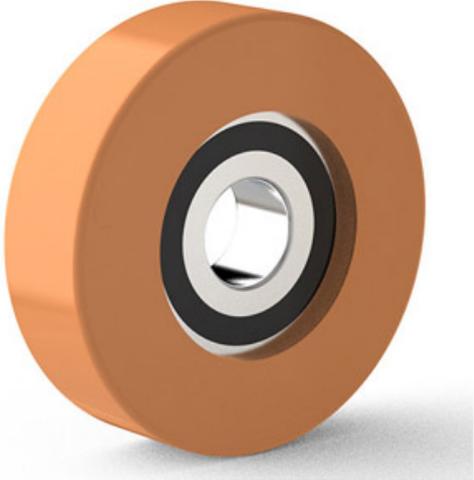
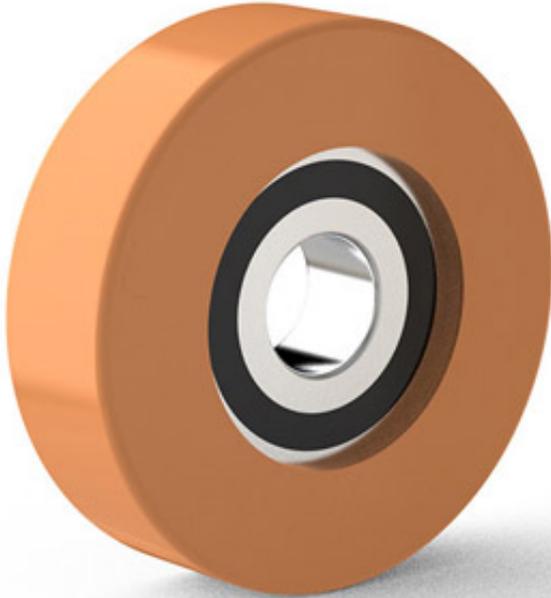

Heavy-Duty Polyurethane Load-Bearing Wheels

Title	Heavy-Duty Polyurethane Load-Bearing Wheels
Thumb	
Address	Anfeng Industrial Park, Dongtai City, Jiangsu, China
Website	https://www.poly-wheels.com/
Email	sale06@kfqizhongji.com

Description

In the realm of heavy machinery and industrial applications, the demand for durable, high-performance wheels is constant. Traditional rubber wheels often fall short in terms of load-bearing capacity, wear resistance, and performance in harsh environments. Our heavy-duty polyurethane wheels are designed to meet these challenges, offering superior performance in high-load, high-speed, and complex floor conditions. Traditional rubber wheels often fall short in terms of load-bearing capacity, wear resistance, and performance in harsh environments. Our heavy-duty polyurethane wheels are designed to meet these challenges, offering superior performance in high-load, high-speed, and complex floor conditions.



This article provides an in-depth exploration of the mechanical advantages industrialized.

I. In-Depth Analysis: Core Performance Advantages

Polyurethane is not a singular material but a high-molecular polymer that applications stems from four main core characteristics, preferred choice for heavy-duty applications

1. Dynamic Load Capacity & Minimal Compression Set

The unique structure of PU elastomers provides extraordinary plastic recovery, even up to 100% upon startup, preventing permanent deformation during prolonged equipment parking, ensuring smooth motion

2. Superior Energy Efficiency & Rolling Resistance

Compared to other polymers, it features a significantly lower coefficient of rolling consumption, extending battery life and aligning with green manufacturing trends.

3. Environmental Resilience: From Cryogenic to Alkaline

Chemical Stability: Naturally resistant to oils, greases, and a wide array of industrial

solvents. Temperature resistance: Standard operating range from -60°C to 70°C, with specialized

4. Floor Protection & Acoustic Technology

Polyurethane provides excellent grip without leaving marks, ideal for preventing slippage and reducing operational noise by up to 20

II. Material & Structure: The Engineering Behind the Quality

The outer polyurethane wheel is a result of integrated engineering, involving more than just the outer layer.

Core Materials:

Cast Iron/Ductile Iron: The classic choice; cost-effective with high load-bearing strength.

Forged Steel: The highest mechanical strength for ultra-heavy-duty loads.

Aluminum Alloy: Lightweight design, ideal for medium-duty AGVs and mobile robotics.

Advanced Bonding Process: Polysar utilizes industry-leading chemical bonding. This reduces the risk of delamination or deformation during high-speed rotation or peak loads.

III. Technical Specifications Reference (at 20°C)

By adjusting the Shore Hardness, we can customize PU wheels to prioritize specific

Property	Unit	75A	80A	85A	90A	95A
Tensile Strength	MPa	18	26	35	38	45
Elongation at Break	%	600	580	550	530	500
Tensile Modulus (E)	kN/m	50	60	73	105	120
Abrasion (Volume)	mm ³	45	40	30	30	30
Resilience	%	50	55	50	48	40
Compression Set	%	25	23	22	20	18
Friction (on Steel)	/	0.8	0.75	0.6	0.5	0.45

IV. Targeted Industry Solutions

1. Automated Logistics (AGV/RGV)

In smart factories, AGVs require frequent start/stop cycles. We provide high friction, low-positioning accuracy wheels that ensure navigation precision and minimize wheel wear.

2. Heavy-Duty Handling & Mining

To prevent tread chipping and cracking when traversing gravel or uneven surfaces, we offer a High-Tear-Resistant Series that maintains integrity under high impact loads.

3. Cleanroom & Pharmaceutical Environments

We offer customized Anti-Static (ESD) and Non-Marking series. These meet stringent component standards but also prevent static buildup that can damage sensitive electronic components.

V. Maintenance & Selection: Maximizing Service Life

To ensure the highest return on investment, consider the following:

1. **Load Capacity:** Vehicle Weight + Max Load ÷ 3 (for 4-wheeled vehicles). Account for uneven floors.

2. **Surface Inspection:** Regularly clear the tread of embedded metal shavings or debris to prevent secondary damage!

Bearings Lubrication: While the Pultex is maintenance-free, periodic lubrication of the

Conclusion: Customization is the Core Competency

Every piece of equipment and every production line has unique requirements. Physical

Are you frustrated by frequent wheel replacements?

Sample: Let Phil help you troubleshoot your equipment on-site and longer custom solution