Industrial applications can be found in many industries and range from hydraulic cylinders to heavy duty equipment. Many industrial applications are in harsh environments including dirt and mud, chemicals, a range of temperatures, and hard to reach locations, making maintenance a challenge. Equipment down time for maintenance and repairs can be detrimental to the industry.

CIP Composites offers solutions for rigorous industrial applications by extending wear life while reducing or eliminating external lubricants and undesired maintenance. As a general guide, CIP Composite bushing materials can replace your current bronze or nylon based wear and bearing materials. Sold in tubes or sheets for easy machining onsite, or custom manufactured with short lead times.

**Hydraulic & Pneumatic**

*Image of CIP Wear Rings*

Hydraulic cylinders are the ideal choice for a host of mobile and industrial applications where power and reliability, along with low operating costs are required. Hydraulic (and even pneumatic and electrical actuator) cylinders are handling more demanding applications than in previous years, such as the use of smaller cylinders which force higher and higher operating pressures. Manufacturers and servicers alike depend on quality components to ensure that their finished product meet or exceeds the customer requirements including long service life, affordability, and availability.

CIP Composite wear rings can meet these requirements by providing solutions for high temperatures, large size requirements, high loads, high bearing pressure, and the need for excellent stability in water, corrosive fluids and chemical solutions. The cost associated with equipment downtime and repairs can be reduced by using CIP Composites which are custom made using high quality materials with lead times that meet your needs.

CIP wear rings are designed to allow smooth operation and high side loads while protecting
the sealing elements and preventing metal to metal contact in hydraulic cylinders. They are preferred where high performance, large diameters and/or high temperatures are required. CIP wear rings reduce overall maintenance and increase wear life.

**Pumps**

![CIP Water-Lubricated Bearing - Vertical Pump](image)

Moving fluids has never been as critical as it is now, whether for agricultural, drainage, mining applications, or the oil & gas industry, customers are demanding higher efficiencies and longer service life to maximize production capabilities while reducing overall maintenance costs. By offering long wearing and specialty type composite bearing materials, CIP can provide material or designed components that will meet the demands of your pump application. Providing quick delivery, design support and custom manufacturing we are ready to respond and help solve your pump service problems.

**Wood Products**

![Kiln Cart Wheel with CIP Bearing Installed](image)

Wood product facilities are working to create efficient, high quality organizations that are capable to produce finished products with the quality looked for and at a rate of the customer demand while resulting in the least possible waste. Mill or line shut downs can be devastating to the industry, therefore the use of parts that reduce maintenance and have a
long service life are imperative.

CIP Composites are self-lubricating, eliminating the need for grease lines, reducing regular greasing maintenance schedules. CIP Composites can withstand high impact loads, vibration and shock loading in wood product applications from wood harvesting to production to recycling. (Saw mills, log kickers, particle board, harvesting equipment, drying of lumber, press guides for plywood, kiln cart bushings, chain guides, paper mills, pulpers, liquor tanks, agitators...).

CIP Composites can be sold as tubes or sheets and machined onsite when maintenance is required, resulting in less down time. CIP can also custom manufacture parts with short lead times.

**Waste & Recycling**

The waste and recycling industry is continuously faced with regulation changes and challenges. Examples include the adoption of waste to energy practices, incorporating new regulations for proper handling of hazardous and non-hazardous solid waste, and sorting of waste for recycling. Organizations are looking to reduce maintenance downtime and cost, engage in environmentally friendly practices, and find new solutions for dealing with garbage.

The equipment in this industry is faced with its own harsh challenges that include working in dirty environments, exposure to chemicals, operating in a range of temperatures, and often times are in hard to reach locations making down time for maintenance and repairs costly.

CIP Composites offer solutions to this industry with bearing and wear materials for hydraulic cylinders, handling systems, conveyors, sorting and shredding systems, heavy equipment and garbage transportation equipment. Commonly used to replace more traditional metallic and thermoplastic materials, CIP materials are self-lubricating and do not promote galling which can cause extensive damage to the shaft, requiring re-machining or shaft replacement. The solid lubricants that are added to the resin system are evenly dispersed throughout the material, allowing for very low wear rates and long service life with fewer maintenance cycles.