





# Helping You Move Forward



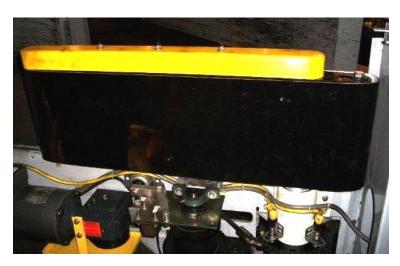
## Providing Custom Solutions Since 1890

At Globe, we don't just talk, we listen. For over 125 years, we've developed products for some of the most demanding military, industrial and material handling applications. We relentlessly pursue solutions that save you time and money. No matter how large or small the project, we take the time to help.

# Application Driven Solutions



Tuff-Tote® Carriage Trays



All-Composite High-Speed Diverter Arm



# One Customer: <u>You</u> Solutions to Meet Your Needs

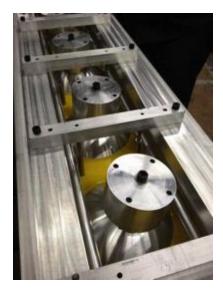
Globe is a full-service, design-tomanufacturing company, combining expertise in advanced, yet cost-effective, composite materials with a passion to meet your demanding performance requirements.

We offer the full range of design services from planning, to prototyping, to production. Globe does it all.

Since we are experts in composites, we can design parts using almost any plastic, fiberglass, rubber, metal, or other materials in almost any size or geometry.

We are ISO 9001:2008 certified in manufacturing, engineering **and** design which makes us uniquely qualified to design parts that are lighter, energy efficient, quieter, more resistant, durable, reliable, and cost-effective.

In other words, we can replace almost any part with longer lasting, less expensive composite parts.



**Complex Tooling and Machining** 





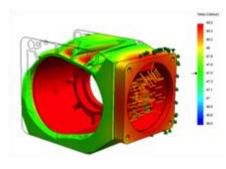
# Design, Material Formulation, Tool-Making, and Production All Under One Roof

#### **End-to-End Product Development**

Globe's unique, integrated approach to design, moldmaking, and part fabrication is all performed under our own roof -- significantly reducing the time involved to move a part from concept to production.

#### **Design Experience When It Counts**

Our design and technical service engineers quickly identify how to reduce costs or improve product performance. We can produce a composite prototype for you to test and evaluate. Upon acceptance, we can build production tooling and make parts in almost any quantity or size to meet your needs. That's how we do it.

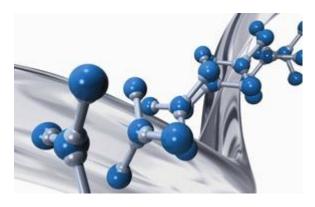


#### Comprehensive Design & Finite Element Analysis

Globe engineers team together to thoroughly assess component challenges and creatively design every component to meet each customer's unique expectation. We have full-scale design and modeling services, including SOLIDWORKS design and finite element analysis (FEA), rapid prototyping through 3-D stereo lithography as well as pre-production prototyping and testing.

#### **Full-Scale Model Shop for Prototype Parts**

Globe has an extensive machine shop where we can fabricate prototype parts for you to test for fit, fitness of a material, or concept, before moving into full-scale tool fabrication and production. We even can fabricate 3-D parts for design evaluation using a variety of materials.



#### **Broad Spectrum of Materials**

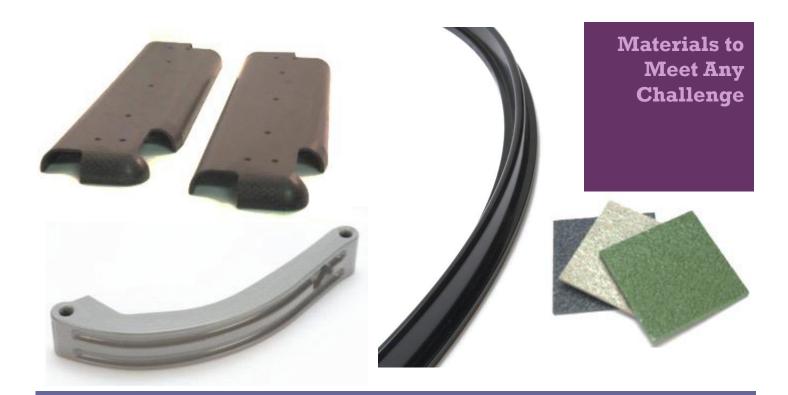
Known for our expertise to formulate custom-designed materials, we have a research laboratory fully dedicated to employing top qualified chemists and design engineers capable of tackling the most demanding applications.

Globe excels at combining materials (alloyed polycomposites) to produce parts with physical properties typically not associated with "plastics." Some of our composite materials are structurally rigid enough to replace steel, aluminum and other metals, yet retain elastomeric characteristics for impact absorption and shock resistance.

#### In-House Tooling

Our full-service mold design and tool-making center reduces lead-time, lowers costs, and improves quality.







# Brandonite<sup>®</sup> Materials Cost-effective, High-Performance, For You

Our chemists and engineers can select the appropriate material for your specific application. We routinely use over 300 different types of materials and formulations. You can be assured we have the experience and knowhow to match properly the right material to your product.

#### What is Brandonite®?

Brandonite® is a broad family of high performance composite polymers designed to replace metals, plastic, or rubber. We can custom blend these materials exactly to meet your product's specific requirements, so you can be assured that your part will perform as expected — each and every time.

#### Tough as Steel, Soft as Rubber

Brandonite® can be made of a thermoset-, thermoplastic-, epoxy-, silicone-, or rubber-based

material. By introducing additives and fillers such as carbon-fiber, fiberglass, S-glass, heavy particulates, glass/plastic microspheres, or even metallic powders, we can change dramatically the performance characteristics of the material and ultimately the product.

#### **Molding Processes**

Globe possesses a wide variety of molding processes used to meet customer and part requirements:

- Centrifugal Casting
- Compression Molding
- Hand Lay-Up
- Resin Transfer Molding (RTM)
- Rotational Molding
- Rubber Injection Molding
- Thermoplastic Injection Molding
- Thermoset Hand and Batch Casting

## Simple to Complex, Large or Small

#### Flexible, Scalable Production

No challenge is too large or too small for us. We utilize cellular manufacturing techniques to scale production to the customer's volume requirements.

#### Any Size, Any Geometry

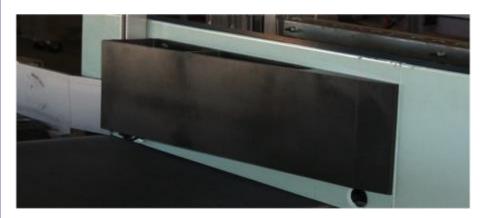
We can design and manufacture parts of any size and geometry — from the size of an eraser head to the size of a car. Globe can do it all.

#### Why Use Globe?

- ☑ Specialists in composites
- ☑ One-stop approach
- ☑ Proven development team
- ☑ Material formulation experts
- ☑ Produce parts in any volume
- ☑ 125 years of success



Self-Lubricating All-Composite Drive Chain



Bump-Out Wedges to Center Packages or Baggage



Composite Track for Sorting System



Self-lubricating Bearings



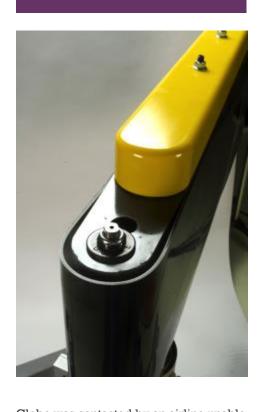
# Case Studies

### Optimized Design and Material for You

High-Speed Diverter Arm

Shoe Sorter Gate Linkage

Composite Sorter Wheels







Globe was contacted by an airline unable to obtain replacement parts for its high-speed diverter arms used for baggage sorting. The original equipment manufacturer (OEM) for this product introduced a newer model and effectively stopped supplying replacement parts on a timely basis. Not only were the new replacement parts more expensive, but lack of timely parts created extensive downtime.

Globe designed and produced an allcomposite, fully-compatible replacement arm which lasts longer, weighs much less, makes replacement of the original A major material handling OEM wanted to improve the durability of its shoe sorter product. A key component, the existing actuating gate linkage, was made from machined aluminum, which is very expensive. The constant contact motion and inertia of the part shortened its life-span too much to be made from expensive aluminum.

Globe developed a self-lubricating, elastomeric material able to withstand the repetitive shock the gate linkage experiences. Additionally, the part was cast as one, complete part with minimal secondary machining, saving the OEM time and money on part production.

A large parcel distribution company was experiencing premature wear on the wheels used on its tilt-tray sorting system. Notably, these wheels were degrading more in higher humidity facilities.

Globe's advanced chemical analysis of the wheel revealed it was made with a hydrophilic material, contributing to its premature wear.

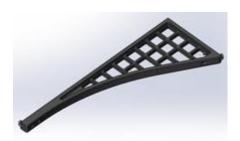
Globe formulated an abrasion-resistant material, Brandonite® 1300-95A, able to withstand the wide range of operating conditions for the sorting systems.

Additionally, it encapsulated the bearings to reduce wheel failure.



## Solutions for Everyday Challenges

At Globe, we listen and develop solutions to save you time and money. We thrive on challenges in which we improve significantly the performance of your existing product. Here are a few examples of everyday applications with which we helped our customers.



#### **Stationary Diverter Arms**

This all-composite diverter arm attaches easily to the side-frames of any conveyor system to divert products, permanently or an as-needed basis. The diverter arms are made with a lightweight, self-lubricating material with a low coefficient of friction — allowing them to glide effortlessly over belts without incurring wear on the belt or arm.



#### Shepherd's Hook — Allows You to Un-jam Parcels and Packages

Globe developed a lightweight, durable tool which allows you to clear jams and move packages around using our composite Shepherd's Hook. It attaches easily to the end of any aluminum or fiberglass pole, giving you reach and traction to remove parcels quickly and safely. The special pliant design reduces potential damage to the packages, as well.



#### Long-Lasting Replacement Wheels and Rollers

We provide replacement wheels for even the most demanding applications, such as DCV sync wheels, pallet jack rollers, sorting system wheels, etc. Our unique molding and finishing processes ensure the wheels are concentric and balanced for long-lasting, vibration-free use. Moreover, we mold the wheel over the bearings — rather than press-fitting the bearings to the wheel — thereby certifying a more durable and reliable solution.



#### Shaftkeeper® — Extend the Life of Your Conveyor Systems

Our Brandonite<sup>®</sup> material is so strong, we've built special after-market tools to hold your conveyors in place, even after experiencing normal fretting or wear associated with typical metal-conveyor, side-frame erosion. Shaftkeeper<sup>®</sup> is our easy-to-install, patented part which will extend the life of your conveyor system, giving you even more years of trouble-free use.



Composite Flat Plate Pallets for Airports



**HGC Lead-Free Radiation Shielding Components** 



Longest-Lasting Shoe Sorter Pads



www.globecomposite.com

