



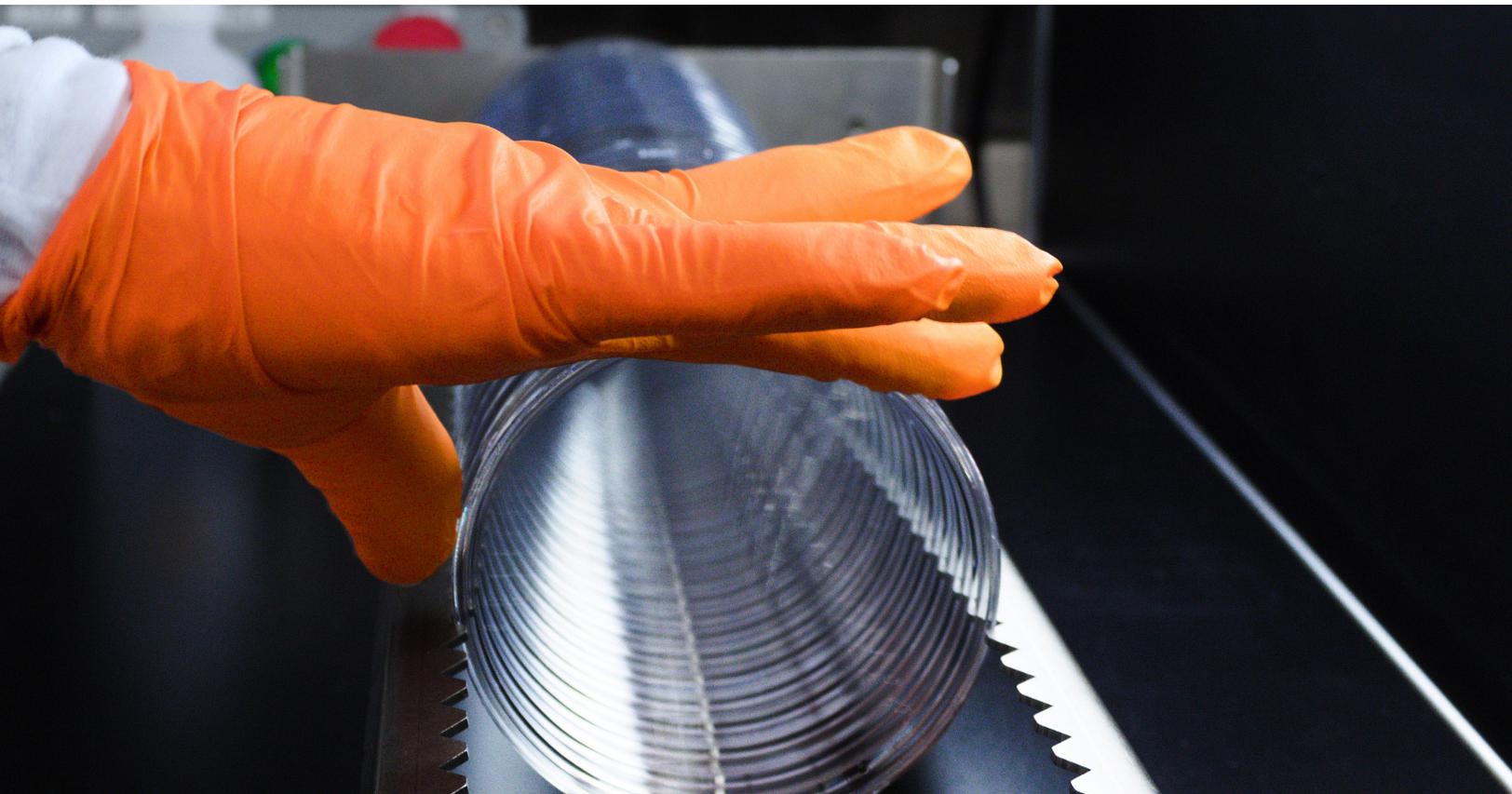
Mariko Mori Fine Arts Success Story

Coating Design Group “Bespoke” coating application with
SDC Technologies CrystalCoat® solution for acrylic

COATING DESIGN GROUP
CUSTOMER SUCCESS STORY



CrystalCoat®
CRYSTALCOAT® MP-100



EXECUTIVE SUMMARY

"We used CrystalCoat MP-100 multi-purpose coating employing a flow coat method on a four to five-foot acrylic sculpture with lots of intricate shapes and high intensity lighting. This unique one of a kind project called for a best-in-class high performance coating solution providing abrasion and chemical resistance as well as outdoor durability. From the onset we've used SDC coatings because they have consistent quality."

Bill Roy, Founder
Kathy Cunningham, Co-founder
Coating Design Group
Custom Coating Services

Custom coating services company Coating Design Group was tasked with coating a one of a kind Bespoke project, an acrylic sculpture with LED lights with no margin of error. Technically advanced materials, equipment, and an inventive process were key to successfully coating this artwork free of any imperfections.

CUSTOM SOLUTIONS

Since its beginning, CDG has been at the forefront of the development of new coating and modification techniques, combined with equipment, engineered to operate and guarantee the very best optical quality for the most diverse components, substrates and applications. On a mission to continuously deliver innovative design technologies that advance product durability, quality, and performance within multiple industries from typically mass-produced components to bespoke, one of a kind works of art.

Industry Leading Durability and Performance

ABOUT COATING DESIGN GROUP

Coating Design Group (CDG) was established in 1988 as an engineering firm dedicated to the design of equipment for the application of optical grade and custom coatings. Today CDG is an award-winning custom coating enterprise, applying specialty coatings for virtually any application across all market segments for plastics, glass, and other materials.

CDG protective specialty coatings and applications include parts ranging from less than 1/2" diameter to sheets as large as 5' x 10'. Lot sizes range from as few as one to 18,000 parts per day to meet extremely unique custom needs. CDG's manufacturing capabilities include CNC machining, pad printing, and laser machining of all materials, including metals and composites.

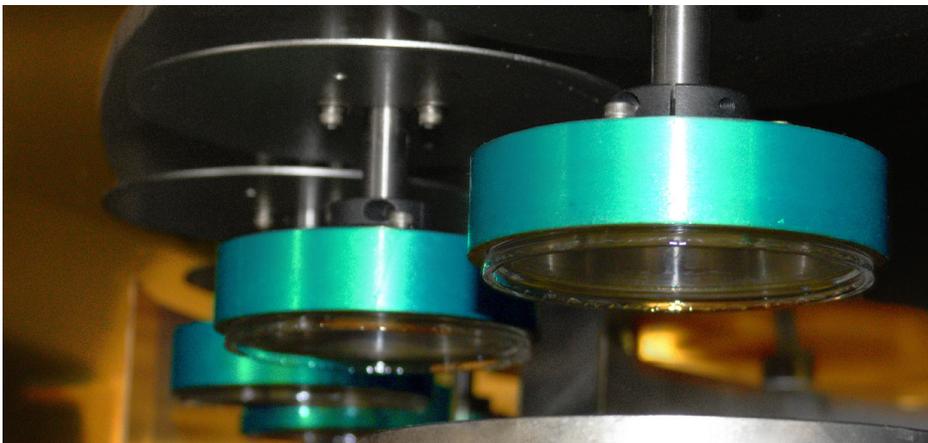
TRENDS

Growing coating applications industry market drivers are technological innovation from product, manufacturing, customizing and support levels. Focused on reducing production costs while improving the final product quality. This has led to extensive R&D, exploring different production methods and coating combinations for a wide variety of objects, component sizes, and substrates.

THE CHALLENGE

Coated acrylic and polycarbonate, particularly combined with LED lights can be challenging for several reasons:

- The production process makes optical quality problematic
- Acrylic has a low hardness rating which can scratch easily
- Prolonged exposure to UV rays causes degradation (yellowing) and requires hard coating
- LED lighting increases heat temperature requiring higher durability
- Intricate 3D design requires an extremely consistent surface coating application free of dips and blemishes



CONTINUOUS PRODUCT INNOVATION SINCE 1988

Coating Design Group (CGD) is dedicated to the design of equipment and application of custom optical grade coatings for a variety of industries.

CDG QUALITY POLICY:

Committed to the highest level of customer service by providing superior products that exceed customers' expectations for quality and performance- achieved by:

- Providing defect-free products
- Providing on-time delivery
- Controlling production processes
- Maintaining customer satisfaction
- Maintaining an effective quality management system*
- Ensuring continual improvement throughout the organization

OPTICAL GRADE PRODUCT FOCUS:

- Lighting for transportation
- Electronics, components and optical scanners
- Interior lenses for gauges, marine, ATV and heavy equipment
- Goggles, visors and mirrors
- Medical devices, microscopes
- Safety—bullet proof glass glazing

*CERTIFICATIONS:

ISO 9001: 2015 provision of coating services has established a quality management system conforming to the International quality system standard.

Flexibility for a Variety of Applications

VERSATILE APPLICATIONS

Unlike other specialty coaters, CDG tackles any coating challenge regardless of production scale or volume. CDG will develop custom formulations and processes to insure the optimum coating custom projects range from optical grade solutions to a specific application. Utilizing the best available technology, CDG has coated classified components used by NASA to one of a kind priceless works of art. Companies count on CDG to provide the engineered equipment and technological support to ramp up their products to the ultimate level of durability, enhancing product shelf-life three-fold.

Coated acrylic features Include:

- Flexible qualities for creating complex shapes
- Extremely clear, optical quality
- Lower production costs

Versatile coating application properties:

- All shapes, large to small parts
- Dip, spin, spray and flow coat application
- Thermal and UV-cure methods
- Different combination coatings, front and back



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, outdoor durability, as well as primer-free adhesion to PMMA. This one-part coating system also helps to streamline set-up and processing time.

TECHNICAL COATING APPLICATIONS:

- Abrasion resistant coating using transparent silicone hard coats
- Anti-condensation; anti-fog using coatings of urethane and other materials
- Chemical and impact resistant
- Formable hard coating
- Primerless clear hard coatings
- Specialty and coatings of many types and combinations
- Static dissipative (anti-static)
- Tintable and matte finish
- Weatherable coatings using UV inhibitors

Optical Grade Coatings

RECOMMENDATIONS

“To be successful as a specialty coater, be committed to investing in a skilled chemical and engineering work force combined with state-of-the art facilities, equipment, rigorous testing and tooling processes. CDG has contributed a substantial amount of capital in R & D over decades to continually expand and develop ground breaking, optical grade coating solutions for a wide variety of components and industry applications.”

NEED FOR A SOLUTION

While acrylic is lighter than glass, it’s a much softer substrate that will yellow over time. It should be coated to enhance scratch, impact, and chemical resistance as well as protection from UV radiation.

THE SOLUTION

CDG has delivered a host of unique coating application solutions over the years including work for NASA, bomb disposal, to glazing large sheets for bullet proof trucks. mMP-100 hard coat offers best-in class clarity and resistance to abrasion, chemical, and ultraviolet rays. Specific features and benefits include:

- Coated acrylic offers the features of a glass-like and highly durable surface at a lower price and weight with a wider variety of formable curved design options.
- High performance scratch resistant, even under fine steel wool abrasion testing.
- Optically clear, primer-free adhesion to acrylic

TESTING AND IMPLEMENTATION

Working in acrylic Lucite® with precision fabrication, artist Mariko Mori’s opalescent sculptures appear iridescent or luminescence white. They are painted with a specially developed paint that is a blend of holographic and florescent paint which changes color depending on where you stand. The process of getting the subtle transition of these colors can take up to one year to perfect. And this perfection requires only the best protective coating.

“Properly applying a smooth flow coat hard coating to a intricate 3D surface is highly technical involving skill and precision. This can involve extensive trials to achieve consistent application free of drip residue. SDC’s CrystalCoat MP-100 was used in a unique flow coat method. This required CDG to create flow coat modifiers, and modification of the tooling process to be able to coat right side up; instead of the traditional method of coating upside down which would cause drip marks on the art,” added Mr. Roy.

BUSINESS IMPACT

CDG began working with SDC in the 1980’s when it was a partnership between Dow Corning and Swedlow to license abrasion resistant coating technology for automotive and aerospace components. After attending a 10-day SDC coating training application school Bill started working with SDC with an automotive customer in Michigan. Bill Roy founded CDG after being with another company due to the confidence his customers had with his ability to use and apply SDC coatings.

“Today we use SDC for the most part except when another coating is specified by a customer. We work with a lot of projects that may require switch over and set-up and lean toward SDC coatings for consistent quality. Some coating companies have products we won’t use even if they were given to us because of quality issues. In fact, one company’s solution for their coatings that did not work consistently was to simply send another drum of coating. This was not acceptable because of the cost associated with setup and waste disposal,” Bill added.

High Performance Solution

DECISION PROCESS

Internationally acclaimed artist Mariko Mori needed a coating for her sculpture exhibition at the Sean Kelly Gallery in New York. Together the artist and gallery staff came to view the facilities, dictate, and supervise the transparent flow coating process at CDG. This required coating an acrylic object with intricate shapes and high intensity lighting to protect it from scratches and weatherability. The artist and gallery staff selected CDG for their ability to develop a customized coating solution to meet their stringent and unique needs.

THE RESULTS

“Over the years we began using larger amounts of CrystalCoat MP-100 along with continuously expanding our operations with the latest coating equipment. MP-100 offers superior abrasion resistance, especially critical with optical grade coating applications. Hard coating extends product life cycle of the surface being treated, quality coatings reduce the need for service and modification processing of the coating equipment,” Bill Roy explained.



Photo by David Sims ©

MARIKO MORI

Born in 1967 in Tokyo, Japan, Mariko Mori is an internationally acclaimed contemporary artist of today's competitive art world. Known for her multimedia work in photography, digital art, and sculpture, her subject matter engages all senses while exploring life, death, spirituality, nature, reality, and technology. Mori has exhibited globally in North and South America, Europe and Asia in museums, galleries, and art shows to installations at the Rio 2016 Olympics. Having received numerous awards, her work has been acquired by museums and private investors from nearly every continent. Mariko Mori lives in London, New York and Tokyo.

LEFT:

Mariko Mori
Spirifer III, 2017- 2018
Dichroic coated acrylic, Corian base
130 x 77 x 52.8 cm
(51.18 x 30.31 x 20.79 ")
Corian Base: 10 cm x 80 cm diameter /
4" x 31.5"
Edition 1 of 5, with 2 APs

Information and Links

FOR MORE INFORMATION ON CRYSTALCOAT:

Find out on how CrystalCoat can improve the performance of your products and enhance your competitive edge:

WEBSITE: sdctech.com

CrystalCoat® is a registered trademark of SDC Technologies, Inc. SDC is a wholly-owned subsidiary of Mitsui Chemicals, Inc.

FOR INFORMATION ON COATING DESIGN GROUP:

WEBSITE: coatingdesigngroup.com

FOR INFORMATION ON ARTIST MARIKO MORI:

WEBSITE: skny.com/artists/mariko-mori

Sean Kelly Gallery, was founded in 1991 in New York, and represents established and mid-career artists.

Images courtesy of Coating Design Group, David Sims, Jason Wyche, Sean Kelly, Sebastiano Pellion di Persano.

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CrystalCoat®

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CUSTOMERS:

Serving OEM and aftermarket customers in a variety of industries such as :

- Automotive & Transit
- Aviation & Aerospace (GNK, NASA)
- Bespoke Art Sculptures (Sean Kelly Gallery)
- Commercial & Military Glazing
- Electronics
- Goggles, visors and mirrors
- Marine & Watercraft
- Medical Devices
- Optics Components
- Specialty & Custom (Dow Corning)

SDC
Technologies