



The World's Lightest Wheelchair Wheel

Representing the culmination of over 25 years of experience in innovative design, the CarbonCore WX2.5 is the world's lightest wheelchair wheelset. Utilizing the technology developed from Topolino's high performance bicycle wheels, the WX2.5 combines strength and durability, at an incredible light weight.

- **More Efficient.** WX2.5 wheels roll more easily and are easier to push. The reduced effort means increased mobility with reduced fatigue.
- **Healthier.** Smooth and easy rolling significantly reduces stress on arms and shoulders, a common source of repetitive motion injury among wheelchair users.
- **Easier to Use.** WX2.5 wheels are easier to transport. Removing or breaking down a wheelchair often involves awkward lifting and arranging. The CX2.5's light weight makes transitions and storing easier, while enhancing independence and mobility.



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Weight Comparison
 25in size (lbs / pair)

Model	Weight (lbs / pair)
Topolino	2.50
Spinergy LX	3.20
Spinergy Spox	3.40

Continuous Carbon Fiber Spoke Construction

Handmade in the USA

WX2.5 Specifications

Sizes:	available in 24" (540mm) or 25" (559mm) sizes
Wheelset Weight:	2.5 lbs (24" 540 size) 2.6 lbs (25" 559 size)
Spokes:	20 spoke, Continuous Carbon Fiber
Spoke Nipples:	ultra-strong 7075 T6 aluminum, cold forged and anodized
Rim:	heat treated 6061 T6 aluminum, proprietary double walled design
Hub:	patented CarbonCore™ advanced composite hub
Handrim:	4 tab handrim (available separately)
Bearings:	high performance sealed cartridge bearings. Standard bearing spacing 2.30 inches (alternate spacing options are available)
Axles:	fit standard 1/2" axles
Wheelset Weight	limit: 250 lbs

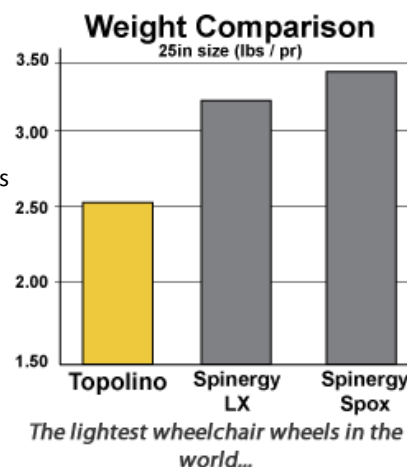


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TECHNOLOGY

It can be a very lightweight component, yet it can also support tremendous loads. Although the basic design has not changed much over the past century, we decided to use our knowledge of the latest composite materials and rethink the design, using these materials in a whole new way.

But materials are only part of the story, simply buzzwords at this point – getting the true performance out of these incredible materials required a whole new approach to wheel construction.



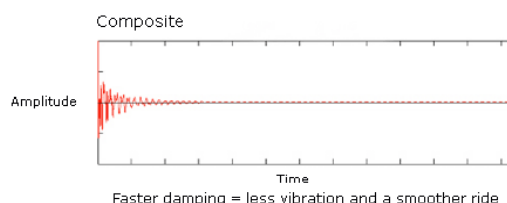
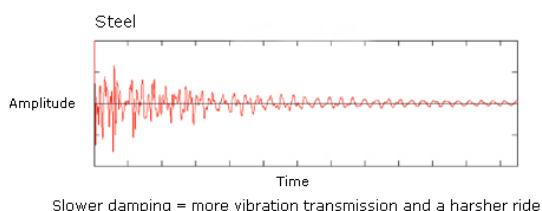
Taking Advantage Of Today's Materials

For the spokes, we use a hybrid construction with Kevlar fibers alongside carbon fibers, all within a thermoplastic resin matrix. The carbon fibers provide superior stiffness, while the Kevlar adds tremendous toughness.

This unique material is incredibly strong and fantastically light. Topolino's composite spoke material is stronger than a 14g stainless steel spoke and is only one-fifth the weight.

Light Weight Is Only The Beginning

The thermoplastic resin and Kevlar/carbon fibers work together to significantly dampen road vibration, for a difference you can feel. Conventional steel spokes transmit vibration very efficiently, a quality that makes for great guitar strings. But a steel spoke's inherent sustain means it is also more effective at transmitting road vibration to the rider. Topolino's unique composite spoke material has much lower sustain and damps much of that harsh vibration before it reaches the rider. Referring to the graph below, the rate of vibration dissipation and decay is much more rapid with composite material than with steel. Thus, Topolino's composite spokes squelch vibration much more effectively than steel spokes.





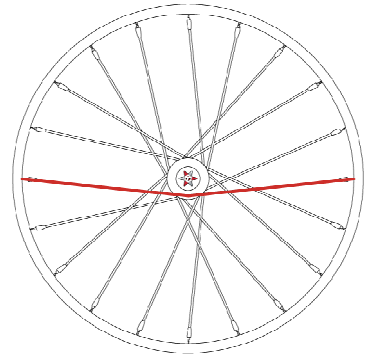
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We Go All The Way

Rather than interrupting the Kevlar and carbon fibers, each spoke spans diametrically across the whole wheel. This reduces spoke stress at the hub and allows the continuous unbroken fibers in the spoke to span clear across the wheel.

With conventional steel spokes, the spokes are not well matched to the hub flange. As any wheel builder knows, steel spokes must be manually bent near the flange and forced into alignment to direct the spoke toward the rim.

This creates a flex point in the spoke and it is this flex and squirm of that is one of the main causes of spoke breakage due to fatigue.



In contrast, the Topolino hub and its spokes are perfectly mated into an integral unit to fully support each spoke within the hub flange. Even within the hub, each spoke is perfectly aligned with its span to the rim. Thus, the spokes are held in pure tension, with none of the fatigue-inducing movement or flex that is characteristic of conventional steel spokes.

Modular Construction

In the real world, stuff happens. Crashes can sometimes occur, potholes sometimes can't be avoided, and some of us have even been known to back into the garage without taking the bike off the roof. Even though we packed a whole bunch of technology and innovation into these wheels, they were designed to be repairable and to exist in the real world. Topolino's unique spokes and hub are built as modular "wheel halves" that are laced to the rim in a conventional fashion. This means that, if a wheel does become damaged (in a crash, for instance), the individual parts are all replaceable using conventional tools and the wheel may be easily rebuilt to live again.

Craftsmanship: The Final Key To A Better Wheel

Wheel-building robots do exist... but we don't use 'em. All of our amazing technology and innovation would be short-lived unless the wheels were built to the most exacting standards. Our skilled wheel-builders have many years of experience in their craft. Each Topolino wheel is fully built by hand and every spoke is tuned and gauged for perfectly balanced tension. We have even developed proprietary processes to insure that all of the spokes are specially pre-stressed and settled. In fact, we have the most exacting standards of final spec in the industry. The net result? A wheel that is perfectly true and round and built to stay that way.





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About Topolino Technology

Founded in 1999, Topolino Technology was created with a mission to design and develop innovative products in specialized technology arenas. Chief Engineer and Founder Raphael Schlanger brings over 25 years of engineering experience in the medical and bicycling industries, and has over 20 patents in the field. With a focus on advanced composite materials in the development of wheels, his designs have won prestigious awards and have been raced by athletes at the highest levels of competition. Topolino Technology prides itself on designing and delivering quality products based on genuine innovation in materials and engineering.

Topolino wheels represent a true revolution in wheel construction that are based on patented designs, cutting edge construction, and advanced composite materials. Driven by true engineering improvements using extraordinary materials, our products perform like no other.

Beyond the advanced technology, each Topolino wheel is hand built by skilled craftsmen who understand wheels and are devoted to the highest quality build. The wheels are individually crafted in Topolino's workshop in the small town of Bethel, Connecticut. This excruciating attention to detail is key to building the finest and lightest wheels on the planet.

