

## INFOGRAPHIC

# Can Plastics Handle Today's Critical Manufacturing Challenges?

Why You Should Consider Plastics Over Metals

## Today's Plastics Are More Durable Than Ever

The debate over using metal or plastic components in manufacturing isn't new. But innovations in plastic materials and process capabilities, coupled with changes in industry demands, have closed many of the performance gaps that once tipped the scales toward metals.

Technology advancements in additive manufacturing allow for fabricating customized composites and compounds faster than their metal counterparts. When considering the right material for your next manufacturing project, here's what to know about nonmetallic alternatives.

## Nonmetallic Parts in Critical Conditions

Today, plastic components are counted on to perform in extreme conditions across many can't-fail applications, including:



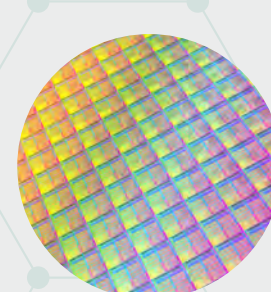
Automotive



Aerospace



Industrial and Chemical Processing



Semiconductor



Medical

Switching from metal to plastic parts offers **25% to 50% cost savings<sup>1</sup>**

## Metal vs. Plastics

Today, innovations in plastic composites mean products can match or even outperform metal in strength-to-weight and strength-to-stiffness ratios.

### METAL CONS

- ✗ More labor-intensive fabrication process causes longer production lead times
- ✗ Heavier weights drive up life cycle costs on weight-dependent applications
- ✗ Limited design and development of complex pieces
- ✗ Prone to corrosion
- ✗ Higher packaging and transportation costs

### PLASTIC PROS

- ✓ Quicker production cycles for faster delivery
- ✓ Extend equipment life by decreasing friction and wear
- ✓ Excellent chemical resistance and tensile strength
- ✓ Efficiency gains resulting in lower energy costs
- ✓ Greater design flexibility

## Benefits of Plastics for OEMs

Reduced energy consumption

Increased equipment efficiency

Lower maintenance costs and downtime

Higher return on investment over metallic components

Need help developing a custom component for your next project? Is equipment efficiency or energy consumption a priority? We can help solve your toughest material challenges. Our in-house materials experts design custom blends tailored to your specific needs.

## It's Amazing to Think What We're Capable Of

Take the first step toward driving innovation with a custom-engineered solution.

[Get Started](#) →

### About CDI Energy Products

CDI Energy Products is a Michelin Group Company headquartered in Humble, Texas with locations serving North America, Europe, and the Asia Pacific. We are a global leader in high-performance polymer products to the energy industry and beyond.

We service the oil and gas, liquid natural gas (LNG), cryogenics, wind and renewable energy, water management, fluid handling, automotive, aerospace and defense, medical and biomedical, refining and petrochemical, industrial processing, power generation, and semiconductor markets.

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