

AcryliCo
Customer Success Story

CrystalCoat® MP-100

“CrystalCoat MP-100 is making it possible for acrylics and polycarbonates to compete successfully with glass. Being able to run a windshield wiper on polymers is newsworthy. The buzzword across the transportation industry is “Lightening” and your products ensuring weight savings with the use of polymer transparencies which are half the weight of glass.”

Carlos Cavanagh
President & CEO
AcryliCo

Wholesale manufacturer of
quality windshields

Product Focus

- ≈ Windshields
- ≈ Center Console Windshields
- ≈ T-Top Windshields
- ≈ Bass, Bay and Deck Boats
- ≈ Fast Boat Windshields
- ≈ Performance Boat Windshields
- ≈ Hullside Windows

Technical Innovation

- ≈ Stretched Acrylics
- ≈ Polycarbonates
- ≈ Superior Optical Quality Forming Techniques
- ≈ Hard Coatings

TECHNICALLY ADVANCED HIGH PERFORMANCE PRODUCTS

AcryliCo races ahead with SDC Technologies CrystalCoat® solution for plastics



Executive Summary

The objective in high performance boating is to maximize speed efficiency through innovative lightweight design. Technically advanced materials and equipment are key to enhancing acceleration competitiveness. With speeds reaching 100 mph or more in boat racing, stability, durability and safety are vitally important.

Since its beginning, AcryliCo research and development has been on the forefront of engineering. Operating on a passionate mission to continuously deliver innovative design technologies that advance product durability, quality, and performance within the boating industry.

About AcryliCo

Established in 2005 by Control Logistics, Inc. AcryliCo is an award winning manufacturer of acrylic and polycarbonate boat windshields, hatches, instrument covers and live bait wells for the OEM boat building industry. AcryliCo's innovative products dominate the most technically advanced and respected manufacturers of yachts, motorboats, vessels, and high performance fast boats designed for cruising, fishing, water sports and racing.

AcryliCo is a member of the (ABYC) American Boat & Yacht Council, (IBBI) Independent Boat Builders, Inc., and (UMMA) United Marine Manufacturers Association.

INDUSTRY LEADING DURABILITY AND PERFORMANCE

Trends

A recent trend in boat design is hullside windows to open up space below. Exterior windows are coated to a hardness comparable to glass to resist scratching and chemicals, which may wash down from the decks above, and harmful UV rays protecting the cosmetic appearance of interior components from fading.

The Challenge

When it comes to competition and performance boats, polycarbonate windshields are a necessary requirement due to their superior temperature and impact resistance. However, polycarbonate windshields and canopies can be challenging for several reasons:

- ≈ The production process of extrusion makes optical quality problematic
- ≈ Polycarbonate has a low hardness rating which can scratch easily
- ≈ Prolonged exposure to UV rays causes degradation (yellowing) and requires hard coating after being formed

Substrate Material Alternatives

Polycarbonate (i.e. Lexan®) or Acrylic (PMMA known by popular brand names such as Plexiglas®, Acrylite®, Lucite®, Perspex®, are excellent materials for boat windows and windshields. These substrates are lighter, optically clear (transparent with no optical

birefringence effects) and offer high performance strength and durability properties comparable to glass alternatives.

Boat designers are encouraged to maximize the capabilities of acrylics as opposed to glass; due to its molecular properties, polymers can achieve far more radical shapes and compound curves, which are simply beyond the capabilities of glass.

Need for a Solution

“One large dominant glass windshield supplier became an open target when they used their monopoly position to pressure customers on price and availability. Furthermore, acrylic is half the weight of glass, and in the marine industry weight matters if you want to minimize drag.”

Decision Process

“We did explore other product solutions prior to SDC. AcryliCo had done considerable development using products from another coating company because they were very open in their technical guidance and product support. However, the problem is their product was unstable.

The objections a new product faces is that if it fails, it turns customers away for a very long time. Since we had a few failures early on using alternative coatings we decided to try something else.”



Boat Builder's Windshields Molded to Perfection

AcryliCo is a venture established by the ownership of Control Logistics Inc.; a major supplier of windows, windshields, canopies and lenses for the US Army, Navy and Air Force. The comprehensive and in-depth expertise we have gained over time has afforded us the opportunity to secure highly sought after accounts with some of the industry's most famous and important manufacturers.

Through advanced technical innovation and stringent production methods, AcryliCo is able to produce the most complex shapes in windshield design.

2008 IBEX (International Boatbuilders Exhibition & Conference) Innovation Award recipient for excellence in the Industry.

IBEX is owned by produced by Professional BoatBuilder magazine and the National Marine Manufacturers Association.



LIGHTENING WEIGHT TO ACCELERATE PERFORMANCE IS AT THE VERY HEART OF POWER BOATING

Testing and Implementation

“Hard coating remains a black art requiring a great deal of equipment and know how. It’s a technical science involving skill and precision. Furthermore, there is not a lot of documentation available on instructional best practices for coating application processes. This results in a lot of trial and error, creating a challenging barrier to new entrants in the marketplace.

Our affiliated company, Control Logistics, had been using SDC’s CrystalCoat because this was mandated on a Government specification. They had good results so we decided to try it despite the fact, that in our opinion, it was too expensive for the marine market. CrystalCoat also easily integrated into AcryliCo’s existing production process environment as coating development was already established for application protocols.”

Recommendations

“To be successful in implementing stable coating solutions, one must be willing to invest heavily in a clean room, ancillary equipment, and testing time. AcryliCo has invested a substantial amount of capital in R & D to develop state-of-the-art innovative high performance coating applications.”

The Solution

“AcryliCo offers boat builders high quality windshields and hullside windows utilizing MP-100 hard coating to deliver best-in class abrasion, chemical, impact and UV resistant performance. Specific features and benefits include:

- ≈ Coated acrylic offers glass-like features such as a highly durable surface at a lower price and weight. Additionally, this surface can be applied to far more radical shapes
- ≈ Water will also bead off with the added bonus of being scratch resistant
- ≈ Wash downs can be carried out with the same ammonia or acetone-based products as used on the boat and will not cause crazing (microscopic cracks)
- ≈ Windshields can withstand the use of a wiper without distorting, hazing or scratching

Features and Benefits

CrystalCoat MP-100 multi-purpose coating is ideally suited for acrylic and polycarbonate substrates. Optically clear and durable, this coating provides abrasion and chemical resistance, out-door durability as well as primer-free adhesion to PMMA. This one-part system also helps to streamline set-up and processing time.



Continuous Product Innovation Since 2005

From the simplest to the most complex designs, AcryliCo’s technical resources provide complete flexibility to develop very specific requirements for any boat model.

Specializing in bass, bay and center console boats, expertise is benchmarked on producing the best possible windshields at the most competitive price. By tackling near impossible projects, often surpassing client’s expectations and fulfilling these to exceptional standards, an outstanding service reputation has been secured.

Driven to continuously introduce ground-breaking advancements in production and durability and focused on the most visible component of quality, the windshield is where AcryliCo excels.

Prime objective is to manufacture the best quality OEM windshields at the most economical prices, combined with durability to provide many years of trouble-free service.



HIGHLY DURABLE BOAT WINDSHIELDS AND WINDOWS

Business Impact

"Our customers are looking for lightweight scratch and chemical resistant transparencies at a reasonable price. Insofar as we know, we are the only company applying hard coats in the recreational boating industry. As a result, we have a high degree of market penetration, especially in the higher end water-craft segment".

Before using CrystalCoat MP-100 hard coating, AcryliCo was competing against glass windows and windshields in the marine market. Not only is glass a heavier substrate, but the tooling process is more expensive, requiring higher volumes to break even. The development of a technology to protect lighter weight plastics was a watershed milestone, even though the more price sensitive customers were unable to use it as yet. The ability to run a windshield wiper on an acrylic windshield was an industry breakthrough, earning AcryliCo the 2008 Innovation Award at IBEX.**

*International Boatbuilders Expo & Conference

The Results

"We use large amounts of CrystalCoat® MP-100 in the marine industry, and with one customer alone Sea Ray® Boats, we have sold in excess of 12,000 hullside windows finished with MP-100 coating. Another customer, Grady-White Boats™, has been running wipers on acrylic windshields treated with your coating for many years," Carlos Cavanagh, AcryliCo's President and CEO explained.

For More Information

To find out on how CrystalCoat can improve the performance of your products and enhance your competitive edge, please visit: sdctech.com

For information on AcryliCo highly durable and lightweight boat windshields and windows, please visit: AcryliCo.com



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Images courtesy of AcryliCo

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