

Our Story: A 50 Year Heritage Of



Vision, Passion And Excellence



In 1961, a company named Inservac was created through the vision and inspiration of John Brummeler, a young architect who possessed an innate understanding of form, a sharp mind for engineering, a natural curiosity for materials and strong entrepreneurial values. The company grew successfully because of John's commitment to excellence, innovation, exceeding customer expectations and building a passionate and committed team.

As technology in the commercial construction field evolved, John transformed Inservac from a manufacturer of molded composite industrial shapes into Formglas, the company that today is the respected international leader in molded architectural products. John's steady leadership, vision and practical approach to solving design and construction challenges became the underpinnings of the Formglas brand.

In early 2000, John transitioned the leadership of Formglas to a team of experienced founding employees and individuals with new ideas and experiences. He firmly believed this diverse group would keep Formglas invigorated and equipped to succeed in new markets, with renewed energy and fresh ideas. John left an indelible mark on the values and character of Formglas. His spirit and passion still fuels us. We remain committed to our founding values and are excited by each opportunity to deliver innovation and service to our customers.

Formglas' commitment to excellence is best expressed through images of the work we have completed with the many architects, designers and construction professionals we have been honored and entrusted to serve. May your next project be inspired by this brochure.

We hope to serve you soon.

John Chettleburgh President and CEO jchettleburgh@formglas.com

Our Defining Advantages Are



Ongoing investment in research and development enables Formglas to explore the limits of existing and new material technologies, enhanced opportunities to apply new technology. We leverage teams of professionals within Formglas and general industry to address the opportunities of today and tomorrow. Our reputation for innovation makes Formglas the most sought after provider of solutions for creating innovative architectural shapes and finishes to achieve the design vision.



ensures that the project vision

is achieved. Formglas is equally

committed to the construction teams

chosen to deliver projects. We design

services in order to share product and

our products to simplify and reduce

installation time and offer on-site

installation know-how.

The design possibilities offered by FormIgas

Your Tools For Creative Possibilties



used technology wherever possible to support its unrivaled service and delivery capacity. We pioneered the application of computer-aided manufacturing technology to create master patterns for architectural shapes, and to this day continue to house the industry's largest inhouse 5-axis CNC machine capacity. Formglas integrated advanced 3D modeling software into its process over two decades ago. Today, we support our interaction with the design community with the exchange of models to ensure design intent and accurate BIM model creation.

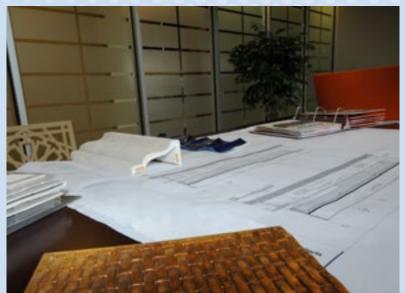
QUALITY

The core raw materials used by Formglas for the creation of products originate from leading international suppliers. Formglas materials have been thoroughly tested by accredited international laboratories against applicable ASTM and other regional technical standards. Formglas designs its products for precision fit and finish, ease of handling and simplified installation. They contain recycled content, have environmentally

In an industry where most suppliers are constrained by a local or regional reach, Formglas has demonstrated experience on an international scale for projects large and small. We support a global network of manufacturer representatives with an experienced in-house support team who engage with architects, designers, owners and construction professionals in person each day. Formglas understands local market dynamics around the world, and can recommend trusted suppliers and contractors to execute a project. Whether it's a single project, or a construction or renovation program involving hundreds or thousands of locations, Formglas' track record is proven globally.



Shaping Possibilities Through







Our process is the essence of what we call Shaping Possibilities. Through integral member of the design and construction team. On every project, we commitment. We apply our experience and focus on quality at every step.

CONCEPTUAL CONSULTATION

Formglas works with architects and designers to understand their vision and help bring concepts to reality. We discuss material and installation options, technical performance attributes, provide details, and use 3D software when required to validate or streamline a design approach. Our expert material team will produce custom samples for review, and discuss any requirements to produce a site or factory mock-up. This process results in a project specification approving a Formglas material to be used for the creation of interior or exterior architectural elements.



Formglas follows the project to the tender stage, and works closely with bidding contractors to examine the complete scope of work. We will share best practices for installation approach, opportunities to reduce time and cost, and the availability of Formglas site service options if desired by the contractor. Our estimating team will prepare a thorough quotation, document potential value-engineering options, and provide general details on manufacturing lead time and schedule.

PROJECT LAUNCH

After commercial terms are finalized, project scope and delivery schedules are finalized, Formglas works in concert with the client and architect to coordinate the process for drawing approval, custom sample approval, mock-ups, manufacturing and delivery sequence. A Formglas Project Manager oversees the project from beginning to end.

TECHNICAL & AESTHETIC APPROVAL

Formglas engages closely with the installing contractor, and designer or architect on all approvals required to commence manufacturing.

Comprehensive shop drawings show part and installation details are created in AutoCAD. 3D models may be shared for further clarity or for use in building information models. Engineering stamps are obtained when required, and all drawings and samples are signed off by the architect before production begins.

MOLD FABRICATION & QA

Before manufacturing begins, patterns are modeled using advanced 3D software and cut by 5-axis CNC machines to ensure accuracy, crisp details, and rapid production. Where artistic enrichments are required,















People, Process And Technology



the integration of people, process and technology, Formglas becomes an engage with professionalism, enthusiasm, creativity, accountability and

experienced sculptors will produce the pattern with traditional and modern technologies. Before patterns are used to create molds, they undergo rigorous quality assurance (QA) to ensure dimensional accuracy and the required finished surface. A range of composite materials are used in the production of molds to ensure dimensional stability, detail reproduction, cost effectiveness and production efficiency.

PROTOTYPE CASTING & QA

Before molds are released into manufacturing, prototype parts are cast and an internal mock-up is created. A cross-functional team will carefully inspect these parts to ensure fit and adherence to specifications. Further verification is performed as manufacturing progresses.

PRODUCTION

Depending on material type, parts are made by a multi-step hand or spray lay-up process using gypsum, cement or composite resins, and are enhanced by pigments, aggregates and polymers for aesthetics and long-term durability. Parts are reinforced with recycled glass fibers, steel or plastic, or foam core which results in a high-strength, lightweight and thin casting with fine aesthetic detail.

FINAL OA & FINISHING

All completed parts are individually inspected and final finishing steps are performed. Many Formglas materials are offered pre-finished and may undergo the additional step of having primer, paint or washes applied through traditional or proprietary methods. A thorough final inspection is performed on each part prior to shipment.

DEL IVERY

Formglas coordinates with the job site on delivery schedule and access. Finished components are shipped in crates to ensure protection during transit and at the job site, while taking into account customer requirements. Formglas coordinates the entire process whether shipment is by land, sea or air.

INSTALLATION SUPPORT

Formglas is available to installing contractors for support throughout installation. When required, Formglas offers services on-site to ensure smooth project execution. For customers who engage Formglas on a multi-site construction and renovation program, Formglas offers a full supply and install solution.





















A Partner In Sustainable

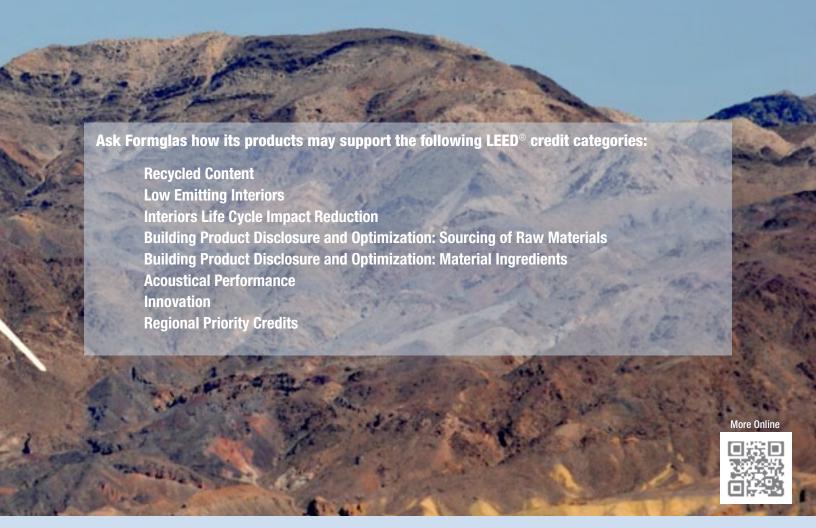


And Innovative Design

Sustainable construction is about accountability for our environment and a commitment to creating healthy work and living spaces.

Our alignment with these principles is evident in several ways.

- Our choice of materials used in the creation of our products are of the highest quality. We maximize the use of recycled and low-emitting material wherever possible. We prefer materials that have been responsibly extracted and processed by suppliers who have third-party-verified supply chain optimization programs.
- **Our internal operations team** maintains a continuous focus on energy and material savings. Our main manufacturing facility was designed to create a streamlined footprint with a roof that brings natural light to the production floor, thereby reducing energy consumption. Process water is filtered and recycled where possible for use in finished products and other operational purposes. And, although waste and scrap in our fabrication process is relatively small, it is closely measured, recyled or internally reused.
- Our products and solutions provide broad benefits when used in "green construction". Made to size, there is virtually no waste in their installation. Formglas products contain low or VOC-free emitting materials and coatings. In some applications, they can be designed with an eye for reuse in future renovations. And, perhaps the most overlooked benefit of Formglas materials is that they require less supportive framing than traditional material assemblies.



Innovative Materials: Your

■ GFRG | For Interiors



Formglas was the first in North America to produce GFRG, and is widely recognized as the global leader in creating traditional, contemporary, simple and complex architectural elements with this versatile material.

Formglas Glass Fiber Reinforced Gypsum (GFRG) is a noncombustable 'thin cast' alpha gypsum. It is commonly supplied with a smooth, primer-ready

surface for finishing on site, or it can be factory-finished depending on the specific application. Formglas is able to cast GFRG in a virtually

unlimited range of patterns and textures which allow for the creation of a broad array of interior shapes and architectural elements.

Technical Data



Samples Online



■ Woodgrane I For Interiors



Woodgrane[™] allows architects and designers to incorporate elements with a natural wood look and feel into interior spaces, with the benefits of non-combustibility, sustainability, and design flexibility.

Woodgrane[™] is an exciting alpha gypsum based material that replicates varieties of wood including mahogany, oak, walnut, teak and pine. It is

pre-finished by a unique Woodgrane[™] parts may method of applying low VOC stains and washes that accentuate the textural detail and depth of the molded grain. Non-combustible

be cast in a wide range of shapes allowing for design possibilities that may not be practical when using real wood.





Samples Online



QuarryCast® | For Interiors



QuarryCast® enables architects and designers to economically incorporate elements with a natural stone look and feel into their design of interior spaces, without the drawbacks of weight and installation cost.

QuarryCast® is a durable, noncombustable, integrallycolored pre-finished material incorporating natural aggregates and

minerals into an alpha gypsum base. It is offered in a standard palette of natural colors and stone textures and finishes including

varieties of limestone. sandstone, Stuc Pierre, and coral stone. QuarryCast® can also be customized to suit a specific design intent.

Technical Data



Samples Online



■ Concreet[™] | For Interiors



Concreet[™] enables architects and designers to introduce contemporary concrete finishes and features into interiors with ease.

Concreet[™] is a system of noncombustable light weight, pre-finished alpha gypsum based panels and elements that simulate poured-

in-place concrete. It is used for interior feature walls, beams and column cladding and supplied in easy-to-handle and install components

that require only conventional substrate and light gauge framing. This allows designers to introduce contemporary concrete finishes where desired.

Technical Data



















Interior or exterior, Formglas materials solve technical challenges,

Inspiration For Creativity

MetalCast® | For Interiors



MetalCast® is a proprietary metallic composite material used as an economical alternative to conventional metal castings. The beauty of its finish is equal to or surpasses that of conventional metal castings.

MetalCast® is a proprietary, Class A fire and smoke rated composite material featuring a metal finish face and an alpha gypsum backup layer.

Factory-finished architectural elements are buffed to a lustrous sheen and present natural color variation and a soft glow that is akin to an antique,

buffed or burnished cast metal. MetalCast® is offered in a variety of standard finishes and is commonly chosen for distinctive feature elements.

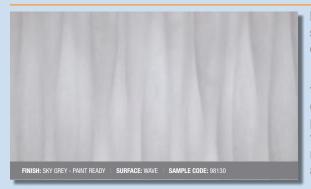
Technical Data



Samples Online



■ FRP | For Interiors or Exteriors



Formglas FRP is a highly versatile, economical, lightweight and very strong material that provides exciting design possibilities in a wide range of interior and exterior applications.

Formglas FRP is a thermoset plastic composite made from polymer resins, organic fillers, and glass fiber reinforcement that achieves a high level of strength. It is a Class A fire and smoke rated product suitable for a range of exterior and interior applications including architectural elements, signage or

decorative cladding. It may be supplied in an endless range of custom colors, and cast smooth, textured or with patterns.





Samples Online



CorniceStone® | For Exteriors



CorniceStone[™] is an exterior composite material that provides tremendous flexibility by introducing decorative elements to exteriors in new construction or renovation.

CorniceStone™ is an FRP composite made with natural aggregates and pigments to resemble limestone. This lightweight Class A fire and smoke rated

product is ideal for exterior cornices, column cladding, panels, trim details and spandrels in both new construction and renovation. CorniceStone[™] is available in two standard textures and a range of colors, and is installed with minimal lifting assistance and jobsite disruption.

Technical Data



Samples Online



■ GFRC-L | For Exteriors



GFRC-L is an alternative concrete-based composite material ideal for small to medium sized panels and architectural elements where light weight properties, durability and simplified installation are desired.

Formglas Glass Fiber Reinforced Concrete Light (GFRC-L) is a non-combustable composite building material consisting of Portland cement, advanced polymers, sand, pigments, and glass fiber reinforcement. The fiber used in GFRC-L reinforces the concrete to provide high flexural strength, making it suitable for thin-wall casting applications where traditional steel-framed GFRC, or cast stone, may be an over-engineered option.

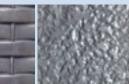
Technical Data



Samples Online

















accelerate construction, reduce cost and enhance appearance.

Industry Know-How

Commercial



Designers turn to Formglas for materials that create inspiring interior and exterior commercial spaces. Distinctive lobbies, elevator corridors and tenant entries are just some of the areas where Formglas supports the execution of design intent, reduces installation time and ensures peak performance.

Representative Projects:

RBC Financial Group | Canada Goldman Sachs | USA Pepsico | USA Ernst & Young | USA SAP | USA Corus Entertainment | Canada NBC | USA Saudi Aramco | Saudi Arabia

Retail



For decades, Formglas has been the trusted choice of global brands to provide unique and durable materials that enrich customer experiences. Consistent and practical solutions along with a proven record for supporting ongoing multi-site construction programs is what Formglas is well known for.

Representative Projects:

Brooks Brothers | International Burberry | International Zara | North America The Gap | International West Edmonton Mall | Canada Yorkdale Shopping Centre | Canada Macy's Herald Square | USA My Zeil | Germany

Transportation



World class airports and other transportation facilities choose Formglas for both its products that stand the test of time, and its track record of meeting critical schedules regardless of scope complexity.

Representative Projects:

Mumbai International Airport | India Toronto International Airport | Canada JFK Airport Delta Terminal | USA Philadelphia International Airport | USA King Fahd International Airport | Saudi Arabia Dubai Metro | UAE

Dublin Airport | Ireland

Hong Kong Airport | China

Miami International Airport | USA

Singapore Transit Authority | Singapore

Institutional



Investment of public funds demands that institutions such as hospitals, court houses and schools incorporate enduring materials that provide long-term value and durability. Formglas materials are a proven solution.

Representative Projects:

University of Leipzig | Germany United Nations Secretariat | USA Hamamatsu Chapel | Japan St. Catherine of Siena | Canada Helen Devos Children's Hospital | USA Hospital for Sick Children | Canada Oklahoma State University | USA Duval County Courthouse | USA Boston Federal Courthouse | USA St. Mark Coptic Orthodox Church | Canada















Formglas materials enable architects and designers to simplify construction

Trusted on 5 Continents

Hospitality



Feature walls, ceilings and elements that provide distinct aesthetics, durable performance and pleasurable environments have made Formglas a leader in products used to create restaurants, lounges, convention centres and hotels of distinction.

Representative Projects:

The Atlantis | Bahamas & UAE
Marriott Hotels | USA
Washington Convention Centre | USA
Burj Al Arab | UAE
The One Group | USA

Hyatt Regency Monterey | USA The Koi Group | USA McDonald's | USA Trump International | USA Four Seasons Hotel | Japan

Gaming



Formglas is the gaming industry's top supplier of decorative molded architectural shapes. We enrich gaming spaces across North America, South America, Europe and Asia with our full spectrum of materials.

Representative Projects:

Borgata Casino | USA The Venetian | Macau Luckia Casino | Peru Marina Bay Sands | Singapore The Wynn Casino | USA Foxwoods Resort Casino | USA Niagara Fallsview Casino | Canada Casino Admiral Prater | Austria Casino Mexico | Mexico Grand Casino Baden | Switzerland

Arts & Culture



The integration of design and acoustical performance are fundamental to the creation of exceptional performance spaces. Formglas provides both form and function to performance halls and cultural spaces internationally.

Representative Projects:

The Barnes Foundation | USA Metropolitan Museum of Art | USA Royal Ontario Museum | Canada The Jackie Gleason Theater | USA Levoy Theater | USA Aga Khan Museum | Canada Winspear Opera House | USA The EPCOR Centre | Canada The Four Seasons Centre | Canada Kuala Lumpur City Theater | Malaysia

Marine



Formglas materials are tested and certified for IMO compliance by Lloyd's Register for use in marine applications. Our products are chosen by cruise ship and private yacht builders around the globe.

Representative Projects:

Disney Cruise Line Carnival Princess Cruises Regent Seven Seas Cruises Norwegian Cruise Lines Royal Caribbean Cruise Lines Holland America Seabourn















Defining Architectural Features



That Enrich Interior Spaces



Form Lasting Impressions With Bold



MetalCast® copper veneer panels with brick pattern

And Dynamic Patterns And Finishes



Innovative Material Systems That



Create Fresh Contemporary Spaces



Seamlessly Blend Creativity,



Sustainability And Constructability



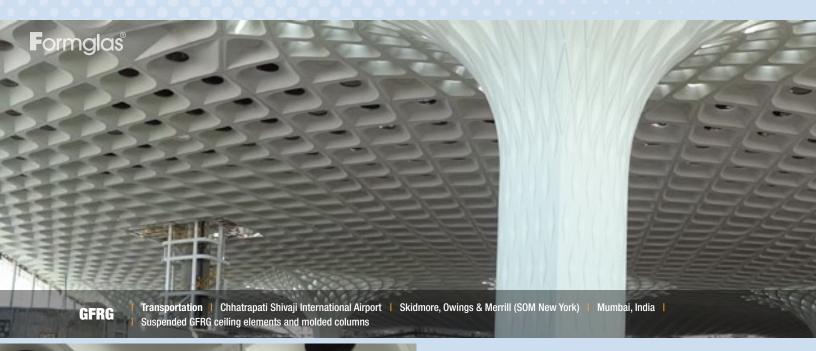
Acoustical Performance In Concert



With Fine Visual Aesthetics



Cutting Edge Design. Exceptional Planning





CHHATRAPATI SHIVAJI INTERNATIONAL AIRPORT

TERMINAL T2 | MUMBAI, INDIA

PROJECT SCOPE HIGHLIGHTS:

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Scope:	Ceiling and 19 Mega Columns				
Area:	$371,612 \text{ m}^2 \leftrightarrows 4,000,000 \text{ ft}^2$				
Roof:	$283,279 \text{ m}^2 \leftrightarrows 3,049,200 \text{ ft}^2$				
Total Workforce:	12,000 people				
Ceiling Area:	38,000 m ² \leftrightarrows 401,000 ft ²				
Standard Coffer:	2.80 m x 2.70 m \(\sim 9'-4\)" x 9'				
Largest Single Panel:	6.20 m x 2.50 m ≒ 20' x 8'-3"				
Capital Assembly:					
Typical Columns:	15.00 m \(\square 49 \text{ ft. high}				
Tallest Columns:	4 Levels / 32.50 m = 106 ft. high				
Featured on 1-Hour episode of 'Build It Bigger'					



And Execution. World Class Achievement.



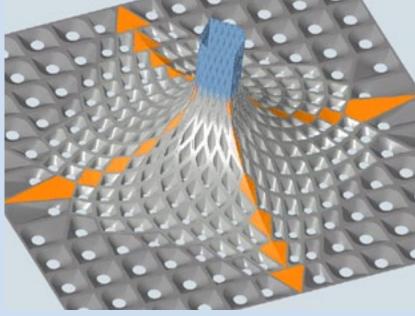
CLIENT | MUMBAI INTERNATIONAL AIRPORT PRIVATE LIMTED ARCHITECT | SKIDMORE, OWINGS & MERRILL (SOM NEW YORK)

FORMGLAS DELIVERY HIGHLIGHTS:

Formglas On-Site Services:	± 7,000 Labor Hours
CATIA 3D Modelling:	± 3,500 Labor Hours
CNC 5-Axis Programming:	± 10,000 Labor Hours
CNC 5-Axis Machining:	± 3,200 Labor Hours
Dedicated Manufacturing Space:	6,500 m ² \leftrightarrows 70,000 ft ²
Execution Effort:11 Mon	ths and 370,000 Labor Hours
Total No. of Components:	14,967
Total No. of Molds:	452
Recycled Steel Used:	\pm 15,000 lm \leftrightarrows 49,000 lft.
Shipments (40' containers):	209 from Canada and Mexico







Large Thematic Environments.



Comprehensive Full-Service Delivery.



Solutions For Visual Impact



And Technical Performance



Complex Shapes Realized Through



Technology And Innovative Design



High Performance Materials



That Endure The Test Of Time



Sharp Aesthetics That



Engage Inside And Out



Classical And Contemporary Design.



The Versatility To Create Both.



Create The Unexpected. Tran



sform Concepts Into Reality.



Material Performance That



Reinforces The Brand Statement



Ideas Take Shape In All Forms With



Vibrant Colors And Unique Finishes



Breakthrough Creativity. Enorm



ous Scale. Spectacular Results.



Imaginative. Innovative. Inspired.



Design With Complete Confidence

Your next creation begins here. Formglas is committed to providing architects, designers and other construction professionals with the tools, information and support needed to let ideas take shape.

■ Self Service Online

Formglas.com is our content rich site that showcases a wide range of information on projects, and a breadth of material inspirations. Our Downloads section enables you to access the most current technical resources available. Our Contact section will connect you with a local or factory representative.

Product Data



Technical Specifications



Installation Information



■ Full Service Everywhere

Arrange for a Formglas representative to visit your office in person or by webinar to present our solutions and innovations to your team. Contact us to collaborate on your next project that requires technical expertise, material innovation and cutting edge design. A senior member of our team will be delighted to understand and discuss your requirements.

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