Polyurethane Tyred Iron-Centred Wheels

Title	Polyurethane Tyred Iron-Centred Wheels
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Address	Anfeng Industrial Park, Dongtai City, Jiangsu, China
Website	https://www.poly-wheels.com/
Email	sale06@kfqizhongji.com

Description

Polyurethane-tyred iron-centred wheels are engineered for high-performance material handling in logistics, manufacturing, and heavy-duty industrial environments. This wheel configuration integrates a durable polyurethane (PU) tread with a cast-iron core to achieve an optimal balance between load-bearing capacity, abrasion resistance, and operational longevity.



The Advantages of Polyurethane-Tyred Iron-Centred Wheels

High Load Capacity: The cast-iron core minimizes structural deformation under heavy static and dynamic loads, significantly exceeding the performance of polymer-only wheels.

Superior Abrasion Resistance: Polyurethane formulations provide significantly higher wear resistance than natural rubber, extending service intervals in abrasive industrial environments.

Vibration and Noise Attenuation: The PU tread acts as an effective damping layer, reducing mechanical vibration and operating noise compared to all-metal or nylon-core wheels.

Surface Protection: Engineered tread resilience prevents floor marking and structural damage to warehouse flooring while maintaining optimal traction.

Environmental Resilience: Formulations can be tailored for resistance to specific industrial contaminants, including oils, greases, and harsh chemicals.

The Application of Polyurethane Tread on Cast Iron Core Wheel

Aircraft Maintenance Trolleys: Used in hangars for moving aircraft engines and precision components, these iron-centred wheels provide superior structural stability and vibration damping, protecting sensitive aerospace sensors and electronic hardware from operating shocks.

Heavy-Duty Platform Trolleys: Designed for transporting large metal parts or industrial machinery within factories, these wheels rely on their robust iron cores and wear-resistant polyurethane treads to withstand abrasive floor conditions while carrying multi-tonne loads.

Heavy-Duty AGVs: These wheels ensure navigation accuracy through excellent dimensional stability. The iron core prevents tread deformation during 24/7 operations, ensuring the robots remain precise and reliable over long service lives.

Die-Handling Carts: Engineered for extremely heavy loads such as injection molding or stamping dies, the cast-iron core is essential to prevent structural collapse or permanent "flat-spotting" during extended stationary periods, ensuring the safe transport of massive tooling.

Custom Solutions for Your PU Tread Iron-centred Wheels

Beyond our standard range, we provide end-to-end customization to meet the specific requirements of your operational environment. We collaborate with your engineering team to deliver tailored solutions including:

Compound Customization: Specialized polyurethane formulations engineered for specific Shore hardness, high-temperature resistance, or electrostatic dissipation (ESD) requirements.

Precision Profile Machining: Custom tread profiles—including crowned, flat, or flanged designs—to suit specific rail systems, guidance tracks, or uneven terrain.

Core Optimization: Cast-iron cores can be engineered with specific bearing fits, keyways, or surface finishes (e.g., zinc plating or powder coating) to integrate seamlessly with your existing equipment.

Technical Consultation: Our technical team provides load-cycle analysis and material selection advice to optimize wheel life based on your specific duty cycles and operating conditions.

Whether you are optimizing an automated warehouse, streamlining a heavy manufacturing line, or ensuring the safety of high-value aerospace assets, our polyurethane wheels are designed to keep your operations moving with efficiency and absolute confidence. Contact us.