



Shuttle wheels

Application / Challenges

Shuttle systems normally run on two or four driven wheels, resulting in high speeds and strong dynamic forces. Rapid shuttle braking and acceleration put significant stress on the tyres, so the wheels need to be firmly connected with the shuttle's drive shaft to ensure effective drive-torque transfer.

Vibrations in high-bay systems can also pose problems. This is the result of poor concentricity in the wheels, impacts from uneven rails or deposits on the rails. Vibrations cause goods to shift in the bays, so they cannot be gripped by the shuttle.

Smooth, vibration-free running at high speeds and excellent damping properties are essential for shuttle wheels.



Solution and materials

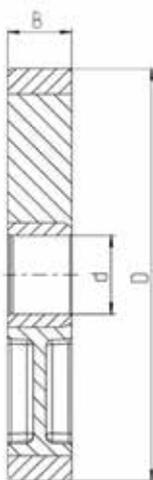
faigle shuttle wheels use a 2-component design with a polyamide hub and PAS-PU TCS tyre. A very stiff hub ensures a high load-bearing capacity. The wheel can be connected with the drive shaft by overmoulding an integrated metal part.

The specially developed running surface combines extremely high abrasion resistance with a low compression set. This all but eliminates flattening even after long stoppages, but the material is still soft enough to provide optimum grip and outstanding damping characteristics.

Grinding the running surface helps to achieve excellent concentricity. All of the materials used can be supplied in antistatic or electroconductive designs, which discharge any electrostatic build-up.

Customer benefits

- ✓ Excellent concentricity and damping properties of the tyre and hub translate into smooth, low-vibration running to stop stored items slipping
- ✓ Optimised PAS-PU TCS material with minimal compression set virtually eliminates flattening after longer stoppages
- ✓ Excellent grip on the track ensures reliable drive transmission
- ✓ Injection-moulded polyamide hub allows for functional integration of connecting and drive elements
- ✓ Reliable operation with heavy loads and at high speeds, including in humid conditions
- ✓ High system availability thanks to excellent tyre bonding
- ✓ Economical solution with short lead times



Specifications

- D 100 – 150mm
- d 0 – 50mm
- B 20 – 50mm