Industrial Plastic
Composite Products and
Engineering Services

Applied Composite Technologies
from Ershigs
If You Need It, Ershigs Can Build It

Possibilities Unlimited

Manufacturing in composites opens up a new world of possibilities to the project engineer and designer. Composite structures by Ershigs can be almost any shape and size, and are limited only by the imagination.

With composites we are no longer constrained by the limitations of steel. Virtually anything one can think of can be constructed, from limited-scale corrosion-resistant components to major large-scale systems installations.

Advancing Composites Technologies

In the past three decades we have seen impressive growth in composites technologies. The engineering and manufacturing sciences associated with composites now offer analytical and design tools necessary to predict, analyze, and completely engineer the laminate structure. Ershigs has pioneered many of these advances, helping to foster the versatility and reliability now associated with composite structures.

Wide Industry Applications

Composite systems by Ershigs currently serve in a variety of important industries, such as power, pulp and paper, chemical processing, metals and mining, and water and wastewater management. Since 1960, Ershigs products have proven their value, serving a critical role in each industry in which they are employed.

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STACKS AND CHIMNEY LINERS

Stacks and Chimney Liners made by Ershigs have been in service since 1974. They are designed to withstand corrosive gasses up to 350 degrees F, and are impervious to severe weather. These systems are virtually unlimited in size and offer low costs of ownership. Ershigs has designed and manufactured chimney liners up to 30 feet in diameter and over 1200 feet in height. Guyed stacks are a low-cost alternative where conditions permit. Ershigs has designed, produced and installed guyed stacks over 300 feet in height.
TANKS, VESSELS AND SCRUBBERS

Tanks, Vessels, and Scrubbers are designed to handle a wide variety of dynamic and hydrostatic loads and chemical environments. They are also used as absorbers, de-misters, air stripper towers, bleach towers and in many other processing system applications. Tank and tower systems can be made in almost any size. Supplemental system components, including internal and external piping, distribution systems, and ducting, can be fabricated in virtually any shape or configuration, demonstrating the flexibility inherent with composites. Many systems are manufactured in-plant and transported to the site. For larger systems, on-site manufacturing is accomplished with Ershigs' proprietary technology.
PIPING SYSTEMS

Piping Systems for corrosive and abrasive applications have found widespread use in industry. Many systems have been in service in corrosive environments for over 20 years. Ershigs' pipe manufacturing capability is not limited by size and can be designed to a wide range of pressure or vacuum requirements. Piping systems up to 12 feet in diameter have been produced, and systems to 150 psig are well within Ershigs' capabilities.

Piping systems are specifically engineered for each environment, such as the abrasion-resistant piping specially designed to handle limestone slurry used for emissions control in the power industry. These systems have been in continuous service for more than a decade. Ershigs can also provide a variety of flanges and fittings for your pipe systems, including O-ring and double O-ring joints, and systems appropriate for buried pipe installations.

An Innovative Collaboration

The Goal: Significantly Lower Costs and Better Accountability

There is a growing awareness that sourcing composite systems demands a collaborative process. Improperly drafted specifications not only drive up costs, they create ambiguities concerning project responsibilities and who is ultimately accountable.

Composites Designed by Composite Experts

Ershigs is uniquely capable of participating in a project from the planning and process design stages onward. The result is a better-engineered system tailored to the specific requirements of the project. The design and specifications come from real understanding and knowledge of composites, not from broad "rules of thumb" or "lessons learned" from dissimilar past projects.

A New Understanding of the Materials

Ershigs' engineers and designers thoroughly understand the chemical and physical properties of the materials that go into composite systems. They are familiar with the industry-unique technologies, methods, and practices of composite system design and manufacturing. Ershigs' experienced staff ensures that the design of the product capitalizes on the special strengths and inherent benefits of composite materials.
LARGE-DIAMETER STRUCTURES

Large-Diameter Structures from Ershigs provide an effective means of processing and storing large volumes of corrosive liquids and gases. Ershigs employs a proven on-site manufacturing process that eliminates most handling, transportation, and remote access concerns. Ershigs has capabilities to produce tanks 100 feet in diameter or greater. A unique slip-form method developed by Ershigs eliminates joints and seams in the shell. Double wall and double bottom configurations are available for secondary containment and leak detection. Tanks can be provided with composite covers suitable to withstand snow and wind loads. Ershigs provides all ancillary components whether they are made of composites or other construction materials.

Custom Fabricated Products For All Your Corrosion-Resistant Needs

The designers at Ershigs know that there is much more to a corrosion-resistant system than its major components. Ershigs provides the less strategic but still important components such as fans, pumps, valves, and flow control devices.

Manufacturing Options Offer Flexibility and Efficiency

Since 1960, Ershigs has pioneered innovations in tooling, fabrication technologies, and manufacturing efficiencies resulting in a higher quality product and increased value to the customer.

Often the project requires the establishment of a remote manufacturing “base” at the customer’s site. This on-site capability has enabled Ershigs construction teams to overcome difficult conditions and to work in concert with other contractors in a timely and coordinated manner.

Metal Fabrication Capabilities in Support of Ershigs’ Projects

In addition, Ershigs manufactures metal structural support and access components. These include ladders, walkways, platforms, support structures, and all other metal components needed to complete the system.
DUCT SYSTEMS

Duct Systems of any size and shape have been designed to complement other components of a composites system. Rectangular to round transitions for equipment connections, such as fans and pumps, hoods for fume removal, chutes, and flumes are examples of the many specially made components needed to complete a composites project. Like other composite structures from Ershigs, these components require little maintenance and never need painting, lowering lifetime cost of ownership.
VALVES AND SPECIAL PRODUCTS

Valves and Special Products, including filter vessels, butterfly valves, hazardous waste containers, and high-strength carbon fiber vessels, are carefully crafted to customer specifications at Ershigs. Typical are the corrosion-resistant valves needed to balance air and gas flow. The valve may also be used for shut off with the incorporation of an O-ring seal. Composite filters, strainers, and separators are also manufactured to customer specifications to complete a corrosion-resistant system.

Ershigs’ special expertise is evident in the company’s ability to fabricate or construct to unique customer requirements that do not lend themselves to existing tooling or standard practices.

Designing Corrosion-Resistant Systems That Stand The Test Of Time

The Technical Challenge

Designing components for the movement, storage, and processing of corrosive or abrasive liquids and gasses is a challenge best met by composites specialists. The engineer must consider resin formulation, glass and synthetic material selection, corrosion barriers, and other considerations unique to composites. He must design the corrosion-resistant inner liner, the corrosion barrier, and the structural wall, all of which have unique chemical and structural design parameters.

Engineered to Meet Customer-Specific Requirements

Ershigs’ engineering staff analyzes each new assignment based on system performance specifications. These generally fall into three categories:

Chemical Performance
Requirements relative to the corrosive or abrasive materials to be handled within the system.

Physical Performance
Volumetrics, temperature conditions, structural requirements, and environmental considerations necessary to ensure the structural integrity of the system.

Customer Requirements
Integration of non-composite components of the system, site requirements, site access limitations, maintenance requirements, and special needs of the customer.
MAINTENANCE PROJECTS

Maintenance Projects include inspection and upkeep, as well as periodic upgrades and improvements to composite systems necessary to promote optimum efficiency. Ershigs is responsive to the special needs of each industry the company serves. For particularly corrosive environments, periodic inspection and preventive maintenance results in reduced down time and prevents unplanned interruptions of production schedules.

Ershigs offers plant operations managers and maintenance personnel an on-going partnership for the technical support, upkeep, and upgrade requirements of their composite systems. Plant improvements may be most cost effective when conducted concurrently with other maintenance requirements. Ershigs is experienced at working in partnership with maintenance personnel to schedule and plan work according to client needs.

A partnership with Ershigs does not end with project completion. Ershigs can supply on-going technical support, maintenance, and system upgrades as needed.
ENGINEERING

Engineering by Ershigs includes planning, process engineering, systems engineering, design, analysis, and testing functions. This level of comprehensive technical support has earned Ershigs a reputation for engineering excellence during more than three decades of technical leadership. With Ershigs on your engineering team, your project will capitalize on the expertise of the industry's leading composite specialist.

Ershigs' engineers work in close cooperation with the owner's staff and consulting architects and engineers to form a smoothly functioning planning and design team. This cooperative relationship ensures the project will benefit from the right expertise at the right time, and results in a better designed, better produced, and better performing system. It also serves to maintain continuity and accountability for the composite elements of the system throughout the project.

CONSTRUCTION

Construction by Ershigs includes all contracting functions necessary to provide a single-source, turn-key project. Ershigs construction crews are supported by a network of manufacturing plants which provide in-plant manufacturing and technical support as needed. Remote location work is a specialty of Ershigs. In addition to component fabrication and installation, Ershigs can provide complete systems installation including civil, mechanical, and structural work, and all other ancillary trades work and sub-contractor tasks. Concerns about who takes responsibility, provides accountability, and stands behind the warranty are not an issue when Ershigs is your contractor.

Worldwide Capabilities

Ershigs' experienced on-site construction teams can work virtually anywhere in the world. When needed, on-site field manufacturing facilities can be established and managed by Ershigs until project completion.

The Ershigs Innovative Performance Warranty

The Ershigs Performance Warranty provides certain assurance that the system components meet performance expectations. By contrast, other suppliers guarantee only labor and materials associated with the physical structure.

With more than three decades of composites contracting experience and a record of reliable service that is the standard for the industry, Ershigs is known for its steadfast dependability in standing behind its products and services.

The Ershigs Industry Commitment

Ershigs maintains active participation in the following industry technical associations:

- American Society of Mechanical Engineers
- American Society of Quality Control
- American Society of Testing & Materials
- Air Waste Management Association
- Composite Fabricators Association
- International Committee on Industrial Chimneys
- National Association of Composite Engineers
- National Safety Council
- Society of Plastics Industry