



Executive Summary

Polymeric materials, generally in the form of rubber, plastic and composites, are well accepted in diverse industrial sectors based on their proven performance. Polymers are chosen for use as parts or system components due to their inherent resistance to corrosion, mechanical strength, relative light weight, elasticity, long life and other broad ranging properties. Since polymers do not degrade due to electrochemically induced corrosion, they are often selected as the material of choice in lieu of metals.

For a part or system to function properly over its intended service life, careful consideration must be given to many operational variables. These include issues relating to the environment in which the material will operate, static and dynamic physical stresses during the operation of the system, and functionality, including operator friendliness. Selection of the proper polymer for the required use cannot be based on a simple process of matching textbook data to a drawing of the part. To the contrary, proper specification development for the most suitable polymer for original and replacement parts require the input of professionals that understand how different materials will perform in actual field use. Industry experience has proven that when such applications and expertise is combined with readily available scientific information, a part or system can be designed that serves the customers' operational needs with the greatest return on investment (ROI).

Most industrial equipment already uses polymers for a variety of their parts. Further, some manufacturers and facility operators have certain internal expertise in general, and specifically to use of certain polymers. However, by having ready access to "hands on" polymer application specialists, manufacturers and asset operators could dramatically expand the useful service lives of many of its parts and systems. In short, customers would substantially increase their ROI on their initial and replacement parts and systems by making use of polymer application experts.

The Philpott Rubber Company has been dedicated to identifying and solving asset owners' material selection challenges for 125 years. Philpott employs a dedicated team of application specialists with many years of experience in applying plastic, rubber and composite material solutions to industrial facilities. These have involved such specialty applications as resolving material handling and safety issues at steel mills, to providing a patent pending design for a toilet tank-to-toilet bowl composite plastic/steel fastener system; from designing specialized gaskets for anode and cathode membrane cells chlor-alkali generation equipment, to a rear windscreen for the Pontiac Solstice convertible automobile. In short, Philpott's breadth of application experience is without boundaries.

Most of the industrial applications and environments with which Philpott has experience that matches what the customer faces in its daily facilities and systems operations. The balance of this document will outline specific areas of Philpott's expertise and qualifications to assist the customer in his or her material selection activities.

As an industry leader in providing practical solutions to the design, material selection and production of rubber, plastic and polymer parts and systems, Philpott is in a unique position to provide customers substantial expertise in the area of practical polymer applications thus strengthening customers' ROI.

Philpott History & Focus

The Philpott Rubber Company was founded in Cleveland, Ohio in 1889 to design and supply custom rubber products to the industrial complex that was growing up and thriving around the Cuyahoga River. From its humble beginnings, Philpott has grown to be one of the most respected polymer solution providers in the country.

Philpott provides many different parts and system components that have been designed and implemented in close cooperation with the customer. In order to be successful in developing such solutions using polymer materials, Philpott's application specialists have honed their listening skills to understand the customer's challenges and those for observing how a system operates. By combining the unique skills of listening, combined with broad practical experience, Philpott brings our customers the operations improvement solutions that our customers have come to know and expect.

Philpott's key value propositions therefore include improving process efficiencies, extending equipment life, eliminating premature system failures, enhancing personnel safety and reducing environmental impact. All of these benefits result in a high ROI for our customers, which over the years, has save them countless millions of dollars.

Technical Expertise

Philpott is staffed with a dedicated, highly qualified and experienced team of application specialists. Our personnel possess unique experience in designing solutions that address the simplest to highly complex system performance challenges faced by our customers. This is due to Philpott's unparalleled combination of technical knowledge and practical experience.

The Project Manager, Project Administrator and Project Advisor: Life Extension Strategies will have the greatest amount of regular contact with their customer counterparts. As such, more detailed information about their background and experience follows:

"Strategic Alliance" Project Approach

To ensure each project is organized, conducted and completed in a manner to exceed the customer's Project Manager's expectations, it is suggested that a formal Strategic Alliance approach be employed. This will ensure that such expectations are reinforced and understood through every phase of the project. At the same time, it will establish open lines of communication between the customer/Philpott project team members so that best practices and lessons learned can be shared and utilized to the ultimate success of the project. Since defining the expectations of each party will be defined during the initial project meetings, each assignment will be tailored to the specifics of the project-specific needs.

Prototype Preparation

Once solution concepts are identified, it will usually be necessary to create a prototype part or system. Philpott works with many different polymer compounders that provide us with fast, easy access to existing and conceptual polymer formulations. Our contract mold makers are local and highly competent. As a result, Philpott can work with the customer's personnel to quickly and efficiently replicate parts made from customers' currently used parts, or develop a specific specialty part or system component. This "streamlined" process will allow for projects to move along swiftly, especially when time is of the essence.

Material Production

Philpott is an American owned and operated company that focuses on contributing to the success of our USA customers. We have broad capabilities to produce rubber, plastic and composite parts and system components. Through a unique manufacturing model, Philpott has developed a means to maintain a

competitive advantage over foreign sources. We do this through partnerships with domestic polymer manufacturers. Through this model, Philpott has located its presses, molds and/or other manufacturing equipment at other polymer producer/partners' locations. Where our proprietary compounds are used, Philpott provides them to our manufacturing partners already mixed to maintain the confidentiality of our formulations. Note that all of these partners are located in the USA.

The cost benefit of this model allows Philpott to "rent" labor and energy from our manufacturing partners thus making these "variable expense" rather than "fixed overhead" costs. We are able to pass these savings on to our customers while at the same time keeping Philpott a fiscally strong, active and dedicated member of the US industrial business community. This model does not in any way compromise Philpott's quality standards as we supervise and inspect each portion of the manufacturing process.

Our manufacturing model works very well for hundreds up to thousands of parts. Where volumes become extremely large, Philpott can guide the customer to the appropriate, high-volume polymer manufacturer, or act as the customer's contractor for the production of the parts.

There have been occasions where Philpott was forced by customer demand to utilize foreign sources. Although this is never our preference, we have mature relationships with material manufacturers in Europe and Asia should the customer's needs lead us in that direction.

Access to Independent 3rd Party Experts

Philpott's core competency is in bringing practical applications expertise to guide our customers to make informed decisions on what polymers to use for specific operational demands and environments. Philpott has made the strategic decision to maintain partnerships with specialists in areas that support our core competencies. Much like our manufacturing model, we have close relationships and immediate access to the expertise of these partners on a variable cost basis, thus allowing Philpott to maintain a manageable operating cost structure. These partnerships allow Philpott to bring to a project companies, scientists, academia participants and other personnel and organizations. These partners are expert in compound formulation, laboratory analyses for independent polymer chemistry and physical properties testing, and research and development activities. Although not specifically listed in the document, Philpott can provide a list of our strategic partners upon request.