GKN’s innovative Profi-Fit Wheel is the perfect solution for low pressure agricultural tyre applications around the world.

Designed by a global team of GKN Wheels’ engineers, the wheel combines durability with reduced weight and easier tyre fitting, bringing benefits for both original equipment manufacturers and end users.

Low pressure tyres are extensively used in agricultural applications in order to minimise the risk of soil compaction. However, these tyres typically have stiffer walls, making them more difficult to fit.

GKN developed Profi-Fit specifically to address this problem. Detailed research has been undertaken using Finite Element Analysis and acquisition of stress data by use of strain gauged wheels. This has enabled GKN to develop a more structurally efficient rim profile with a 10% weight saving, whilst still achieving a 40% stress reduction in critical areas.

The Profi-Fit Wheel has a rolled over flange which improves rim strength and minimises the risk of tyre damage during fitting. It also had a specially angled section, more than double the TRA/ETRTO minimum of 15°. This greatly improves ease of tyre bead seating during inflation and allows tyres to be fitted at pressures below 2 bar.

Incorporation of a unique ‘double bump’ radius design at a critical point where traditional rims are susceptible to ultimate fatigue failure reduces stress, whilst maintaining strength and performance.

The lower weight reduces vehicle group pressure and contributes to savings in fuel consumption and carbon emissions.

The typical application for a Profi-Fit rim includes combines, self-propelled forage harvesters and tractors. It is produced in the UK, Denmark, the USA and Italy.

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**Highlights**

- Innovative design solution
- Enhanced durability
- Reduced weight
- Easier tyre fitting
- Easier inflation of low pressure tyres
- Sustainable wheel design
- Patent protected
- Greater support for the tyre
Profi-Fit: Product Features and Benefits

New Profile

- Rolled over flange improves rim strength and initial fitting of tyre. Improves performance with low pressure tyres.
- Angle more than double the TRA/ETRTO minimum of 15°. This greatly improves ease of tyre bead seating during inflation.

Standard DW

- Ultimate fatigue failure normally occurs in these radii. This determines minimum rim thickness. The changes to the rim profile reduce the stresses here.
- Double ‘bump’ reduces stress and allows rim gauge to be reduced with no loss of performance.

4.7mm thick

5.2mm thick

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For further information please visit us at www.gknwheels.com or email us at marketing.wheels@gkn.com

GKN Wheels is part of GKN Wheels & Structures