

# Metal vs. Plastics



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## WHY DO SO MANY DESIGNERS & ENGINEERS LOVE PLASTICS OVER METALS?

Let us count the ways.

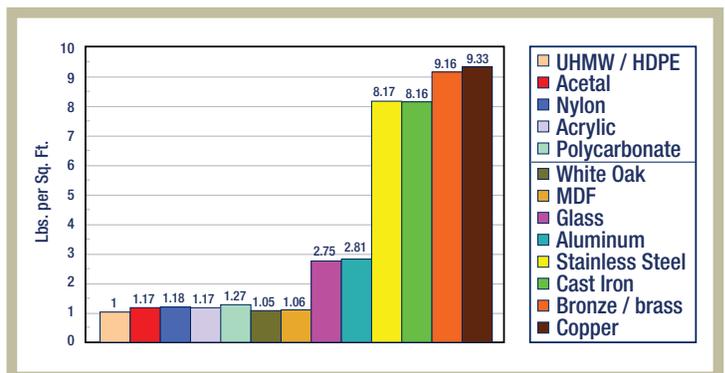
Not long ago, components manufactured from metal were the primary option available when designing, repairing or retrofitting equipment and facilities across multiple industries. Today, however, plastic is quickly becoming the material of choice for cost- and performance-conscious designers, engineers and facility managers. Diversified Plastics, Inc. has become the leading provider of sprockets, chains, wear strips, augers, screen rakes, bearings, brackets and many other plastic components. We proudly serve a growing diversity of industries, including agriculture, timber, food processing, water treatment, mining, packaging / conveying, general industrial and others.

Parts designed and manufactured by Diversified Plastics offer many advantages over metal — particularly in environments with high exposure to water and chemicals or where weight and/or friction are factors. In other words, many industrial applications can benefit from using components made from plastic instead of metal.

Here are some of the most important advantages:

### 1. WHY WEIGHT?

When weight matters, savvy engineers know that plastics are considerably lighter than metals (or wood and glass, for that matter). For example, a weight per square foot comparison shows that one pound (0.45 kilograms) of UHMW/HDPE or nylon would be 8 pounds (3.63 kilograms) or more of stainless steel, cast iron, bronze or copper.



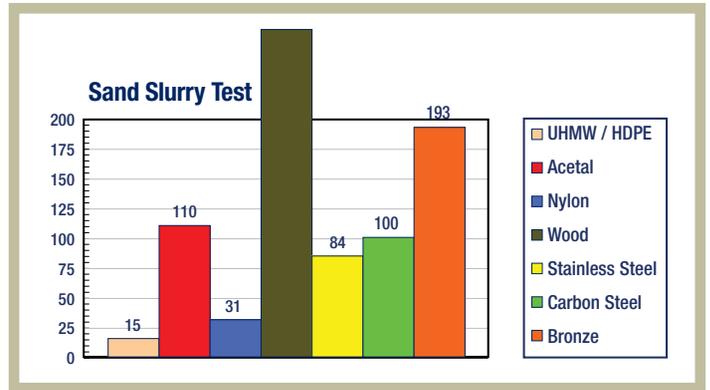
## 2. ROT VS. NOT

With water being the most common cause of corrosion (not to mention chemicals and other caustic environments), it's important to consider that plastics do not corrode in water. Designers and engineers can choose the ideal plastic used for a particular component based on how strong the chemicals are in the intended environment. Operating temperatures are also a factor in choosing the optimal plastic option.



## 3. RUBBING THE RIGHT WAY

When it comes to superior abrasion resistance and low coefficient of friction, plastics slide right past metals in almost every application. Using a common sand slurry test, for example, UHMW/HDPE and nylon show significant advantages in abrasion resistance over other common materials used for wear strips, bearing pads, worm gears and other components.



## 4. COUNTING THE COSTS

In addition to typically lower raw material costs, there are a variety of methods available to more economically manufacture plastic components when compared with stainless, aluminum, brass and other common materials. Two more important reasons to choose plastic over metal include less maintenance costs and reduced shipping costs due to the dramatically lower weight of plastic parts.



Diversified Plastics is a family-owned company headquartered in Montana, USA, celebrating a 40-year reputation for excellence and service in not only meeting but exceeding the needs of a growing customer base around the globe. Our innovative MultiFab Technology™ enables us to employ a variety of processes, including injection molding, fabrication and urethane casting. We manufacture first-to-market solutions for a wide variety of industries including water treatment, food processing, agriculture, mining, timber, packaging / conveying and more. Our single-source services include design, engineering, prototyping and performance testing.

For many more reasons why designers and engineers love plastics, ask us for detailed comparisons and case histories. Call 1-800-321-0084 or visit [www.diversifiedplastics.net](http://www.diversifiedplastics.net) and click "Contact Us" to reach a DPI specialist to help you select the best solutions for your specific application.