent, 10 percent isopropyl alcohol and the rest water."

Framers also warn against allowing glass cleaner to come into contact with the edges of acrylic sheet. Such contact can cause crazing—the development of small cracks—in the material.

"Standard acrylic can be cleaned with soap and water," explained Courtney Clay of CYRO Industries. "There are other cleaners on the market made specifically for standard acrylic. However, abrasion-resistant ACRYLITE AR sheet can be cleaned with common household cleaners."

Not only is water an effective cleaning agent for glazing—it also helps reduce the static charge on acrylic. Therefore, the use of anti-static cleaners and guns may be unnecessary, said Phibbs. Simply wiping down the acrylic with a damp cloth eliminates static without leaving any residue. "The use of water on a chamois will do the job of killing the static charge without leaving anything on the surface. Once the static charge has been washed off the glazing, it will not come back until the glazing is rubbed with a non-damp material. This means that properly managed acrylic need not carry a static charge."

Other simple household solutions include white toothpaste. It's an "excellent buffing compound" for acrylic, said John Baker of John Baker Picture Frames in San Diego, Calif., on the Grumble. "Not only does it polish, but it also works to remove scratches."

Handling

"Handling is the stickler" when it comes to glazing, said John Ranes II, CPF, GCF, of The Frame Workshop of Appleton in Appleton, Wis. "We create glass rack slots to accommodate glass in different sizes so that all 11- by 14-inch pieces can be kept together with paper liners separating them."

A black velvet cloth is one of the best items to have in a shop when handling glazing, said Lopez of Bark Frameworks. "We attach two pieces of black velvet to matboard, which we use as a work surface. We then put the glass on top of the black velvet to clean and inspect it. It's much easier to find smudges and lint on the glass when you work on a black surface."

Although having a clean work surface is often a given in a frame shop, framers may not go far enough when it comes to avoiding problems with their glazing, said Carelli. "One of the biggest problems that framers run into are the microscopic chips of glazing that can fall from the material." Frequent vacuuming of the cloth work surface is essential to keep it clean and to avoid scratching the material and introducing small pieces of debris into the frame package. **FBN**

