



*Introducing*

## **Thunderbolt SilentSync® Composite Sprockets**

The Sprocket Has Evolved  
With Our Patented Technology

# THE SPROCKET HAS EVOLVED.



## Thunderbolt Sprockets: Our Innovative Patented Material Solutions

Revolutionary sprocket innovation designed to ease adoption of SilentSync® belt technology while also creating multiple value solutions. Made from patented carbon fiber-reinforced composite.

### KEY ADVANTAGES

#### Versatile, Durable, and Cost Effective



**100%**  
Customizable for various applications



Up to **30%**  
Lower cost conversion



Up to **80%**  
Lighter than steel



**0%**  
Corrosion of  
composite material

**› Ultra-Lightweight Design:**

Achieving up to an 80% reduction in weight compared to traditional steel sprockets, this ultra-lightweight design allows for significantly easier installation, decreases overall system inertia to reduce energy consumption, and helps prolong the operational life of associated equipment by minimizing mechanical stress.

**› Ultra-Quiet Design:**

Purposefully engineered with our industry-exclusive SilentSync® Helical Offset Tooth (H.O.T.) design, this sprocket dramatically reduces operating noise by up to 19 decibels when compared to conventional straight-tooth profiles, while also minimizing vibration levels to enhance system stability, operator comfort, and component longevity.

**› Corrosion-Resistant Material:**

Constructed from highly durable, corrosion-resistant materials, this product is ideally suited for environments that involve exposure to moisture, frequent wash-downs, or harsh chemicals making it an excellent choice for demanding applications such as HVAC systems, food processing lines, and other industrial settings where cleanliness and durability are critical.

**› High Torque & Wear Resistance:**

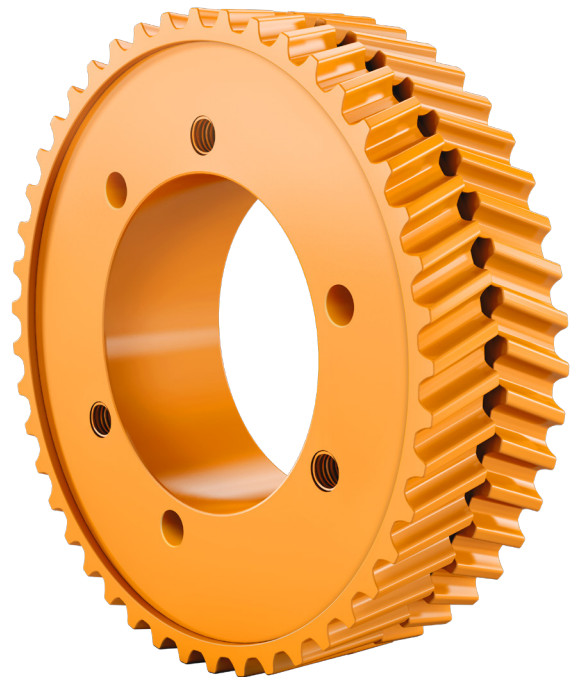
Expertly designed to match or exceed the strength requirements of high-power synchronous belt systems, this sprocket delivers exceptional torque capacity and superior wear resistance, ensuring reliable, long-term performance even in the most rigorous industrial conditions.

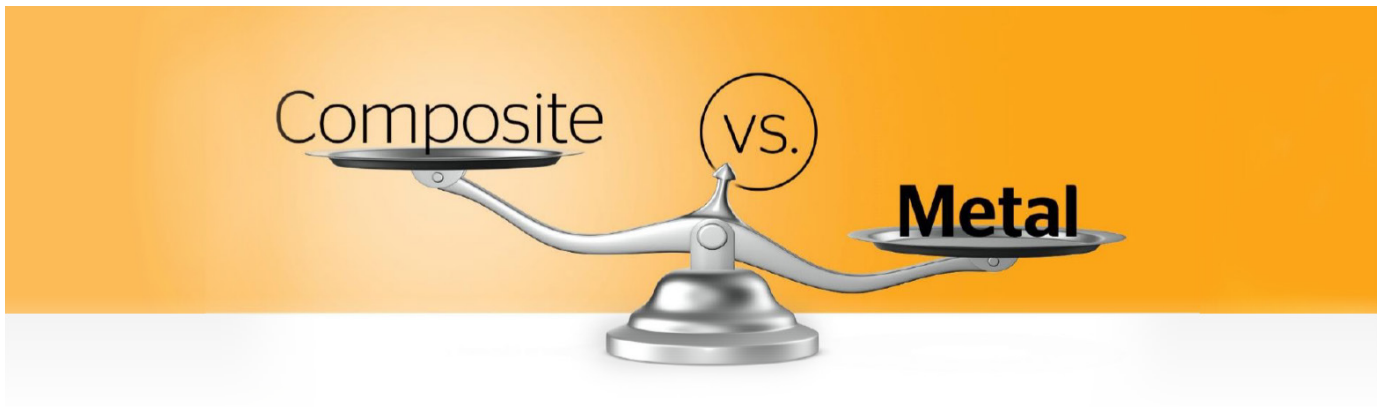
**› 100% Customizable:**

Fully customizable in both color and structural design (such as tooth count, bolt pattern, bushing size/type, width, reinforcement or material type), this product can be tailored to meet exact specifications, branding, or functional needs, providing maximum flexibility and integration into new or existing systems.

**› And More:**

- › Lower installation labor
- › Extended bearing/shaft life
- › Reduced shipping & handling costs
- › Moisture, ozone & UV resistant

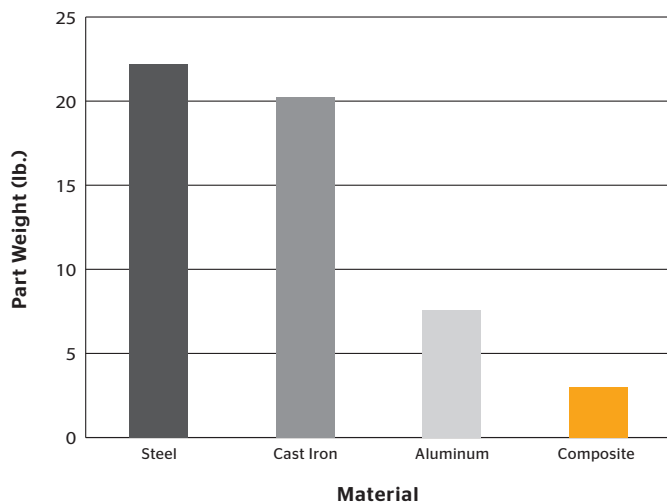




## Weight Reduction Compared to Metal

Composite sprockets, with a density 1/7th of steel, offer an 80% weight reduction for metal parts of equivalent volume. For example, a 14 lb steel part would weigh only 2 lb as a composite part. The lower inertia and weight of composite sprockets results in decreased energy requirements for acceleration and deceleration. Installation of heavy components is made safer and easier particularly on vertical shaft applications. Less overhung weight will also result in increased bearing life, shaft integrity and longevity. These weight savings not only ease installation but also lead to reduced costs in shipping, storage, and handling due to the lighter load.

### Weight Comparison of a Typical Part: 14M-48S-37



Material	Weight (lb.)	Weight Reduction (%)
Stainless Steel	22.23	86.5%
Cast Iron	20.26	85.1%
Aluminum	7.60	60.4%
Composite:	3.01	







## Corrosion Resistance

Composite sprockets boast corrosion and rust resistance, making them ideal for wet environments and suitable for food processing equipment, including areas subject to frequent washdowns but not designed or built for food contact. Their durability against moisture and various chemicals is noteworthy, yet it's essential to evaluate the corrosion resistance of any metal inserts or hubs utilized alongside them.





# Applications

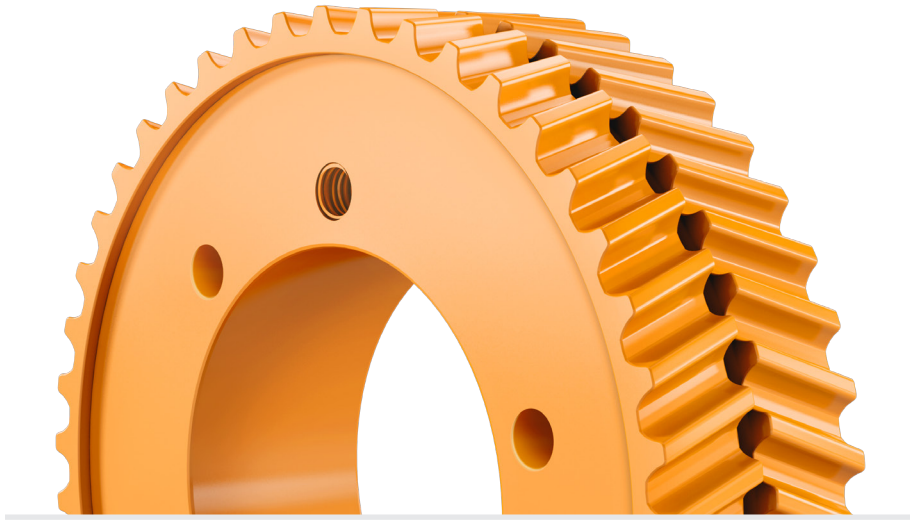
With their reduced weight, corrosion resistance and the ability to be customized, composite sprockets are designed for a variety of customer applications including air handling and HVAC systems, conveying and material handling or any other similar situation. They're also ideal for environments with conditions that can corrode metal, such as food and beverage applications.



## Available By Request

Larger diameter Thunderbolt sprockets for Air Cooled Heat Exchanger (ACHE) applications.





## Thunderbolt SilentSync® Composite Sprocket Recap

- › Our patented composite sprockets offer up to an 80% weight reduction compared to traditional metal
- › Ideal for applications requiring lower-weight and cost-effective solutions while maintaining exceptional torque capacity and wear resistance
- › End users can utilize the benefits of Continental's revolutionary SilentSync® timing belt line at a lower total drive system cost
- › Get significant advantages in weight reduction, corrosion resistance and customization potential

Our application engineering team is standing by to convert your problem drives and answer any questions about this exciting new material-driven solution.

## Power Transmission Group

Market segment

Power Transmission Products

Contact

Continental

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Fairlawn, OH 44333-3023 U.S.A.

1-800-235-4632

[www.continental-industry.com](http://www.continental-industry.com)

Your local contact

[www.continental-industry.com/distributorlocator](http://www.continental-industry.com/distributorlocator)

Canada

1-888-275-4397

Mexico

1-800-439-7373

USA

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