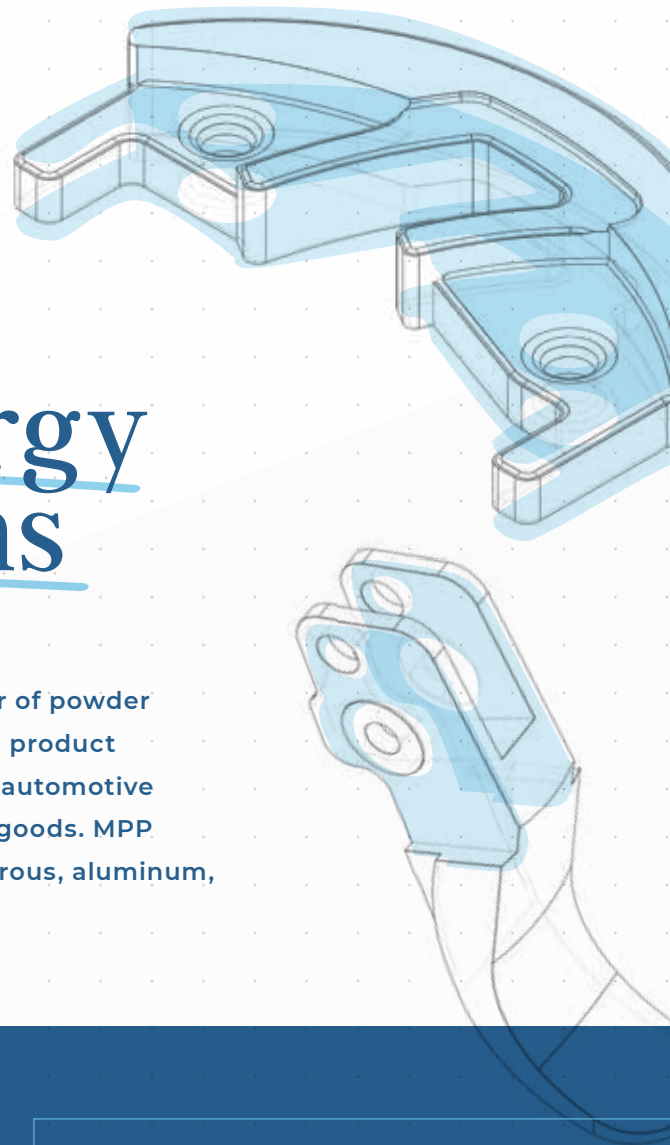




Custom-Engineered

Powder Metallurgy Product Solutions

Metal Powder Products (MPP) is the largest industrial supplier of powder metallurgy components. MPP provides custom-engineered PM product solutions to customers in a variety of industries ranging from automotive to lawn and garden, off-highway to power tools and sporting goods. MPP is also a highly recognized industry leader in the supply of ferrous, aluminum, stainless steel, and soft magnetic composites.



MPP's Expertise

- The premiere supplier of lightweight aluminum components and weight saving solutions
- Industry leader in ferrous, stainless steel, and soft magnetic components with greater possibilities and innovation
- A deep applications knowledge with a focus on collaborative product design and high performance materials with conversion from other metal forming processes
- Extensive experience with an unmatched reputation in creating value by minimizing waste, energy, and lead-times
- Best in class CNC compaction technology components with complexity far beyond the ability of others in the industry

WE WORK WITH ...

- ⊕ Brass
- ⊕ Bronze
- ⊕ Iron
- ⊕ Aluminum
- ⊕ Steel & Stainless Steels
- ⊕ Soft Magnetic Materials



Why Convert to PM

Converting components from another metal-forming technology such as stamping, machining, die-casting or forging to powder metallurgy delivers real benefits:

- Reduced wear
- Improved corrosion
- Extraordinary geometry and tolerance capabilities
- Reduction of secondary operations
- Better quality control

MPP Technology Center. Where We Do Some of Our Best Work

One of the industry's premier technical centers, with a focus on:

- Team of recognized experts (PhDs)
- Development of proprietary materials and processes
- Advanced compaction and sintering techniques
- Prototyping
- Top industry-leading technical experts on staff

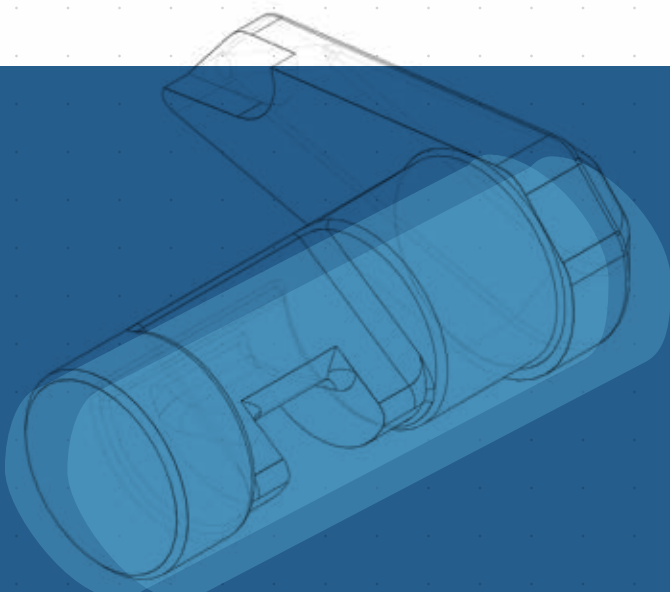
Engineering Makes the Difference

Whether it's solving customers problems or driving future innovations, our engineers and industry experts thrive on a good challenge. Our team of engineers is constantly developing new materials, manufacturing techniques, and applications. They're why MPP can deliver cutting edge solutions for our customers.



AWARDS AND KUDOS

Thanks to MPP's engineering and innovation, we've won more than a dozen awards, including eight Grand Prize awards in the annual MIPF Design Excellence Award Competition. This includes awards for ferrous, non-ferrous, and stainless steel categories.

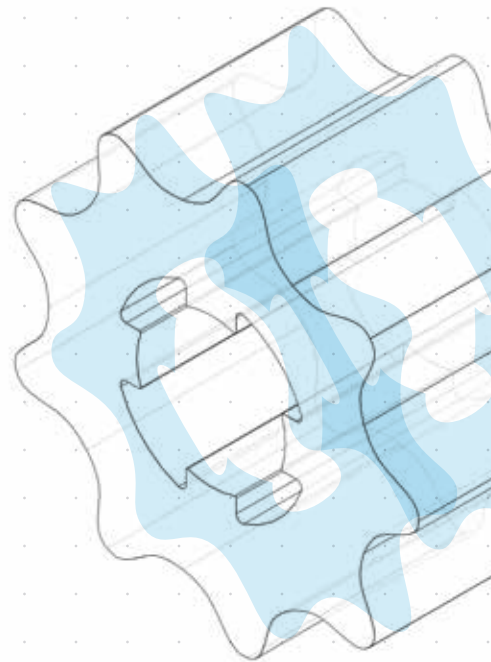


Learn More

MPP Headquarters
14670 Cumberland Rd.
Noblesville, IN 46060

Contact Us Today
Solutions@MPPinnovation.com





Aluminum Powder Metal Technology

As the world's premiere producer of structural aluminum powder metal components, MPP offers an impressive range of expertise, design innovation, and manufacturing capabilities. In fact, since 1991 we've produced more than 300 million parts.

Aluminum PM delivers excellent strength to weight ratio and cost savings, offers complex product forms, and can be engineered for optimum shape and material performance for specific applications.

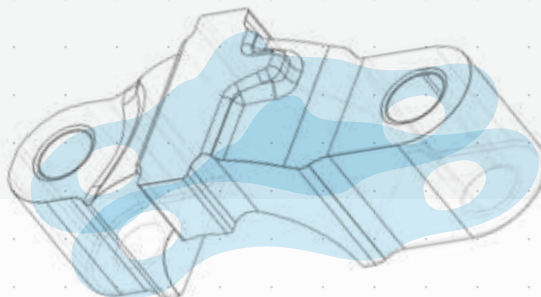
All the Benefits of Aluminum

- Light weight (lower density than other materials)
 - about one-third as heavy as steel or copper
- Highly resistant to corrosion
- Strong - and can be made stronger by alloying
- An excellent conductor of heat and electricity
- Nonmagnetic - useful for magnetic shielding of sensitive electronic components
- Outstanding in cryogenic properties - strong, not brittle, in intense cold
- Highly machinable and responsive to a variety of finishing processes
- Completely recyclable (and, therefore, energy-efficient)

MPP Aluminum PM Expertise Drives Automotive Efficiencies

As the demand for lighter weight, more fuel efficient vehicles grows, MPP fulfills the need with aluminum PM parts for engine, body/chassis, and other applications. Here are some highlights:

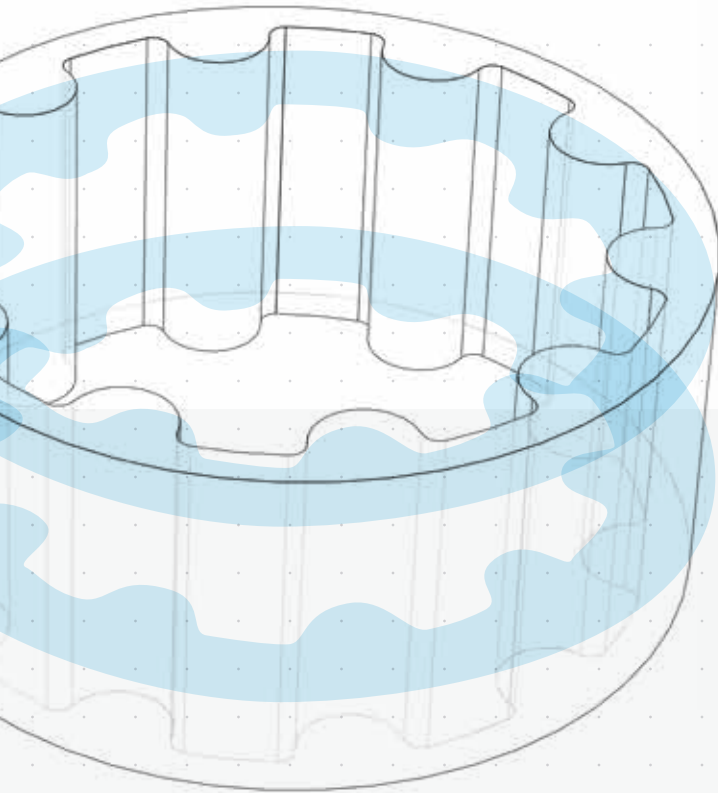
- Grand Prize Award for aluminum PM camshaft bearing cap
- 2020 MPIF Award of Distinction for aluminum cam cap
- GM Supplier Quality award multiple times
- Recipient of GM Supplier of the Year Award



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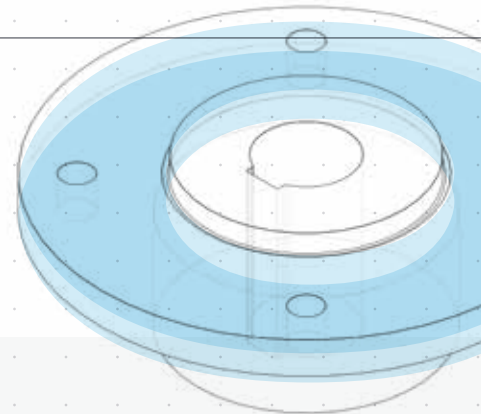


ALUMINUM PM OFFERS IMPRESSIVE ECONOMIC ADVANTAGES BECAUSE OF:

Weight Savings

Design Flexibility

Structural Performance



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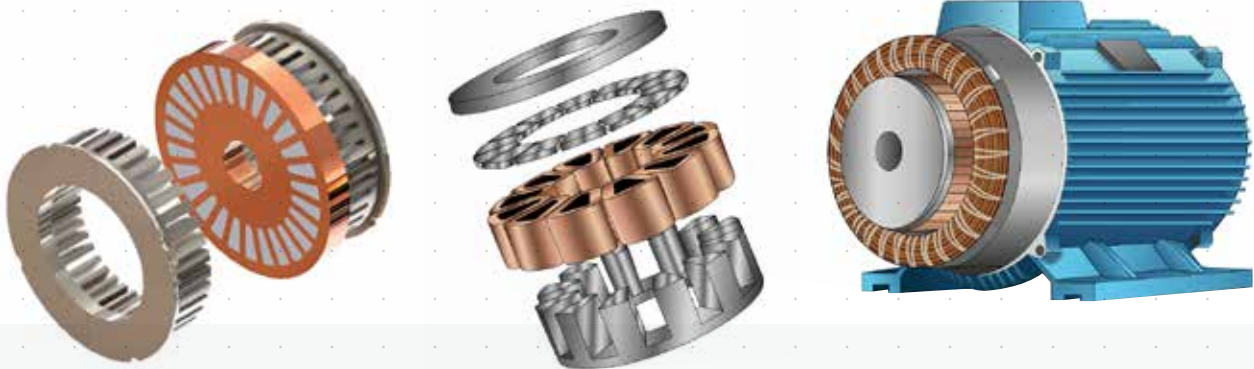




Soft Magnetic Composites Technology

Leads to Motors with No Rare Earth Magnets

At MPP, we engineer the future. Thanks to our innovative axial flux technology, we're helping to speed the transition to EVs, reduce the need for fossil fuels, and eliminate the need for rare earth magnets.



Benefits of MPP's Soft Magnetic Technology

- The stator is molded as one component helping create manufacturing efficiency as well as reduced overall size
- It uses a higher number of poles to increase electromagnetic active material
- Soft magnetic composite materials make it possible to design innovative, compact and powerful electric motors that match your specific application
- The 3D flux lines allow more powerful, compact motors

MPP'S TECHNOLOGY ALLOWS

- ⊕ Motors with No Earth Magnets
- ⊕ Use of Magnetic Flux Technology
- ⊕ Increase in Motor Efficiency
- ⊕ Overall Cost Reduction

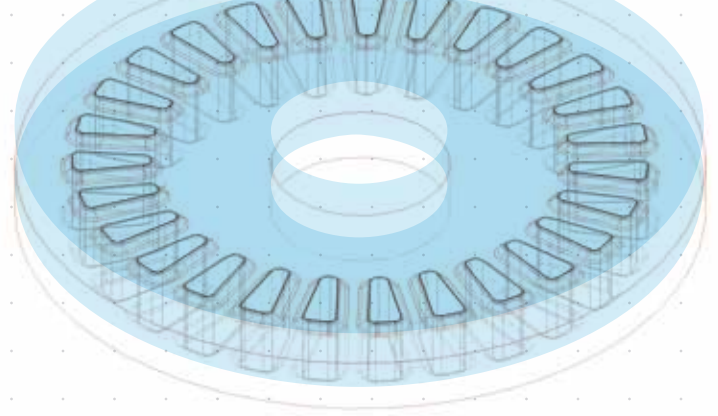


EV Motors and Beyond

The features of motors made with soft magnetic composite materials make them suitable for a wide range of applications such as for Electric Vehicles, pumps, fans, compressors, valve control, hoists and power and wind generators. What's more, other MPP materials offer a great solution to a number of automotive manufacturing and parts needs.

Engineering Makes the Difference

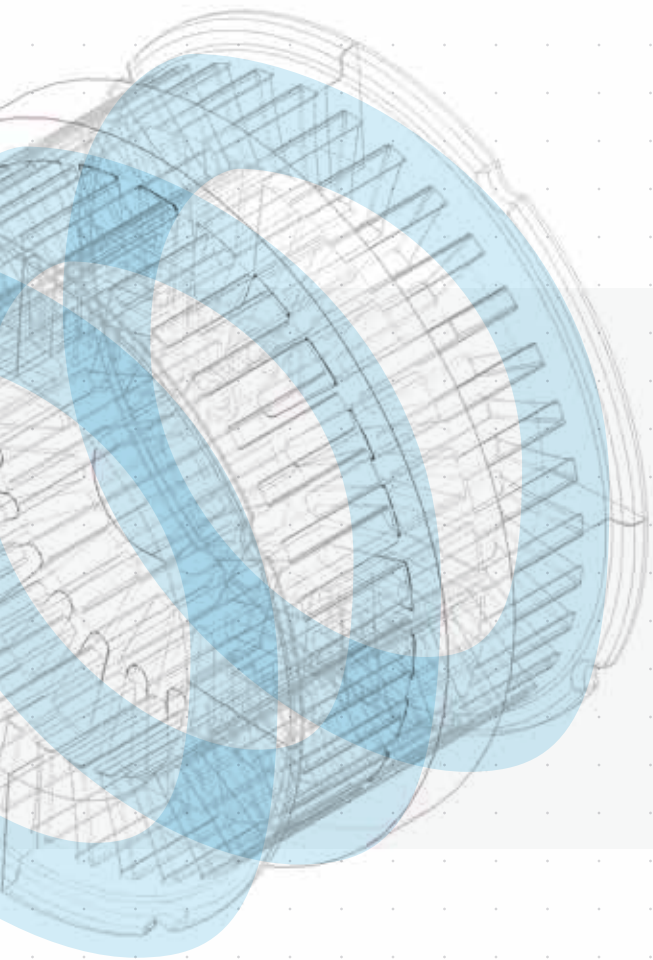
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