

Polyurethane Forklift Wheels & Pallet Jack Rollers

Title	Polyurethane Forklift Wheels & Pallet Jack Rollers
Thumb	
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Description

In modern material handling systems, Polyurethane (PU) forklift wheels are critical. PU and cold chain logistics, and the gold standard for warehousing, automotive manufacturing,



1. Core Advantages of Polyurethane Forklift Wheels

Why are leading global forklift brands (such as Linde, Toyota, and Jungheinrich) prioritizing polyurethane? The material offers several key advantages:

- Extremely Low Deformation & Durability:** With a hardness range typically between Shore 80A and 90A, polyurethane forklift wheels maintain structural integrity even under high stacking weights.
- Chemical & Oil Resistance:** Unlike rubber, polyurethane has excellent resistance to harsh industrial environments. Industrial chemicals, solvents, and oils do not affect polyurethane.
- Noise Reduction & Vibration Damping:** The high elasticity of PU ensures high-frequency noise reduction and vibration damping, making forklift operations smoother and quieter.
- Non-Marking & Clean Room Compliance:** Polyurethane forklift wheels are ideal for pharmaceutical and food processing facilities requiring sterile environments.

2. Functional Classification of Forklift Wheels

Forklift wheels are engineered differently based on their position and mechanical function:

Category	Primary Function	Technical Highlights
Pallet Wheels / Guide Wheels	Move and lift the forklift to entry and lifting positions.	Competitive load capacity; debonding under pressure.
Drive Wheels (Power Wheels)	Transmit motor torque to accelerate the lift truck.	High traction; track patterns; resistance to maximum shear.
Load Wheels (Bearing Wheels)	Support the bulk of the forklift and cargo weight.	Large diameter (200 mm); rotation; bearings for smoothness.
Swivel Wheels (Casters)	Provide 360° rotation during turns and balance during travel.	Shock-absorbing PU design; surface stability on uneven terrain.

3. Industry-Specific Custom Solutions

A. High-Frequency Logistics & Distribution Centers

The continuous high-speed shuttle operations in modern warehouses are a leading cause of forklift tire wear.

B. Food & Pharmaceutical (Clean Rooms)

We offer non-marking, anti-static (ESD) polyurethane wheels. These prevent the build-up of static electricity, which can attract dust or trigger sparks in sensitive environments.

C. Cold Chain Logistics (-40°C Environments)

Standard materials become brittle and traction is flexible down to -40°C, preventing surface cracking and ensuring grip on icy floors.

D. Heavy Manufacturing & Automotive

In environments with metal shavings and mill spills, Philson wheels feature high traction.

4. Why Choose Philson Polyurethane Solutions?

At Philson, we don't just sell parts; we engineer performance. Our forklift wheels are

~~available~~ Formulations: Anti-static, flame-retardant, and extreme temperature options

~~between~~ Bonding: Advanced casting process ensures the highest bonding strength

~~Engineering~~ Engineering: Strict tolerance control ensures 100% compatibility with your

~~Searching~~ for a more durable, higher performance solution for your fleet? Contact